Revised Agenda:
Adding New Business Item 14

City Council
Meeting Agenda
October 22, 2024
6:00 PM
Bentonville City Hall

Note – The public, members of the City Council, and City staff, may have the option to attend this meeting by remote means. For public health reasons, those who attend in person should keep in mind hygiene, the use of facial coverings, and social distancing.

Bentonville residents can make public comments in the following ways:

- Public comments can be made in person at the meeting which is held at 305 SW A Street in Council Chambers.
- Public comments can be submitted by email to cc.comments@bentonvillear.com by at least 4:00 p.m. on the day of the meeting. This email includes the Mayor and City Council email addresses.
- Public comments can be made virtually by registering for the Council meeting at the Zoom link listed below. This requires you to register with your name, address, phone number and email address. The pre-existing limitations (3 minutes) and procedures concerning oral public comments will still apply.

*If you would like to attend virtually, please register at the following link by 4:00 p.m. on October 22, 2024:
https://us02web.zoom.us/webinar/register/WN_pmCVbpK7TAKOJExzt5_6vA

Council Questions/Discussion Concerning the Business Meeting

Call to Order

Pledge of Allegiance

Moment of Silence

Roll Call

Approval of Minutes: October 8, 2024

I. New Business - Public Comment to be Heard with Agenda Item

1. **Resolution to Recognize Captain John Hubbard on His Retirement from the City** — **Resolution**

   Request that the City Council adopt a formal resolution to recognize, commend, and congratulate Captain John Hubbard on his retirement from the City of Bentonville Police Department, effective October 31, 2024. This resolution recognizes John Hubbard for over 33 years in law enforcement with 30 of those years dedicated to the Bentonville Police Department and the citizens of Bentonville. This resolution also wishes John Hubbard much

health, happiness, and continued success in all of his future endeavors. See attached resolution.

2. **Bentonville Public Library Proclamation, Staff Recognitions and Ribbon Cutting Invitation** — **Proclamation**

   Mayor Stephanie Orman will share a special proclamation for Bentonville Public Library (BPL) with City Council in advance of BPL's Ribbon Cutting and Welcome Celebration. The community event is scheduled for Wednesday, October 30, 2024 at 5 PM. Staff recognition by the Mayor and Library Director will also be shared with City Council on October 22nd.

3. **Proclamation Recognizing October 2024 as National Community Planning Month** — **Proclamation**

   A proclamation designating October 2024 as Community Planning Month in Bentonville, Arkansas.

4. **Resolution approving Artwork in the Roundabout at NE J Street and John DeShields Boulevard** — **Resolution**

   A resolution to approve the permanent installation of sculptural artwork by Natasha Bowdoin on public property in the NE J St and John DeShields Blvd Roundabout. No budget adjustment is needed.

5. **Resolution approving Greenway Tunnel Artwork at Walmart Campus at SE 8 Street** — **Resolution**

   A resolution allowing Walmart to curate the installation of an ombre mural by Graham Edwards on the trail tunnel under SE 8th St on the Walmart Corporate Campus. No budget adjustment is needed.

6. **Resolution approving Greenway Tunnel Artwork at Walmart Campus at SE J Street** — **Resolution**

   A resolution allowing Walmart to curate the installation of a floral mural by Jessica Jones on the trail tunnel under SE J St near the Walmart Corporate Campus at no cost to the city. No budget adjustment is needed.

7. **Resolution to Adopt Additional Police Department Policies** — **Resolution**

   Resolution is to adopt additional policies to the Bentonville Police Department Policy and Procedures Manual. These additional policies have been reviewed by legal and contain required standards in accordance with CALEA accreditation. No budget adjustment is needed.

8. **Ordinance approving Bid Waiver for Crossland Heavy Contractors, Inc. to Repair Flyover Bridge** — **Ordinance***

   Approval of Bid Waiver and budget adjustment, in the amount of $137,513.29, to Crossland Heavy Contractors, Inc. for repairs to the Razorback Greenway Flyover Bridge at NE A Street, due to damage caused by the May 26, 2024 storm. A budget adjustment is needed.

9. **Resolution to Award Bid IFB-24-56 to Skyline Printing for 2025 Run Bentonville Hoodies** — **Resolution**

   Resolution to award bid IFB-24-56: 2025 Run Bentonville Hoodies to Skyline Printing per the unit prices attached. No budget adjustment is needed.

10. **Resolution Setting a Public Hearing for a Utility Easement Vacation (VAC24-0010)** — **Resolution**

Approve Resolution to set Public Hearing for November 12, 2024 for Utility Easement Vacation located at Lot 16 of Loesche Subdivision (VAC24-0010).

11. **Resolution to Purchase of Bat Mitigation Credits - J Street Interchange - The Conservation Fund** — **Resolution**

Staff requests approval to allow the Mayor to authorize the purchase of bat mitigation credits from The Conservation Fund for the removal of 32.1 acres of suitable summer foraging habitat (trees). Mitigation is for the J Street Interchange project (PIIP22-0038). No budget adjustment is needed.

12. **Resolution to Award Bid IFB-24-24 for the VBT Southeast Taxiway B Extension (Phase 2)** — **Resolution**

Resolution awarding bid IFB-24-24 to APAC in the amount of $1,218,395.00 for the VBT Southeast Taxiway B Extension (Phase 2) project. A budget adjustment is needed.

13. **Resolution Approving Work Order 5 for the VBT Southeast Taxiway B Extension (Phase 2)** — **Resolution**

Resolution to enter into an agreement (Work Order 05) with Garver Engineers in the amount of $171,400.00 for the VBT Southeast Taxiway B Extension (Phase 2) project. No budget adjustment is needed.

14. **Ordinance Confirming Existing Electric Rates** — **Ordinance***

Adopt an ordinance confirming and certifying existing electric rates for the City of Bentonville, Arkansas; providing for the Emergency Clause; and for other purposes. No budget adjustment is needed.

II. Utility Board

1. **Resolution to Award Bid IFB-24-65 for 161 kV GOAB Switch Interrupters** — **Resolution**

Resolution to award bid IFB-24-65 for 161 kV GOAB Switch Interrupters for transmission materials to MVA Power, Inc. in the amount of $33,391.05 plus applicable tax. MVA Power, Inc. was the sole bid received. Approved by Utility Board 4-0. No budget adjustment is needed.

2. **Resolution to Enter a Contract of Obligation for Financial Assurance Agreement** — **Resolution**

Staff request CIty Council approval of a Resolution authorizing the Mayor and City Clerk to enter into a Contract of Obligation for Financial Assurance Agreement in the amount of $755,000.00. This will be in the form of a Letter of Credit. No budget adjustment is needed.

3. **Resolution Approving the Spring Creek Vaughn Gravity Sewer Design Agreement** — **Resolution**

Staff requests the Mayor and City Clerk to enter into an agreement with Crafton, Tull & Associates to perform the design services for 6,700 feet of sewer utility upgrades to Spring Creek - Vaughn Gravity Sewer. The contract amount is $117,500.00. Crafton, Tull & Associates was selected following the City's Purchasing Policy for professional services.

This is a budgeted project for 2024. Utility Board approved 4-0. No budget adjustment is needed.

4. **Ordinance Requesting Approval of the 2024 Water Utilities Department Specifications Update** — **Ordinance***

Staff requests council approval of an ordinance adopting revised Water Utilities Department Specifications, which will replace the existing version. The revisions are focused on reducing water loss from the distribution system and limiting inflow and infiltration into the sewer collection system while minimizing operations and maintenance expenses. Utility Board approved 4-0. No budget adjustment is needed.

III. Planning

1. **Lot Split - Lots 3 and 4 of Gerber Subdivision - Southwest 14th Street (LS24-0030)** — **Ordinance***

The Planning Commission voted 6-0, recommending approval.

An Ordinance Accepting A Lot Split Of Lot 2 Of Gerber Subdivision Creating New Lots 3 And 4 Of Gerber Subdivision To The City Of Bentonville, Arkansas; And For Other Purposes.

2. **Lot Split - Lots 18, 19, 20, & 21, Block 16 Demings 2nd Addition - Northwest 5th Street (LS24-0033)** — **Ordinance***

The Planning Commission voted 6-0, recommending approval.

An Ordinance Accepting A Lot Split Of Lots 15 And 16, Block 16 Of Demings 2nd Addition Creating New Lots 18, 19, 20, And 21, Block 16 Of Demings 2nd Addition To The City Of Bentonville, Arkansas; And For Other Purposes.

3. **Lot Split - Lots 8, 9 & 10 of Green Acres Subdivision - 1003 Northwest A Street (LS24-0034)** — **Ordinance***

The Planning Commission voted 6-0, recommending approval.

An Ordinance Accepting A Lot Split Of Lots 1 And 2 Of Green Acres Subdivision Creating New Lots 8, 9, And 10 Of Green Acres Subdivision To The City Of Bentonville, Arkansas; And For Other Purposes.

4. **Future Land Use Map Amendment - Hall - A-1, Agriculture to R-E, Residential Estate - 9823 Gaston Road (RZ24-0036)** — **Resolution**

The Planning Commission voted 6-0, recommending approval.

A Resolution Amending The City Of Bentonville Future Land Use Map For A Specific Area From Agriculture To Residential Estate; And For Other Purposes.

5. **Rezoning - Hall - A-1, Agriculture to R-E, Residential Estate - 9823 Gaston Road (RZ24-0036)** — **Ordinance***

The Planning Commission voted 6-0, recommending approval.

An Ordinance Changing Real Estate In The City Of Bentonville, Arkansas, From Its Present

Zoning Classification Of A-1, Agricultural To R-E, Residential Estate; And For Other Purposes.

6. **Future Land Use Map Amendment - Vaishno Groups, LLC - General Commercial to Medium Density Residential (MDR) - Southwest 14th Street (PRD24-0007)** **Resolution**

The Planning Commission voted 6-0, recommending approval.

A Resolution Amending The City Of Bentonville Future Land Use Map For A Specific Area From General Commercial To Medium-Density Residential; And For Other Purposes.

7. **Rezoning - Vaishno Groups, LLC - C-1, Neighborhood Commercial and C-2, General Commercial to Planned Residential Development (PRD) - Southwest 14th Street (PRD24-0007)** **Ordinance***

The Planning Commission voted 6-0, recommending approval.

An Ordinance Changing Real Estate In The City Of Bentonville, Arkansas, From Its Present Zoning Classification Of C-2, General Commercial And C-1, Neighborhood Commercial To PRD, Planned Residential Development; And For Other Purposes.

8. **Future Land Use Map Amendment - ALWF LANDS LLC - R-E, Residential Estate to Low Density Residential (LDR) - 1100 and 1102 Northeast J Street (PRD24-0008)** **Resolution**

The Planning Commission voted 6-0, recommending approval.

A Resolution Amending The City Of Bentonville Future Land Use Map For A Specific Area From Residential Estate To Low-Density Residential; And For Other Purposes.

9. **Rezoning - ALWF LANDS LLC - R-E, Residential Estate to Planned Residential Development (PRD) - 1100 and 1102 Northeast J Street (PRD24-0008)** **Ordinance***

The Planning Commission voted 6-0, recommending approval.

An Ordinance Changing Real Estate In The City Of Bentonville, Arkansas, From Its Present Zoning Classification Of R-E, Residential Estate To PRD, Planned Residential Development; And For Other Purposes.

IV. Other Business/Announcements/Comments

Adjournment

Public Comments Concerning Matters of City Related Business

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Ray Shastid
Phone:	479-271-3172	**For Department(s):**	Police
Email:	ray.shastid@bentonville.arkansas.gov		

Item Type (Check all that apply)

☑ **Informational** ☐ **Bid Award** ☐ **Enter into an Agreement** ☐ **Change Order**

☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☐ **Emergency Clause**

☐ **Ordinance** ☑ **Resolution** ☐ **Informational**

Title, Recommendation & Justification

Title:	Resolution to Recognize Captain John Hubbard on His Retirement from the City
Action Recommendation & Justification:	Request that the City Council adopt a formal resolution to recognize, commend, and congratulate Captain John Hubbard on his retirement from the City of Bentonville Police Department, effective October 31, 2024. This resolution recognizes John Hubbard for over 33 years in law enforcement with 30 of those years dedicated to the Bentonville Police Department and the citizens of Bentonville. This resolution also wishes John Hubbard much health, happiness, and continued success in all of his future endeavors. See attached resolution.
Additional Comments for Consideration (Optional):	(Attached resolution)
Amount for Approval:	**$**

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☑ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

Insurance		**$** Expense	**$** Revenue
Account Number (ORG-OBJECT)	Account Description	**$** Expense	**$** Revenue
Account Number (ORG-OBJECT)	Account Description	**$** Expense	**$** Revenue
Account Number (ORG-OBJECT)	Account Description	**$** Expense	**$** Revenue
Account Number (ORG-OBJECT)	Account Description	**$** Expense	**$** Revenue

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

City of Bentonville
State of Arkansas

RESOLUTION

CAPTAIN
John Hubbard

WAS BORN IN VAN BUREN, ARKANSAS AND GRADUATED FROM NORTHSIDE HIGH SCHOOL IN FORT SMITH, AR IN MAY 1980, AND EARNED AN ASSOCIATE DEGREE IN APPLIED SCIENCE FROM THE NORTHWEST ARKANSAS COMMUNITY COLLEGE IN FORT SMITH IN MAY 2003; AND

WHEREAS, CAPTAIN JOHN HUBBARD JOINED THE UNITED STATES NAVY IN DECEMBER 1980 AND SERVED HONORABLY FOR OVER FOUR YEARS AS A NAVY CORPSMAN SERVING ON THE USS CORAL SEA (CV-43) AND DEPLOYED FOR A WORLD CRUISE IN 1983; AND

WHEREAS, CAPTAIN JOHN HUBBARD, DURING HIS SERVICE AT THE NAVAL REGIONAL MEDICAL CENTER IN MILLINGTON, TENNESSEE, MET HIS WIFE STACEY, WHO WAS ALSO SERVING IN THE NAVY, AND WERE MARRIED IN 1983 AND HAVE NOW BEEN MARRIED FOR 41 YEARS; AND

WHEREAS, CAPTAIN JOHN HUBBARD BEGAN HIS 33 YEAR LAW ENFORCEMENT CAREER WITH THE ROSWELL POLICE DEPARTMENT IN ROSWELL, NEW MEXICO IN AUGUST 1991 WHERE HE SERVED UNTIL APRIL 1994; AND

WHEREAS, CAPTAIN JOHN HUBBARD JOINED THE BENTONVILLE POLICE DEPARTMENT AS A PATROL OFFICER IN MAY 1994 AND SERVED THE COMMUNITY IN VARIOUS CAPACITIES WITHIN THE DEPARTMENT INCLUDING THE PATROL DIVISION AND LATER A TRANSFER TO THE CRIMINAL INVESTIGATIONS DIVISION WHERE HE INVESTIGATED NUMEROUS CASES, RECEIVED COUNTLESS RECOGNITIONS, AND INITIATED THE FIRST DIGITAL FORENSICS ROLE AS A DETECTIVE; AND

WHEREAS, CAPTAIN JOHN HUBBARD WAS PROMOTED TO LIEUTENANT IN AUGUST 2009, AND SUBSEQUENTLY PROMOTED TO THE RANK OF CAPTAIN IN JUNE 2011, PRESIDING OVER THE ADMINISTRATION DIVISION WHERE HE HAS CONTINUED TO FAITHFULLY SERVE AS A MEMBER OF THE COMMAND STAFF AND SECOND IN COMMAND TO THE CHIEF OF POLICE, UNTIL HIS RETIREMENT; AND

WHEREAS, CAPTAIN JOHN HUBBARD, AS COMMANDER OF THE ADMINISTRATION DIVISION COORDINATED STRATEGIC PLANNING AND ORGANIZATIONAL NEEDS OF THE DEPARTMENT, PAVED THE WAY FOR CURRENT TECHNOLOGY NEEDS AND WAS INTEGRAL TO THE IMPLEMENTATION OF MULTIPLE LARGE SCALE PROJECTS TO INCLUDE THE EMERGENCY COMMUNICATIONS CENTER, PUBLIC SAFETY RADIO SYSTEM, RECORDS MANAGEMENT SYSTEM, AND COMPUTER AIDED DISPATCH SYSTEM; AND

WHEREAS, CAPTAIN JOHN HUBBARD, THROUGH HIS COUNTLESS DUTIES AND ACCOMPLISHMENTS, DELIVERED TO THE BENTONVILLE POLICE DEPARTMENT AND THE CITIZENS OF BENTONVILLE AN UNPARALLELED LEVEL OF PROFESSIONALISM AND SERVICE.

NOW THEREFORE, BE IT RESOLVED THAT BY THE ADOPTION OF THIS RESOLUTION, THE CITY COUNCIL OF BENTONVILLE, HEREBY COMMENDS AND CONGRATULATES CAPTAIN JOHN HUBBARD FOR HIS 30 YEARS OF DEDICATED LAW ENFORCEMENT SERVICE TO THE BENTONVILLE POLICE DEPARTMENT AND THE CITIZENS OF BENTONVILLE, AND WISHES HIM HEALTH, HAPPINESS, AND CONTINUED SUCCESS IN ALL HIS FUTURE ENDEAVORS.

CITY OF BENTONVILLE CORPORATE SEAL ARKANSAS

GIVEN THIS 22nd day of October, 2024, in Bentonville, in the Great State of Arkansas, in the United States of America.

[redacted]
Stephanie Orman, Mayor

[redacted]
Malorie Marrs, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Hadi Dudley
Phone:	479-271-3194	**For Department(s):**	Library
Email:	hdudley@bentonvillear.com		

Item Type (Check all that apply)

☑ **Informational** ☐ **Bid Award** ☐ **Enter into an Agreement** ☐ **Change Order**
☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☐ **Emergency Clause**
☐ **Ordinance** ☐ **Resolution** ☐ **Informational**

Title, Recommendation & Justification

Title:	Bentonville Public Library Proclamation, Staff Recognitions and Ribbon Cutting Invitation
Action Recommendation & Justification:	Mayor Stephanie Orman will share a special proclamation for Bentonville Public Library (BPL) with City Council in advance of BPL's Ribbon Cutting and Welcome Celebration. The community event is scheduled for Wednesday, October 30, 2024 at 5 PM. Staff recognition by the Mayor and Library Director will also be shared with City Council on October 22nd.
Additional Comments for Consideration (Optional):	City Council is encouraged to attend the Library's Ribbon Cutting and Welcome Celebration and is invited to attend a sneak peek of BPL's expansion on Wednesday, October 23, 2024 from 5 to 6 PM. Media will be notified of the preview tour.
Amount for Approval:	$ 0

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☐ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

PROCLAMATION

WHEREAS: Bentonville Public Library is the keeper of the Bentonville community's information and literature; and

WHEREAS: The Library is the heart of Bentonville, fostering a space for individuals, families, and groups to explore, learn, and create; and

WHEREAS: the Library promotes a sense of local connection, understanding, civic engagement, and shared community goals; and

WHEREAS: the Library is expanding and innovating resources according to the changing and growing needs of the Bentonville community; and

WHEREAS: the Library's services and resources include analog, digital, and program formats and extend far beyond the walls of their building; and

WHEREAS: Library staff are public servants, experts in helping Bentonville community members navigate access to books, technology, multimedia content, and community and educational programs; and

NOW, THEREFORE, I Stephanie Orman, Mayor of the City of Bentonville invite the Bentonville community to join us in celebrating the important role that public libraries play in promoting literacy, lifelong learning, and the common good, and I encourage each one of us to fully support and utilize our local public library resources to the fullest extent possible.

Given this 30th day of October 2024, in Bentonville, in the great State of Arkansas, in the United States of America.

[redacted]

Stephanie Orman, Mayor
City of Bentonville

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	9/24/2024	**Submitted By:**	Shelli Kerr
Phone:	479-271-6822	**For Department(s):**	Planning
Email:	skerr@bentonvillear.com		

Item Type (Check all that apply)

☑ **Informational** ☐ **Bid Award** ☐ **Enter into an Agreement** ☐ **Change Order**

☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☐ **Emergency Clause**

☐ **Ordinance** ☐ **Resolution** ☑ **Informational**

Title, Recommendation & Justification

Title:	Proclamation Recognizing October 2024 as National Community Planning Month
Action Recommendation & Justification:	A proclamation designating October 2024 as Community Planning Month in Bentonville, Arkansas.
Additional Comments for Consideration (Optional):	
Amount for Approval:	$ 0

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☑ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

PROCLAMATION

WHEREAS: Change is constant and affects all cities, towns, suburbs, counties, boroughs, townships, rural areas, and other places; and

WHEREAS: Community planning and plans can help manage this change in a way that provides better choices for how people work and live; and

WHEREAS: Community planning provides an opportunity for all residents to be meaningfully involved in making choices that determine the future of their community; and

WHEREAS: The full benefits of planning requires public officials and citizens who understand, support, and demand excellence in planning and plan implementation; and

WHEREAS: The month of October is designated as National Community Planning Month throughout the United States of America and its territories, and

WHEREAS: The American Planning Association endorses National Community Planning Month as an opportunity to highlight how planning is essential to recovery and how planners can lead communities to equitable, resilient and long-lasting recovery; and

WHEREAS: The celebration of National Community Planning Month gives us the opportunity to publicly recognize the participation and dedication of the members of planning commissions and other citizen planners who have contributed their time and expertise to the improvement of the City of Bentonville, Arkansas; and

WHEREAS: We recognize the many valuable contributions made by professional community and regional planners of the City of Bentonville, Arkansas and extend our heartfelt thanks for the continued commitment to public service by these professionals.

NOW, THEREFORE, I Stephanie Orman, Mayor of the City of Bentonville do hereby proclaim the month of October 2024 as **"Community Planning Month"** in the City of Bentonville, Arkansas in conjunction with the celebration of National Community Planning Month and I further urge all citizens of the community, all civic and fraternal groups, all news media, and other community organizations to join in this recognition of our community and regional planners.

Given this 22nd day of October, 2024, in Bentonville, in the great State of Arkansas, in the United States of America.

[redacted]

Stephanie Orman, Mayor

City of Bentonville

CITY OF BENTONVILLE CORPORATE SEAL ARKANSAS

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Shelli Kerr
Phone:	479-271-6822	**For Department(s):**	Planning/Public Art Advisory Committee
Email:	skerr@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution approving Artwork in the Roundabout at NE J Street and John DeShields Boulevard
Action Recommendation & Justification:	A resolution to approve the permanent installation of sculptural artwork by Natasha Bowdoin on public property in the NE J St and John DeShields Blvd Roundabout. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	The project is a partnership between the Public Art Advisory Committee and Crystal Bridges Museum of American Art. Crystal Bridges will own the artwork and be responsible for installation, insurance, maintenance, and de-installation. This is a budgeted item with the city contributing $50,000.00 towards engineering and site preparation. Both the Public Art Advisory Committee and Traffic Safety and Signage Committee recommend approval. Memo attached.
Amount for Approval:	**$** $50,000.00

Budget Impact

Is this Item Budgeted? ☑ YES ☐ NO ☐ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

MEMO

THE CITY OF BENTONVILLE
PAAC
PUBLIC ART ADVISORY COMMITTEE

To: Mayor Stephanie Orman and Bentonville City Council
From: Shelli Kerr, AICP, Comprehensive Planning Manager
On behalf of: Bentonville Public Art Advisory Committee (PAAC)
CC date: Oct. 22, 2024
RE: Artwork in the Roundabout at NE J St and John DeShields Blvd

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Request. Approval of a resolution to partner with Crystal Bridges Museum of American Art to install a plant sculpture by Natasha Bowdoin in the roundabout at NE J Street and John DeShields Boulevard.

Background. City Council approved a budget of $100,000 to install artwork in roundabouts, with one of the projects intended for NE J Street and John DeShields Blvd. The PAAC reached out to Crystal Bridges about partnering on this project. Crystal Bridges agreed to curate the artwork and presented a proposal from Natasha Bowdoin at the Oct. 1, 2024, PAAC meeting, where the proposal was recommended for approval.

Description of Artwork. A sculpture of 22 intricately cut forms that reflect native flora of the area, including creeping vines, outsized flowers and roots in an array of colors, plus one large leaf-life element in the center approximately 14 feet tall. See details in the attached proposal.

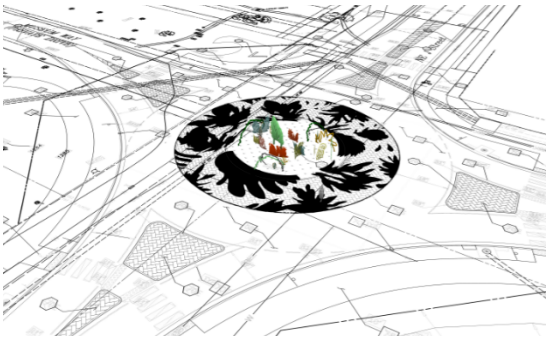
Display Site. The display site is the interior of the roundabout at NE J Street and John DeShields Boulevard.

Display Period. Installation is expected in mid-2025 as a permanent display.

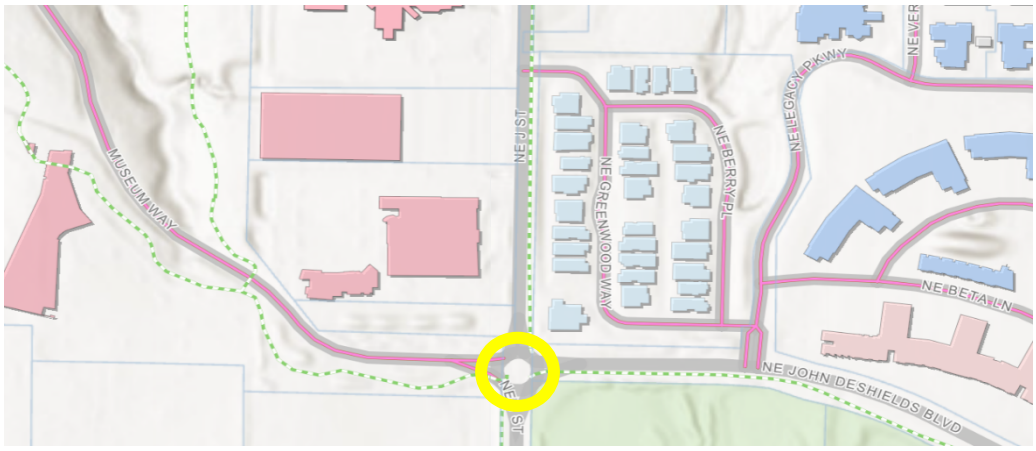
Funding. Crystal Bridges Museum of American Art will pay for the artwork and artist's time and travel. The City, through the PAAC budget, will contribute an amount not to exceed $50,000 toward the project, to include engineering design and site preparation. City Council approved a budget of $100,000 to fund two roundabout projects in 2024. This project will be funded from that budget and no budget adjustment is needed.

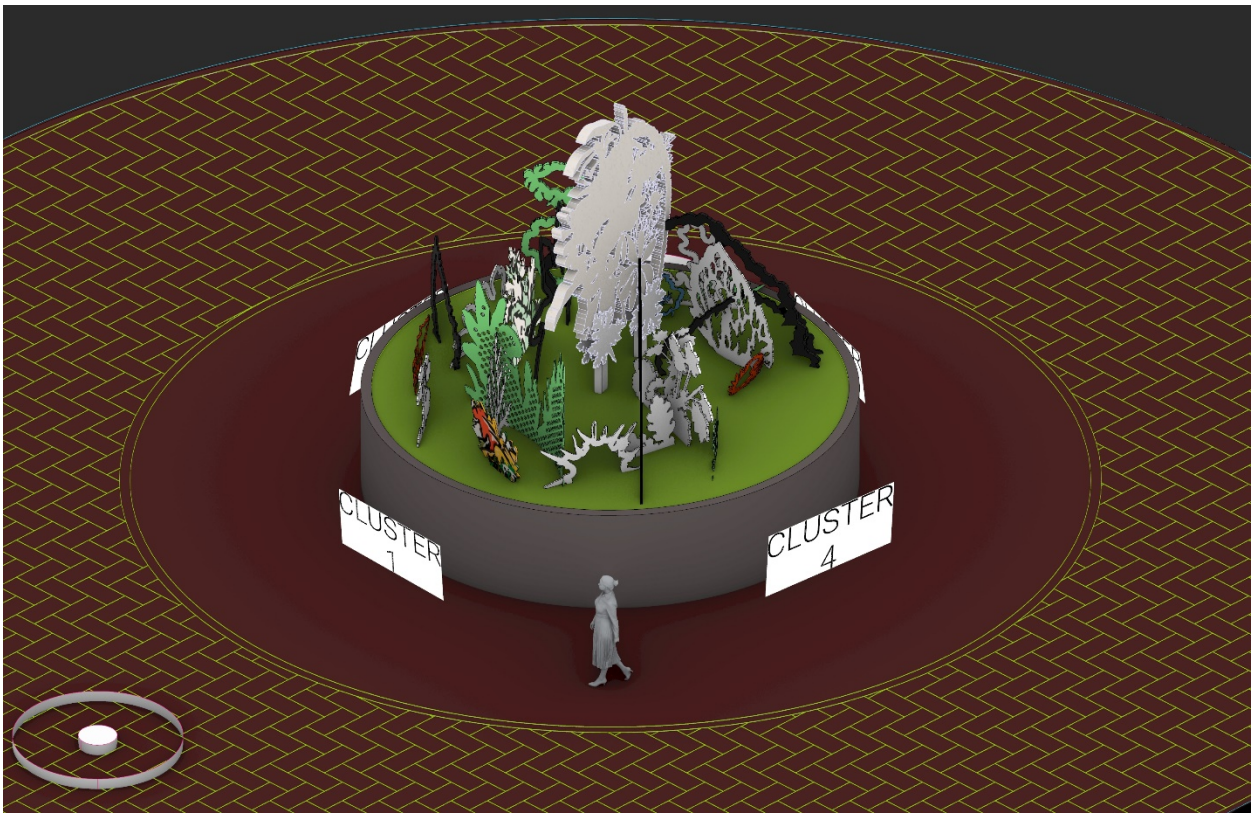
Recommendation. PAAC recommends this artwork at the proposed display site. The proposal was reviewed and approved by the Traffic Safety and Signage Committee on September 30, 2024.

Proposed Artwork:
Native Flora Sculpture by Natasha Bowdoin



Display Site:
Roundabout at NE J St and John DeShields Blvd





Roundabout Proposal

NE J STREET/JOHN DeSHIELDS BOULEVARD/MUSEUM WAY INTERSECTION

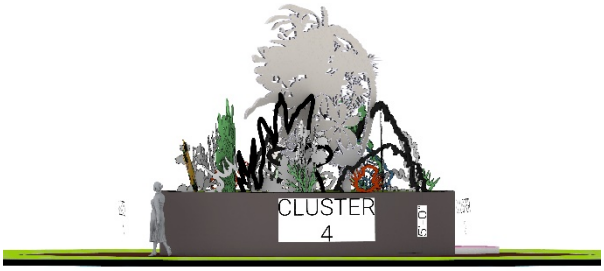
Presented by Crystal Bridges Museum of American Art

For consideration at 10/8/2024 PAAC meeting

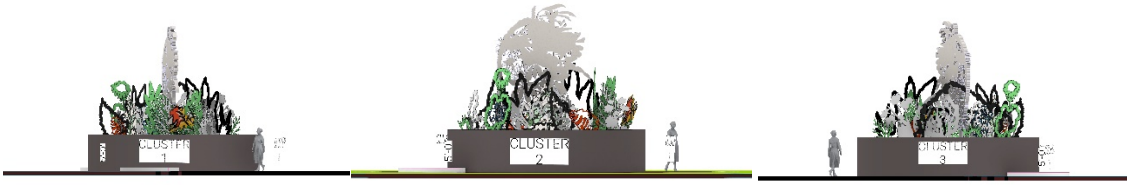
Installation scheduled for late 2025

Explanation of Project

The J Street Roundabout is a major sightline for visitors to Crystal Bridges, The Amazeum, Orchards Park, and soon Heartland Whole Health and the Medical School. The Bentonville Public Art Advisory Committee (PAAC) reached out to Crystal Bridges to ask if we would be interested in taking the lead on selecting an artwork for this location that could unite all the entities it serves. After consideration, the Texas-based Natasha Bowdoin was identified by the curatorial team as the ideal artist to meaningfully respond to this site.

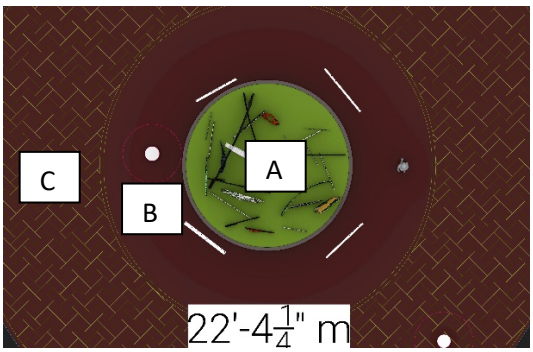


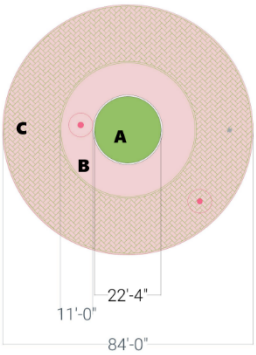
Natasha Bowdoin's design for the J Street roundabout will pay homage to the extraordinary natural setting of this town and region. Using the native flora of the area as a jumping-off point, Bowdoin combines that natural beauty with her own visual vocabulary of form and pattern. This site-specific commission will marry the functional needs of the roundabout with the unique opportunity to reintroduce nature to the site. The intricately cut forms are meant to be viewed from a variety of angles, offering moments of discovery as viewers encounter it from a range of vantage points. Creeping vines, outsized flowers, and insistent roots will make their presence known as they encompass and transform this intersection into a mesmerizing array of color and nature while still preserving its ability to safely direct traffic.



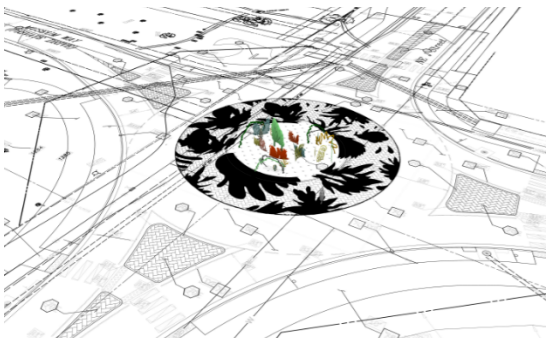
Site Overview

Bowdoin's design for the roundabout consists of three main spaces. The first area (identified as A below) is where the sculpture itself is positioned. This central area is a sizable 22'4" in diameter and is demarcated by a retaining wall. The sculpture itself consists of 22 individual elements plus one large leaf-like element in the center. The section inside of the retaining wall is filled with soil and populated with a variety of plantings strategically placed throughout this area. The sculpture itself will appear to float just barely above the surface of the soil, with the tallest part of this standing 14 feet tall above the soil. The exact height of the retaining wall is still under discussion with the artist, with final measurements to be determined in consultation with the city and Crystal Bridges.





Section B is an 11-foot-wide area encircling the center (Section A). This area will be heavily populated with a variety of plants that help to nestle this sculpture into its surroundings. This area includes a manhole that would not need to be raised if this area is used more as a garden bed. The combination of these dense plantings in B with the sculptural elements in A create a cohesive set of visuals.



Finally, the outermost area is the existing red skirt. This is an area that drivers occasionally drive onto consisting of stamped red concrete meant to look like brick. Adapting the vinyl shadow-play often found in her indoor installations for this roundabout site, Bowdoin's J Street design will also incorporate shadows spilling from her sculpture and onto the existing concrete skirt. After investigating a series of options to achieve this illusion, we are encouraging the use of traffic coating to mimic these shadow effects as we know

the design can be effectively translated and the material is durable even with consistent driving on the surface.

The City's Contribution

While the scope of this project is ambitious, Crystal Bridges' request regarding the use of PAAC's funds are specific and achievable. We see the city as a critical partner in this and would request that the allocation of PAAC funds go first towards the public scope of the engineering costs associated with preparing the roundabout, with remaining funds allocated to the application of the traffic coating onto the surface of the outer skirt. The museum is currently contacting engineers from the city's qualified list to get a variety of quotes and will do the same for the striping companies that would apply the traffic coating to the skirt.

Costs associated with the purchase, creation, installation, and site prep for the roundabout would be covered by Crystal Bridges.

Artist biography

Natasha Bowdoin is a Houston-based artist whose work blurs the boundaries between painting and installation. Her natural forms take inspiration from historic sources including botanical illustrations and prints but are transformed through her own reverence for the aesthetics of children's illustrations, cartoons, and comic books. The resulting works are oversized environments that feel prehistoric, otherworldly, or utopic as they amplify the natural world to a near fantasy like space of reverence and exploration. Bowdoin has had solo exhibitions at the Amon Carter Museum of American Art in Fort Worth, Texas; MassMoCA in North Adams, Massachusetts; and The Visual Arts Center of Richmond, Richmond, Virginia. She has been awarded a residencies at the Bemis Center for Contemporary Art, the Core Artist Program at MFA-Houston, and received a Joan Mitchell Grant, among other notable recognitions. Bowdoin is an associate professor at Rice University in Houston, Texas.

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING A PARTNERSHIP WITH CRYSTAL BRIDGES MUSEUM OF AMERICAN ART TO INSTALL A PLANT SCULPTURE, BY NATASHA BOWDOIN, IN THE ROUNDABOUT AT NE J STREET AND JOHN DESHIELDS BOULEVARD; AND FOR OTHER PURPOSES.

WHEREAS, the City Council of the City of Bentonville has established the importance of integrating public art into the daily lives of the citizens of Bentonville by adopting a Public Art Policy with Ordinance No. 2013 – 40 on May 14, 2013;

WHEREAS, the Bentonville Public Art Advisory Committee wishes to partner with Crystal Bridges Museum of American Art to install artwork in the roundabout at NE J Street and John DeShields Boulevard; and

WHEREAS, the artwork was recommended by the Traffic Safety and Signage Committee on Sept. 30, 2024 and by the PAAC on Oct. 1, 2024.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the City Council of the City of Bentonville, Arkansas hereby authorizes the partnership with Crystal Bridges Museum of American Art to install a sculpture by Natasha Bowdoin in the roundabout at NE J Street and John DeShields Boulevard;

Section 2: That the City through the Public Art Advisory Committee budget will contribute an amount not to exceed fifty thousand dollars ($50,000.00) towards the engineering and site work for the project;

Section 3: That Crystal Bridges Museum of American Art will own the artwork and be responsible for all costs to install, insure, maintain, and deinstall the artwork;

Section 4 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 5 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this ____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Shelli Kerr
Phone:	479-271-6822	**For Department(s):**	Planning/Public Art Advisory Committee
Email:	skerr@bentonvillear.com		

Item Type (Check all that apply)

☐ **Informational** ☐ **Bid Award** ☑ **Enter into an Agreement** ☐ **Change Order**
☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☐ **Emergency Clause**
☐ **Ordinance** ☑ **Resolution** ☐ **Informational**

Title, Recommendation & Justification

Title:	Resolution approving Greenway Tunnel Artwork at Walmart Campus at SE 8 Street
Action Recommendation & Justification:	A resolution allowing Walmart to curate the installation of an ombre mural by Graham Edwards on the trail tunnel under SE 8th St on the Walmart Corporate Campus. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	Walmart will fund installation and be responsible for maintenance. The Public Art Advisory Committee and the Parks and Recreation Advisory Board recommended approval of the artwork. There is no cost to the City. Proposal attached.
Amount for Approval:	$

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☑ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

MEMO

THE CITY OF BENTONVILLE
PAAC
PUBLIC ART ADVISORY COMMITTEE

To: Mayor Stephanie Orman and Bentonville City Council
From: Shelli Kerr, AICP, Comprehensive Planning Manager
On behalf of: Bentonville Public Art Advisory Committee
CC date: October 22, 2024
RE: Greenway Tunnel Artwork at Walmart Camps – SE 8 St

Request. Approval of a resolution to allow Walmart to curate the installation of an ombre mural by Graham Edwards on the trail tunnel under SE 8th Street on the Walmart Corporate Campus at no cost to the city.

Description. Walmart submitted a proposal to the city to install artwork in three trail tunnels in and adjacent to the new Walmart Corporate campus. This design is for one of two tunnels that are on city property requiring City Council approval. The third tunnel, on SE 10th St, is private property on the Walmart Campus and does not require approval.

The artwork is an ombre mural fading from blue to white the full extent of the tunnel.

Display Site. The proposed display site is the lens shaped tunnel underneath SE 8th St, in the middle of the Walmart Corporate Campus.

Display Period. Walmart will install artwork this fall as a permanent installation.

Funding. Walmart is the owner of the artwork and responsible for installing, insuring, maintaining and de-installing the artwork. There is no cost to the city.

Recommendation. This artwork was recommended by the Parks and Recreation Advisory Board on Sept. 30, 2024, and by the Public Art Advisory Committee on Oct. 1, 2024.

Shelli Kerr

From: noreply@civicplus.com
Sent: Monday, September 30, 2024 9:52 AM
To: Shelli Kerr
Subject: Online Form Submittal: Public Art Proposal

Follow Up Flag: Follow up
Flag Status: Flagged

Public Art Proposal

Proposal for Public Art

Type of Proposal	Unsolicited Proposal
Date	9/30/2024
Is the project a collaboration among multiple artists?	Yes
Is the project curated by someone or an organization other than the artist?	Yes

1) ARTIST INFORMATION

Complete this section with the primary artist's information. If this is a collaborative project with multiple artists, we will reach out for additional information on the other artists.

Name	Graham Edwards
Address	2601 SE J St
City	Bentonville
State	ARKANSAS
Zip Code	72712
Email Address	grahamedwardsart@gmail.com
Phone Number	4058128345

Upload artist resume / CV	Graham Edwards.docx
Artist portfolio	Graham Edwards_1.docx
Artist website	https://www.grahamedwardsart.com/

2) CURATOR CONTACT INFORMATION

Complete this section with the primary contact of the curator of this project, if applicable. If the project is being submitted by the artist, proceed to Section 3) Artwork Details.

Name	Elizabeth Miller
Title	Sr. Manager - Arts and Heritage
Organization Name	Walmart
Street Address	2601 SE J St
City	Bentonville
State	ARKANSAS
Zip Code	72712
Email Address	[redacted]
Phone Number	[redacted]

3) ARTWORK DETAILS

Title of artwork	Greenway Tunnels
Medium	Paint
Height	Dims vary
Width and depth	Dims vary
Can the artwork be scaled smaller or larger?	No
Description of artwork	Proposed murals are for the lens shaped tunnels on the greenway as it traverses the new Walmart Corporate Campus. The first is a floral mural, featuring local flowers that will be in the tunnel under J St. just south of 5th street. A subtle note that

	you are entering/leaving the Walmart campus with the phrases Hey Ya'll and Goodbye. Likely Jessica Jones will assist us with this mural. The second tunnel is under 8th Street in the heart of the Walmart campus. For this tunnel, artist Graham Edwards will skillfully paint an ombre mural that takes you from white on the north side of the tunnel to deep blue on the south side of the tunnel. The third tunnel is under 10th St. Technically a private street, we own this tunnel, but wanted to present it as part of this suite so that you can understand our overall artistic view. For this tunnel, Artist Graham Edwards will again skillfully paint, this time a graduated take on ombre – taking us again from white on the north to blue at the south in a wave like pattern. Ideally, we would paint these murals this fall to allow for them to be completed prior to the opening of the Greenway so as to avoid any further inconveniences to the public.
Upload description of artwork	*Field not completed.*
Upload image of artwork	Tunnel Mural Concepts 9.24.24 (002).pdf
4) INSTALLATION AND MAINTENANCE	
Is the proposal for temporary or permanent display?	Permanent
If temporary, what is the requested display period?	Not applicable
Is the artwork already complete?	No
If yes, artwork is complete, is it currently on display?	No
If artwork is currently on display, when will it be available?	*Field not completed.*
If no, artwork is not complete, how much	1-2 months

time is needed for fabrication?	
Is the artwork best suited for indoor or outdoor display?	Outdoor
Is a foundation required to install the artwork?	No
If a foundation is required, indicate the size and shape needed.	*Field not completed.*
Does the artwork require access to electricity?	No
Does the artwork require access to water?	No
What is the life expectancy of the artwork?	3-6 years
Are there any special maintenance needs for this artwork?	No
If there are maintenance needs, please describe here.	Walmart will handle all maintenance needs
5) BUDGET & FUNDING	
(a) Material costs	0
Describe materials costs.	Walmart will be responsible for all material costs.
(b) Production costs	0
Describe production costs.	Walmart will be responsible for all production costs.
(c) Installation costs	0

Describe installation costs.	Walmart will be responsible for all installation costs.
(d) Total fabrication budget	0
(e) Artist's fee	0
(f) Travel costs	0
(g) Total budget	0
What is the planned funding for this proposal?	Private funding.

[redacted]

- J St. Tunnel – Flowers
- 8th Street Tunnel – Ombre
- 10th St Tunnel – Graduated Wave Ombre

J Street Tunnel

8th Street Tunnel

10th Street Tunnel

Artist Graham Edwards has completed multiple murals in Northwest Arkansas. The below projects would be most similar to the work he would be completing for this proposal. A full listing of his projects can be found on his website: Graham Edwards Art

New Nexus -Bentonville, AR

Ledger -Bentonville, AR

ArtCourt -Fayetteville, AR

RESOLUTION NO. _____

A RESOLUTION ALLOWING WALMART TO CURATE THE INSTALLATION OF AN OMBRE MURAL, BY GRAHAM EDWARDS, ON THE TRAIL TUNNEL UNDER SE 8TH STREET ON THE WALMART CAMPUS; AND FOR OTHER PURPOSES.

WHEREAS, the City Council of the City of Bentonville has established the importance of integrating public art into the daily lives of the citizens of Bentonville by adopting a Public Art Policy with Ordinance No. 2013 – 40 on May 14, 2013;

WHEREAS, Walmart submitted a proposal to the city to install artwork in the trail tunnels in and adjacent to the new Walmart campus; and

WHEREAS, the artwork was recommended by the Bentonville Parks and Recreation Advisory Board on Sept. 30, 2024, and by the PAAC on Oct. 1, 2024.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the City Council of the City of Bentonville, Arkansas hereby allows Walmart to curate the installation of an ombre mural by Graham Edwards on the trail tunnel under SE 8th Street on the Walmart Campus;

Section 2: That Walmart is the owner of the artwork and responsible for all costs to install, insure, maintain, and deinstall the artwork;

Section 3: That there is no cost to the city;

Section 4 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 5 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Shelli Kerr
Phone:	479-271-6822	**For Department(s):**	Planning/Public Art Advisory Committee
Email:	skerr@bentonvillear.com		

Item Type (Check all that apply)

☐ **Informational** ☐ **Bid Award** ☑ **Enter into an Agreement** ☐ **Change Order**
☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☐ **Emergency Clause**
☐ **Ordinance** ☑ **Resolution** ☐ **Informational**

Title, Recommendation & Justification

Title:	Resolution approving Greenway Tunnel Artwork at Walmart Campus at SE J Street
Action Recommendation & Justification:	A resolution allowing Walmart to curate the installation of a floral mural by Jessica Jones on the trail tunnel under SE J St near the Walmart Corporate Campus at no cost to the city. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	Walmart will fund installation and be responsible for maintenance. The Public Art Advisory Committee and the Parks and Recreation Advisory Board recommended approval of the artwork. There is no cost to the City. Proposal attached.
Amount for Approval:	$

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☑ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

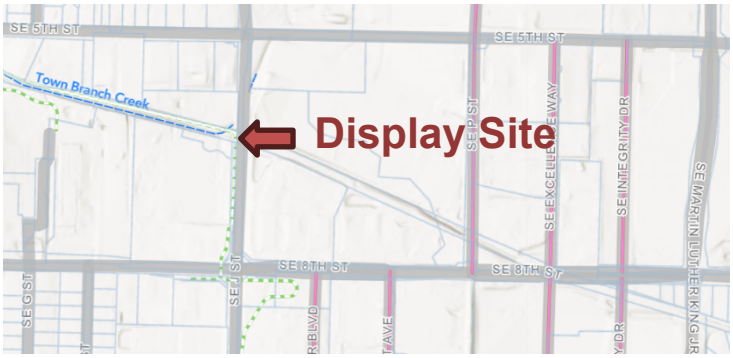
Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

MEMO

THE CITY OF BENTONVILLE
PAAC
PUBLIC ART ADVISORY COMMITTEE

To: Mayor Stephanie Orman and Bentonville City Council
From: Shelli Kerr, AICP, Comprehensive Planning Manager
On behalf of: Bentonville Public Art Advisory Committee
CC date: October 22, 2024
RE: Greenway Tunnel Artwork at Walmart Camps – SE J St



Request. Approval of a resolution to allow Walmart to curate the installation of a floral mural by Jessica Jones on the trail tunnel under SE J Street near the Walmart Corporate Campus at no cost to the city.

Description. Walmart submitted a proposal to the city to install artwork in three trail tunnels in and adjacent to the new Walmart Corporate campus. This design is for one of two tunnels that are on city property requiring City Council approval. The third tunnel, on SE 10th St, is private property on the Walmart Campus and does not required approval.

The artwork is a floral design, featuring native flowers, with text at the entrance/exit of the tunnel. The tunnel is painted white with the floral design near the bottom half of the tunnel walls.

Display Site. The proposed display site is the lens shaped tunnel underneath SE J St, just south of SE 5th Street, at the edge of the Walmart Corporate Campus.

Display Period. Walmart will install artwork this fall as a permanent installation.

Funding. Walmart is the owner of the artwork and responsible for installing, insuring, maintaining and de-installing the artwork. There is no cost to the city.

Recommendation. This artwork was recommended by the Parks and Recreation Advisory Board on Sept. 30, 2024, and by the PAAC on Oct. 1, 2024.

RESOLUTION NO. _____

A RESOLUTION ALLOWING WALMART TO CURATE THE INSTALLATION OF A FLORAL MURAL, BY JESSICA JONES, ON THE TRAIL TUNNEL UNDER SE J STREET NEAR THE WALMART CORPORATE CAMPUS; AND FOR OTHER PURPOSES.

WHEREAS, the City Council of the City of Bentonville has established the importance of integrating public art into the daily lives of the citizens of Bentonville by adopting a Public Art Policy with Ordinance No. 2013 – 40 on May 14, 2013;

WHEREAS, Walmart submitted a proposal to the city to install artwork in the trail tunnels in and adjacent to the new Walmart Corporate Campus; and

WHEREAS, the artwork was recommended by the Bentonville Parks and Recreation Advisory Board on Sept. 30, 2024, and by the PAAC on Oct. 1, 2024.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the City Council of the City of Bentonville, Arkansas hereby allows Walmart to curate the installation of a floral mural by Jessica Jones on the trail tunnel under SE J Street near the Walmart Corporate Campus;

Section 2: That Walmart is the owner of the artwork and responsible for all costs to install, insure, maintain, and deinstall the artwork;

Section 3: That there is no cost to the city;

Section 4 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 5 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Chief Ray Shastid
Phone:	479-271-3170	**For Department(s):**	Police Department
Email:	ray.shastid@bentonville.arkansas.gov		

Item Type (Check all that apply)

☑ **Informational** ☐ **Bid Award** ☐ **Enter into an Agreement** ☐ **Change Order**
☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☐ **Emergency Clause**
☐ **Ordinance** ☑ **Resolution** ☐ **Informational**

Title, Recommendation & Justification

Title:	Resolution to Adopt Additional Police Department Policies
Action Recommendation & Justification:	Resolution is to adopt additional policies to the Bentonville Police Department Policy and Procedures Manual. These additional policies have been reviewed by legal and contain required standards in accordance with CALEA accreditation. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	See attached policies: Responsibility and Authority (105), Mission Statement, Vision and Core Values (106), Cash Fund/Accounts Maintenance (205), Grievance Policy (312), Benefits Program (316), Media Access (516), Incident Command System (520), Juvenile Policy (525-revised), Traffic Control (521), Traffic Enforcement (522), Juvenile Procedures (525), Criminal Investigation Management (601), Evidence Collection/Processing (603), Confidential Informants/Sources (604), Intelligence Management (609) and Records Management (802).
Amount for Approval:	**$**

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☑ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

Bentonville Police Department
Policies & Procedures

	SUBJECT:	POLICY NUMBER:
	Responsibility and Authority	**105.00**
	CALEA STANDARDS:	EFFECTIVE DATE:
	LE 11.3.1, 11.3.3, 12.1.1, 12.1.2, 12.1.3, COM 1.1.3, 1.1.4, 1.1.5, 1.1.6, 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.2.3	**XX**
	NOTES:	REVISION DATE:
		10/07/2024
	APPROVAL:	PAGES:
	Ray Shastid, Chief of Police	**6**

PURPOSE

The purpose of this policy is providing guidance and consistency to personnel around the expectations of their responsibility and authority. All directives affecting agency policy, procedure, conduct, rules, and regulations shall be accomplished in writing and disseminated to the affected personnel. Those directives shall govern the operations of the Department.

POLICY

It will be the policy of the Department that all lawful orders will be carried out and that all supervisors will be held accountable for the performance of their immediate subordinates. The Department will conduct regularly scheduled staff meetings at all levels. It will be the policy of the Department that all directives will be in written form to alleviate any misconceptions or misunderstandings by all personnel.

It will be the policy of the Department that policy directives will be signed for as proof of receipt by the affected personnel. This will also hold true for all directives that have revisions.

DEFINITIONS

Authority: The power to command; enforce laws, rules, and regulations; exact obedience; determine or judge.

Chain of Command: Lines of communication going downward and upward within an organization hierarchy through each successive level of command.

Command Staff: Personnel of the rank of Captain and the Chief of Police.

Direction: Management, supervision, or guidance, of an action or operation.

Directive: A term used to describe procedures or mandates, of a general nature or affecting the entire Police Department. General orders remain effective until rescinded, revised, or superseded.

Plan: A plan is developed from strategic considerations and actions, which anticipate future event(s).

Supervisory Staff: An officer of the rank of sergeant or any personnel assigned to a supervisory position.

Responsibility: The duties and obligations that officers or agencies are required to fulfill as part of their role in upholding the law and maintaining public safety.

PROCEDURES

105.01 AUTHORITY, RESPONSIBILITY, AND SUPERVISORY ACCOUNTABILITY:

A. Authority and Responsibility:

1. **Authority:**
   At every level of this Department, personnel will be given the authority to make decisions necessary for the effective execution of their given responsibilities. *[LE 11.3.1a, COM 1.1.5a]*

2. **Responsibility:**
   All personnel will be made fully accountable for the use of delegated authority, as well as for the failure to use it. The delegation of authority shall be consistent with the Department's organizational values and mission statement. *[LE 11.3.1b, COM 1.1.5b]*

B. Supervisor Accountability:

Supervisors will be held accountable for the performance of the personnel under their immediate supervision. Although supervisors may delegate the actual performance of a given task, a supervisor cannot delegate the ultimate responsibility for the accomplishment of the task. *[COM 1.1.6]*

105.02 UNITY OF COMMAND

A. Personnel Accountability:

To ensure that personnel are aware of what is expected of them and to promote efficiency and responsibility, personnel must be accountable to only one supervisor. There may be times when personnel in supervisory positions must give a command to personnel outside of the chain of command. Nothing in this directive is meant to prevent this. In ordinary circumstances, however, personnel will be able to identify one, and only one, supervisor to whom the personnel are accountable to. *[COM 1.1.3]*

B. Command of Divisions:

Each division is under the authority of one commander. Operational components within a particular division are under the direct command of that division commander. The intent here is to avoid confusion among personnel and to establish accountability. *[COM 1.1.4]*

DRAFT

C. Command Protocol:

Command protocol in a single operation involving personnel from different divisions normally will be determined by rank. The Department has several specialized assignments (i.e., Bomb, SWAT, Negotiations, etc.) that have an established internal chain of command that has been approved by the Chief of Police. When activated, assigned personnel to the specialty units will follow commands from the established internal chain of command.

D. Same Division Investigations:

When two or more officers of the same rank are on duty and supervising the same area of responsibility within a division, the chain of command will be determined by time in grade, except otherwise designated by a higher-ranking officer:

1. Time in grade is determined by the length of time within a given grade as determined by the appointment date to that specific grade.

2. Rank in grade is determined by the actual placement on a promotional test when more than one person is promoted on the same date. *[LE 12.1.2c]*

E. Joint Division Investigations:

1. The officer assigned a call will be the officer in charge until relieved by a detective on the scene who elects or directed to take responsibility for the investigation; or a supervisor arrives on scene.

2. A detective assuming the responsibility for control of an investigation or crime scene shall be responsible until relieved by the Criminal Investigation Division supervisor or by another supervisor at the scene who assumes responsibility for the situation.

3. A Command Staff member has the discretion to assume control of a scene. The command officer will not be responsible for the scene until their announcement of assuming command.

105.03 DIRECTION

A. Chief Executive Officer (CEO):

The Chief of Police is designated by municipal ordinance as having the authority and responsibility for the management, directions, and control of the operations and administration of this Police Department. *[LE 12.1.1, COM 2.1.1]*

B. Command Protocol:

The following procedures establish the command protocol for the Department.

1. Absence of the Chief:
   The order of precedence for command authority in the event of the absence of the Chief of Police is as follows: (1) a Division Commander as designated by the Chief of Police during planned absences. *[LE 12.1.2a, COM 2.1.2a-c]*

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2. Exceptional Situations:
   The order of precedence for command authority in the event of an exceptional situation and the Chief of Police was not available is as follows:
   a. A Division Commander designated by the Chief of Police;
   b. A Division Lieutenant designated by the Division Commander.
   c. Shift Supervisor. *[LE 12.1.2b]*

3. Single Operation:
   Personnel should use the Chain of Command within the Department as appropriate. Command protocol in a single operation involving personnel from different divisions normally will be determined by rank. The following are procedures when command protocol cannot be established by rank:

   a. Same Division Investigation:
      When two or more personnel of the same rank are on duty and supervising the same area of responsibility within a division, the chain of command will be determined by time and rank in grade, except otherwise designated by a superior:

      - Time in grade is determined by the length of time within a given grade as determined by the appointment date to that specific grade.

      - Rank in grade is determined by the actual placement on a promotional test when more than one person is promoted on the same date. *[LE 12.1.2c]*

   b. Joint Division Investigations:
      - The officer assigned a call will be the officer in charge until relieved by a detective or Traffic Collision Investigator (as appropriate) who elects or is directed to take responsibility for the investigation, or a supervisor arrives on scene.

      - A detective assuming the responsibility for control of an investigation or crime scene or a Traffic Collision Investigator assuming the responsibility for control of a collision investigation shall be responsible until relieved by a supervisor at the scene who assumes responsibility for the situation.

      - A command level officer has the discretion to assume control of a scene. The command officer will not be responsible for the scene until this announcement. *[LE 12.1.2c]*

4. Day to Day Operations:

   a. Supervisory personnel shall not assume command outside their organizational section unless failure to do so would seriously endanger the Department's operational capabilities.

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b. Non-supervisory sworn personnel have no command authority over non-sworn personnel merely by virtue of their sworn status.

c. Personnel designated as Training Officers have command authority only over the trainees assigned to them for training. *[LE 12.1.2d]*

C. Orders:

1. Obedience to Orders:
   All personnel are required to obey any lawful order of a superior, including orders relayed from a superior by personnel of the same or lesser rank. *[LE 12.1.3, COM 2.1.3]*

2. Conflicting Orders:
   Any personnel who receive an order from a superior that conflicts with any previous order or instruction, will respectfully advise that person who issues the second order of the contradiction. Responsibility for countermanding the original order rests with the superior who issued the second order. If neither issuing superior can be readily advised, the subordinate will carry out the most recent order and advise a superior of the contradiction as soon as practical. Personnel shall not be held responsible for disobedience of these previous orders.

3. Unlawful Orders:
   Personnel who receive an unlawful order shall not obey the order but will inform the supervisor the order is unlawful. If the supervisor is still insistent the order be followed, personnel should contact a higher-ranking supervisor.

D. Inter-Division Coordination:

To establish good communication, coordination and cooperation among all agency functions and personnel, the Department has multiple resources available to include the following *[COM 2.1.4]*:

1. Division Command Meetings: Meetings will be held as needed to exchange information on trends and issues affecting the division.

2. Memos: Memos will be used between divisions to impart information.

3. Intelligence Reports: Intelligence reports will be created on suspected vice/narcotics activity locations and suspected criminal offenders to keep other divisions appraised of problem areas and individuals.

4. Specialized Services: Any time the specialized services of another division are needed immediately by the Patrol Division, the request for this immediate service may be made by the on-scene supervisor across division lines, to the commander of the division whose services are being requested.

5. Other: In-person briefings, debriefs, daily shift or division briefings, shift reports

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105.04 INCIDENTS REQUIRING COMMAND NOTIFICATION *[LE 11.3.3 COM 2.2.3]*

Personnel shall notify a supervisor regarding any incident occurring that may result in heightened community interest and create a written report regarding any incident that may bring liability against the city. The supervisor receiving the information must immediately notify their Division Commander who, in-turn, will notify the Chief of Police as soon as possible regarding the incident.

It is understood that a listing of all incident's requiring notification is not possible. Therefore, supervisors must evaluate the specific incidents and consider the potential for Command Staff need to be made aware. All Personnel are expected to use their best judgement in determining which occurrences would require notification. Responsibility for notification rests with the on-duty Patrol Supervisor or their designee. An email to command staff should also be initiated in addition to a phone notification.

It is challenging to list every incident requiring a Command Staff notification. In cases of doubt, it is advisable to proceed with making the notification. Examples of incidents that are considered serious and necessitate immediate Command Staff notification include, but are not limited to, all deaths, specialty unit callouts, requests for additional resources outside of our city, officer-involved injuries or accidents, and significant uses of force.

If a situation occurs which is not serious enough for immediate notification but needs to be brought to the attention of the Chief or other staff members, a Command Staff notification (email) and/or copies of reports can be forwarded for review on the next duty day.

The CID Commander or designee is responsible for keeping the Chief advised of the case status on any major or serious incident assigned for investigative follow-up.

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Bentonville Police Department
Policies & Procedures

	SUBJECT: **Mission Statement, Vision and Core Values**	POLICY NUMBER: **106.00**
	CALEA STANDARDS: **LE 12.2.1a**	EFFECTIVE DATE: **XX**
	NOTES:	REVISION DATE: **10/07/2024**
	APPROVAL: **Ray Shastid, Chief of Police**	PAGES: **2**

PURPOSE

The Bentonville Police Department maintains a professional and dedicated approach to delivering the finest law enforcement services to the community. The Mission, Vision and Core Values of the Department reflect the pride in the Law Enforcement profession and dedication to the City of Bentonville.

POLICY

106.01 MISSION STATEMENT

The Bentonville Police Department is committed to safeguarding lives and property of the people we serve, providing exceptional service, and enhancing public safety by working in partnership with our community.

106.02 VISION

The vision of the Bentonville Police Department is to be the model police agency dedicated to the highest level of professionalism, excellence, integrity, and effective community partnerships; ensuring the city of Bentonville is a safe place to live, work, and visit.

106.03 CORE VALUES

As an organization, we believe these values are important and a foundation to our department and individual officers. They are in line with the City of Bentonville's Mission Statement and Values of providing municipal services in a professional, personal, responsive manner. They help guide our officer's behavior and a standard to which all members will be measured.

Service:
Law enforcement officer's primary responsibility is to protect lives and property of the community they serve. This includes responding to emergencies, preventing and investigating crimes, and ensuring public safety. It emphasizes the role of law enforcement as public servants dedicated to helping citizens.

Professionalism:
The adherence to high standards of conduct, competence, and ethical behavior expected from law enforcement officers. This includes maintaining a respectful demeanor, upholding the law impartially, and continuously improving skills and knowledge through training and education.

Accountability:
The obligation of law enforcement officers and agencies to be answerable for their actions. This means being transparent with the public, taking responsibility for mistakes or misconduct, and ensuring that all actions are in line with law, policy and ethics. It also involves mechanisms for oversight and correction.

Leadership:
The ability to guide, influence, and inspire fellow officers and the community towards achieving common goals. Effective leadership in law enforcement involves setting a positive example, making sound decisions, fostering teamwork, and promoting a culture of integrity and excellence within the agency.

Integrity:
The quality of being honest, ethical, and morally upright. In law enforcement, integrity means adhering to the principles of justice, being truthful in all dealings, and maintaining trustworthiness. Officers with integrity are reliable and consistent in their actions, ensuring they do not abuse their power or position.

Courage:
The ability to face danger, fear, or adversity with resolve and bravery. In law enforcement, courage is demonstrated through the willingness to take risks to protect others, stand up for what is right even in the face of criticism or threat, and perform duties without hesitation in critical situations.

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Bentonville Police Department
Policies & Procedures

	SUBJECT:	POLICY NUMBER:
	Cash Fund/Accounts Maintenance	**205.00**
	CALEA STANDARDS:	EFFECTIVE DATE:
	LE 17.4.2, COM 2.4.6	**XX**
	NOTES:	REVISION DATE:
		09/10/2024
	APPROVAL	PAGES:
	Ray Shastid, Chief of Police	**3**

POLICY

It is the policy of the Bentonville Police Department to adhere to all Arkansas statutes and City of Bentonville ordinances relating to the receipt and disbursement of cash funds and accounting procedures as prescribed for municipal governments.

DEFINITIONS

Cash Fund: An amount of money placed into the custody of an employee for a department's use by the authority of the Chief of Police. The fund is composed of a fixed amount of money which, under the care of a custodian, is used for conducting department business.

Cash Fund Accounts: Are any cash operation that receives, maintains, or disburses funds utilizing public monies. Includes investigative funds, and others. All cash funds must comply with this directive.

Cash (money): Includes coin, currency, money orders, personal checks, cashier's checks, bank drafts, and travelers' checks.

PROCEDURES

205.01 AUTHORITY AND RESPONSIBILITY

The Chief of Police has been designated as having the authority and responsibility for the fiscal management of the City of Bentonville Police Department.

No cash fund shall be established without authorization from the Chief of Police.

205.02 CASH FUND PROCEDURES

All cash fund accounts shall retain documentation, which identifies the initial balance, cash income received (credits), debits (cash disbursed), and the balance on hand. In the absence of a formal accounting program (such as the Bentonville Police Department computerized records management system), an acceptable spreadsheet such as Microsoft Excel or a handwritten ledger shall be maintained.

A. Recording *[LE 17.4.2a, COM 2.4.6a]***:**
All funds shall utilize, at a minimum:

1. Ledger showing initial balance, credits, debits, and balance on hand.
2. Receipts or other documentation for cash received.
3. Receipts or other documentation for cash expenditures.

205.03 <u>Records Unit Cash Funds</u>

B. Authorized Personnel *[LE 17.4.2e, COM 2.4.6e]***:**
Only authorized Records Unit personnel will accept cash from the public for the following cash funds:

1. Reports (printing/photocopying/FOIA)
2. Fingerprints
3. Bond Payments
    a. Bond Payments can also be received by Police Officers or Dispatchers in the event that payments are received after business hours. These funds are then placed into a lockbox for records personnel to retrieve and account for during business hours.

C. Payment Procedures *[LE 17.4.2b, COM 2.4.6b]***:**
Payment will be accepted in cash or personal check. Each transaction will be recorded on the cash fund account log sheet. The payment shall be placed in the designated bank bag in the Records Unit.

1. <u>Receipts:</u> Receipts will be issued to the payer upon request. If personnel must void a receipt, the employee must clearly write the word "VOID" on all copies, as well as place their name on the receipt indicating they conducted the void. All copies shall be left intact in the receipt book. On occasion, citizens no longer have their copy of the receipt when the employee is voiding the transaction. If this occurs, the Records supervisor or another supervisor will co-sign the voided receipt.

2. <u>Fund Accountability:</u> At the end of the week, the Records Supervisor or their designee will verify the cash fund account log by comparing monies received to the log. In the event of a discrepancy in the monies, the Records Supervisor is directed to immediately notify a supervisor in the Administration Division. The supervisor will then investigate the discrepancy and take appropriate action after apprising the Chief of Police of their findings.

3. <u>Deposit:</u> Generally, once per week, the Records Supervisor or their designee will prepare an Inter-Office Memorandum to the attention of the City of Bentonville Finance Office. The memorandum indicates the amount of the deposit separated by cash and checks and the fund the monies are deposited in to. After receipt, the Finance Office will return the signed Memorandum to records. When the signed memorandum is received by records, it is scanned into the appropriate digital folder. In the case of a returned memorandum indicating a

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discrepancy, the Records Supervisor will immediately notify a supervisor in the Administration Division. The supervisor shall investigate the discrepancy and take appropriate action after apprising the Chief of Police of their findings.

205.03 APPROVAL FOR PURCHASES OR CASH DISBURSEMENTS

A. Expenses in excess of $250.00 must be approved by the Chief of Police or designee prior to incurring the expense. *[LE 17.4.2c, COM 2.4.6c]*

B. Cash disbursements in excess of $100.00 must be approved by the Chief of Police or designee. Note: This does not apply to Narcotics Investigations/Drug Fund Transactions. *[LE 17.4.2c, COM 2.4.6c]*

C. All requests to purchase must be approved by the Chief of Police or designee prior to submission to purchasing.

D. Records, documentation, or invoices must be retained for all cash disbursements and/or expenses. *[LE 17.4.2d]*

205.04 CASH ACTIVITIES AUDIT

A statement of accounts that identifies initial balance, credits, debits and balance on hand, is available as needed. The Finance Director, or designee, audits the transactions quarterly. The statement is then reviewed by the Chief of Police. *[LE 17.4.2a, f, COM 2.4.6a, f]*

An annual audit of the fiscal activities is conducted by the Accounting Department, which may also include an audit conducted by an independent third party.

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Bentonville Police Department
Policies & Procedures

	SUBJECT:	POLICY NUMBER:
	Grievance Policy	**312.00**
	CALEA STANDARDS:	EFFECTIVE DATE:
	LE 22.4.1, COM 3.5.1	**XX**
	NOTES:	REVISION DATE: **10/10/2024**
	APPROVAL: **Ray Shastid, Chief of Police**	PAGES: **3**

PURPOSE

The purpose of this directive is to ensure the Bentonville Police Department will provide fair, equitable and clearly defined means for the resolution of grievance. All personnel and supervisors shall be allowed reasonable opportunity to present the facts bearing a grievance. Grievances will remain confidential between the aggrieved personnel and all others directly involved in the resolution of the grievance. This formal grievance procedure is not intended to prevent employees from utilizing other means of recourse already established by the Department or City of Bentonville.

POLICY

A grievance is an issue relating to the working conditions affecting health, safety, job satisfaction, availability of tools or equipment necessary to perform work or other matters related to job performance. It must be a matter within the control of the Department and set forth a clear indication of unfairness resulting in harm or damage to the aggrieved employee. *[LE 22.4.1 a.]*

Items not addressed under this policy include, but are not limited to discrimination and harassment complaints, disciplinary actions, Office of Professional Standards investigations, job performance evaluations, and terminations.

312.01 GRIEVANCE INITIATION

An employee who, after discussing an issue with an immediate supervisor and is not satisfied with the answer, may file a grievance in writing. The grievance must be filed within 10 calendar days after the employee becomes aware of the issue to be grieved. Failure to submit a written grievance within this time limit, or to appeal the grievance to the next level within stated time limits, constitutes abandonment of the formal grievance process. A grievance may be terminated at any time upon receipt of a signed statement from the employee. *[LE 22.4.1 b.]*

A. Grievances shall be submitted in writing and shall include *[LE 22.4.1 d.]*:

1. A written statement of the grievance and facts upon which it is based,
2. Allegations of the specific violation and/or harm done, and

3. A statement of remedy or adjustment being sought.

B. Personnel shall submit the grievance to their immediate supervisor. *[LE 22.4.1b]*

1. If the grievance is with a direct supervisor, it shall be submitted to the next level of supervision in the chain of command. *[LE 22.4.1b]*

2. The supervisor receiving the grievance shall notify the division commander in writing. *[LE 22.4.1e]*

3. Each level of supervision should acknowledge receipt of grievance by noting time, date and person receiving the grievance.

4. Upon receipt of a grievance, a supervisor has 10 calendar days to attempt the resolution of the grievance. The facts or allegations should be carefully analyzed and affirmed or denied in writing. *[LE 22.4.1e]*

5. If the employee is not satisfied with the response, the employee, within five calendar days, may appeal the grievance following the chain of command to the next level of supervision. Any subsequent appeal should be filed with a higher level of supervision within the chain of command up to the Chief of Police. Each appeal should be resolved within 10 calendar days running from the time of appeal. *[LE 22.4.1c/e]*

6. The Chief of Police is the final authority of appeal of any grievance. *[LE 22.4.1c]*

7. If the grievance is against the Chief of Police, it shall be submitted to the City of Bentonville Staff Attorney or the Human Resources Department, as appropriate. *[LE 22.4.1e]*

Employees are not entitled to representation by legal counsel during a grievance proceeding; however, the employees are allowed to have a non-participating representative with them during the proceeding. *[LE 22.4.1f]*

In the event of a policy conflict, the topic specific policy shall supersede this policy.

312.02 COORDINATION

The Office of Professional Standards shall be responsible for coordination of grievance procedures.

Copies of grievances and their investigations shall be filed electronically by name and date with the Office of Professional Standards and kept indefinitely.

Due to the sensitivity of such records, access to grievance documents shall be limited to the Chief of Police or their designees.

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The supervisor of the Office of Professional Standards shall conduct an annual analysis of grievances and file a report with the Chief of Police.

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Bentonville Police Department
Policies & Procedures

	SUBJECT:	POLICY NUMBER:
	Benefits Program	**316.00**
	CALEA STANDARDS: **LE 22.1.3**	EFFECTIVE DATE: **XX**
	NOTES:	REVISION DATE: **10/07/2024**
	APPROVAL: **Ray Shastid, Chief of Police**	PAGES: **4**

PURPOSE

The purpose of the Bentonville Police Department Benefits Program Policy is to establish a comprehensive outline that supports the well-being, health, and financial security of our department personnel and their families. This policy aims to attract, retain, and motivate skilled and dedicated personnel by offering competitive benefits, including health insurance, retirement plans, disability coverage, and other supportive services. By providing these benefits, we recognize the critical role our employees play in ensuring public safety and seek to create an environment that values their contributions, enhances their quality of life, and fosters their professional and personal growth. In the event of a conflict of information, this policy is not meant to supersede City of Bentonville policies.

POLICY

The Benefits Program is established to provide support and benefits to our law enforcement officers, civilian employees, and their families. This program is designed to enhance the overall well-being, financial security, and job satisfaction of our personnel. The benefits include, but are not limited to, health insurance, retirement plans, disability coverage, life insurance, mental health services, educational assistance, and wellness programs.

PROCEDURES

316.01 RETIREMENT PROGRAM *[LE 22.1.3 a]*

A. Police Officers:

All Police Officers with a start date of January 2009 or later are automatically enrolled in Local Police and Fire Retirement System 1 (LOPFI). LOPFI is a defined benefit retirement system with vesting requirement of ten (10) years for police officers and firefighters in Arkansas. A Member's retirement benefit is normally the result of these factors: age at retirement, retirement multiplier, amount of credited service (years and months), and Final Average Pay (FAP). When a member has met eligibility requirements to retire, they will receive a monthly retirement benefit for their lifetime. Full time members of LOPFI contribute a percentage of their total earnings, as defined by law. Part Time members are non-contributory. Members are encouraged to review the LOPFI handbook and login to their member portal at: www.lopfi-prb.com

B. Civilian Employees:

The City participates in the Arkansas Public Employees Retirement System (APERS) for all eligible employees, other than selected police officers and firefighters. All full-time employees and part-time employees who work at least eighty hours per month for three consecutive months are eligible and required to participate. New hires who are anticipated to work these work schedules are enrolled effective their date of hire in APERS. A percentage, as determined by APERS, of each employee's annual earnings, is contributed by the city to APERS. City of Bentonville employees hired after July 1, 2005, contribute a percentage of their gross salary as determined by APERS. Additionally, employees who have transferred their membership from another government entity where they were a contributory member will continue to be contributory members. The employee must be a member of APERS for five years to become vested in the retirement plan and may then draw a retirement benefit upon reaching retirement age. Members are encouraged to review the APERS handbook and also login to their member portal at: www.apers.org

316.02 DEFERRED COMPENSATION

In addition to the above retirement programs, the City of Bentonville offers through payroll deduction a supplemental retirement savings program, commonly referred to as Deferred Compensation. Regular full-time employees may sign up for these plans at any time of the year.

316.03 HEALTH INSURANCE *[LE 22.1.3b]*

The City of Bentonville contracts with a health care provider to provide medical, dental, vision, prescription drug, and life insurance for eligible full-time employees, subject to deductibles and co-payments. The specifics of the City of Bentonville health insurance program can be found in City Policy Section 8.

316.04 DISABILITY AND DEATH BENEFITS *[LE 22.1.3c]*

The City of Bentonville provides all city employees with Worker's compensation insurance, Long Term Disability Insurance, and Life Insurance at certain limits at no cost to the employee. Personnel may also purchase supplemental insurance coverage through the city. The specifics of each of these benefits can be found in City Policy, Section 8.

There are many other state, regional, and national death benefit programs for Police Officers killed in the line of duty through programs such as the Public Safety Officer's Benefits (PSOB) and Concerns of Police Survivors (C.O.P.S.).

316.05 LIABILITY PROTECTION *[LE 22.1.3d]*

The City of Bentonville, with respect to the defense and indemnity of its employees is as set out in Arkansas Code Title 21, Chapter 9, Subchapter 3.

The procedures and statements set out herein are not intended to in any way modify or change the provisions of the above-referenced statute. In the event of any conflict between the terms of this policy and those of the statute, the statute shall control.

The obligations and provisions of this guideline contained herein shall apply to regular commissioned police officers commissioned and acting pursuant to applicable state law and local ordinance.

Upon official service or notification of imminent or threatened legal action or legal demand as a result of status as a law enforcement employee or in any way naming the City of Bentonville, the named employee shall notify the Chief of Police and the Staff Attorney, and shall supply a copy of the summons, subpoena, correspondence and/or all other documents relevant to the action to both offices no later than the next business day following service or notification.

Such served employee shall be responsible for adhering to the orders of the subpoena or other direction by the court.

316.06 <u>LEGAL ASSISTANCE</u> *[LE 22.1.3d]*

A. Criminal Cases:
When a Police Department employee is the subject of a criminal proceeding, if they choose to have an attorney, they shall be represented by an attorney employed and paid by the employee, or one appointed to represent the employee by the court.

B. Civil Cases:
In civil liability situations arising out of the operation of a City-owned or leased vehicle by a Police Department employee, the City may tender the defense of the matter to its vehicle insurance carrier, for defense and indemnity pursuant to the terms of the City's vehicle insurance policy. The employee shall cooperate fully with the insurer and its designated defense counsel in the defense of the matter.

In other situations, in which a Police Department employee is sued in a civil action for acts done in the performance of official duties, the City or its insurer may choose to defend the employee by the City Attorney's Office or by other appropriate legal counsel as may be approved and hired by the City.

The City of Bentonville participates in the Arkansas Municipal Legal Defense Program (MLDP). The MLDP is a fund that provides limited legal defense and expenses in lawsuits against municipalities, municipal officials, and employees. The legal defense provided includes all necessary legal research, preparation of all briefs and pleadings, all appearances, taking of statements and depositions, trial preparation, and all other necessary functions essential for the proper representation of the municipality, municipal officials, and employees.

Decisions regarding the defense of employees are made on a case-by-case basis, depending upon the facts of each situation, and are at the discretion of the City. As a condition of such representation by the City or its outside counsel, the employee shall cooperate fully in the defense of the claim, shall follow counsel's legal advice with respect to the claim, and shall take no action detrimental to the interests of the City in the defense of the matter.

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Members of the Bentonville Fraternal Order of Police (FOP), or Auxiliary, may be eligible for additional legal assistance benefits and should contact an FOP executive board member for more information.

316.07 Educational Benefits *[LE 22.1.3e]*

The City of Bentonville is committed to continuing on-going training for all employees. The Bentonville Police Department provides numerous training opportunities in effort for employees to receive training on their job skill. Additionally, the City of Bentonville provides tuition assistance to qualified employees to assist with the cost of attaining a job-related educational degree. This benefit must be budgeted and coordinated in advance with each employee's division commander. More information regarding tuition assistance can be found in City Policy 8.6

Members of the Bentonville Fraternal Order of Police (FOP), or Auxiliary, may be eligible for additional educational benefits and should contact an FOP executive board member for more information.

316.08 Mental Health Services

The City of Bentonville and the Bentonville Police Department are committed to the mental health of employees. The Bentonville Police Department provides various options for employees that need counseling and other mental health services, to include but not limited to:

A. Cordico Wellness App:
Employees have an anonymous log in available to them to access the app which provides self-assessments, wellness content, and chaplain support

B. Employee Assistance Program (EAP):
The City of Bentonville's EAP has various options to assist employees and their covered dependents with a wide range of challenges, such as emotional trauma to substance abuse. These services also include confidentiality as they are contracted through professional health services by the City. For a full description and details regarding the City's EAP, refer to Section 8.11 through 8.13 of the City of Bentonville Personnel Manual.

C. Peer Support:
The Bentonville Police Department has a Peer Support Program to provide department employees the opportunity to receive peer facilitated emotional support through times of personal or professional crisis. See BPD Policy 519 Peer Support for more information.

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Bentonville Police Department
Policies & Procedures

	SUBJECT:	POLICY NUMBER:
	Media Access	**516.00**
	CALEA STANDARDS:	EFFECTIVE DATE:
	LE 54.1.3	**XX**
	NOTES:	REVISION DATE:
		08/12/2024
	APPROVAL:	PAGES:
	Ray Shastid, Chief of Police	**2**

PURPOSE

The purpose of this policy is to provide guidance to department personnel regarding control of access of the media to crime scenes and locations of major incidents.

POLICY

The Bentonville Police Department recognizes the vital role that the media plays in informing the public and maintaining transparency within the community. This policy is designed to foster a cooperative relationship between the Department and media representatives, ensuring accurate and timely dissemination of information while upholding the integrity of ongoing investigations and the privacy rights of individuals.

This policy outlines the procedures and guidelines for media access to crime scenes, major incidents, and departmental information. It aims to balance the public's right to know with the need to protect the integrity of police operations and the rights of those involved.

PROCEDURES

516.01 MAJOR INCIDENT SCENES

Major incident scenes include major fires, natural disasters, and other catastrophic events. Identify a strategic location for camera coverage near major incident scenes. Admit properly identified media representatives to the assembly area. The officer in charge at the scene, or their designee should give timely and factual reports to all media in one location simultaneously, as reasonable.

516.02 PERIMETER OF CRIME SCENES

Personnel shall not have access to areas where media personnel would be exposed to danger, would interfere with public safety operations, or would disturb or contaminate evidence. Keep news media behind barriers or specified boundaries established by the

officer in charge of the scene. Ensure media representatives park their vehicles in a manner not to cause traffic congestion nor interfere with emergency vehicles and equipment.

516.03 MEDIA RELEASE ON SCENE

You may release the following facts of an arrest and information, when not confidential or limited by law:

1. Synopsis of Incident: Circumstances of the arrest and charge, including location, date and time of the incident, resistance to arrest, pursuit, possession or use of a weapon.

2. Arrested Person: Name, description, age.

3. Property Description: Description of items seized damaged, stolen and approximate value.

4. Officers and Agencies Involved: Names of arresting officers, investigating officers, length of investigation, other agencies involved and any request for public information.

NOTE: *Do not release names of officers that would jeopardize undercover operations. Refer to Policy 802 (Records Management) for further details regarding Freedom of Information Act (FOIA) requests.*

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Bentonville Police Department
Policies & Procedures

	SUBJECT: **Incident Command System**	POLICY NUMBER: **520.00**
	CALEA STANDARDS: **LE 46.1.1, 46.1.2, 46.1.3, 46.1.4, 46.1.5, 46.1.6, 46.1.7, 46.1.9**	EFFECTIVE DATE: **XX**
	NOTES:	REVISION DATE: **08/09/2024**
	APPROVAL **Ray Shastid, Chief of Police**	PAGES: **8**

PURPOSE

It is the policy of the Bentonville Police Department to respond to unusual circumstances such as natural or man-made disasters and civil disturbances in an effective and comprehensive manner. In these situations, the Department's goal is to protect life and property and to restore order. Coordination and deployment of resources shall comply with the Incident Command System model.

It is the policy of the Department to utilize the Incident Command System (ICS) model in responding to natural disasters, hazardous materials incidents, manhunts, critical missing persons events, active threat/assailant, terrorist events, and civil disorders in order to provide a formalized, systematic process for decision making and coordinated response in support of public safety and order.

DEFINITIONS

Critical Incident: An occurrence or event, natural or human-caused, which requires an emergency response to protect life or property. Incidents can, for example, include major disasters, emergencies, terrorist attacks, terrorist threats, wild land and urban fires, floods, hazardous materials spills, nuclear accidents, aircraft accidents, tornadoes, severe storms, war-related disasters, public health and medical emergencies, and other occurrences requiring an emergency response, such as major planned events and law enforcement incidents.

Incident Command System: A system for establishing command, control, and coordination of a response that provides a means to coordinate the effort of individual persons and agencies as they work toward the common goal of stabilizing an incident while protecting life, property and the environment.

PROCEDURE

The procedures contained within this policy are intended to be basic guidelines and may be adapted and/or modified as needed during a disaster or other unusual occurrences.

520.01 PLANNING RESPONSIBILITY *[LE 46.1.1]*

Since the majority of the Department's response during an unusual occurrence originates within the Patrol Division, the Patrol Commander shall be responsible for planning for the Department's response.

The Patrol Division Commander shall serve as the Department liaison in critical incident planning with other agencies.

520.02 INCIDENT COMMAND SYSTEM

A. ACTIVATION:

The Incident Command System will be adopted in response to major or critical incidents involving either singular or multiple agency responses to, but not limited to the following:

1. Natural or man-made disasters
2. Tornados
3. Explosions
4. Severe winter storms
5. Riots or disorders
6. Mass arrest incidents
7. Bomb threats (as coordinated by the Bentonville Bomb Squad)
8. Hostage/Barricaded person
9. Acts of terrorism
10. Other critical incidents, as directed by any field supervisor

After determining to activate ICS, the first arriving supervisor will declare the ICS activation via the police radio and declare their badge number as taking "command" of the incident.

The establishment of command early aids in creating clear lines of communication. As part of the ICS activation, the following command functions will be identified, resourced and assigned by the officer in charge. Depending upon size and complexity, certain functions may be combined or expanded as resources allow:

1. Command
2. Planning
3. Operations
4. Logistics
5. Finance/Administration

B. COMMAND *[LE 46.1.3]*:

The ranking officer on scene, or as otherwise determined, may be based in the Emergency Operations Center, and is the Incident Commander until relieved by other

competent authority. The Incident Commander has overall responsibility for Police Department operations at the incident. The Incident Commander shall activate the Incident Command System and shall make such declaration to all involved units by radio.

The Incident Commander assigns staff to perform the other command functions listed above. The Incident Commander shall establish the location and implementation of a Command Post consistent with operational requirements and insuring safety and security.

The Incident Commander shall assure adequate resources are mobilized to address all Department operational requirements and shall provide for accurate and timely public information and media releases.

The Incident Commander will provide for the safety and security of all personnel responding to or affected by the incident.

The Incident Commander will establish a staging area(s) for purposes of staging resources for assignment, if necessary.

The Incident Commander shall coordinate Department response with other agencies. Some types of incidents will require Police Department incident command leadership and others will require a subordinate role to other agency leads:

- Law Enforcement has command in hostage/barricade, manhunt, active threat/assailant incident and public order response.

- In fire-related incidents, hazardous materials situations, swift water and technical rescue events, mass casualty disasters, and bomb threats (once violent or active threats have been stabilized or neutralized by the Bentonville Bomb Squad or another appropriate resource), the Fire Department will maintain command. Additionally, the Fire Department is responsible for weather reporting, arson investigations (with Police Department assistance for legal processes such as search warrants and charging), and airport-related incidents.

- Initial response to a bioterrorism event will be a joint effort between the Police Department and Fire Department. Fire Department will be responsible for requests for additional resources.

- Federal Authorities will assume command of all terrorist and weapons of mass destruction (WMD) events following initial local response.

Command Support functions to reduce task burden for the Incident Commander may include:

- Media Relations Officer

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- Safety Officer
- Liaison Officer

The Incident Commander shall require collection of information as it unfolds as well as documentation of all resources deployed.

C. OPERATIONS *[LE 46.1.4]***:**

The Operations Commander manages tactical operations in the field during the incident, in support of the response plan.

The Operations Commander develops tactical objectives and establishes the operational perimeter(s) while they also allocate personnel for the security of those perimeters.

The Operations Commander plans and coordinates safe evacuations of citizens from threatened areas.

The Operations Commander is responsible for managing security at the field Command Post and of the incident scene(s).

The Operations Commander will establish a system for the transportation, processing, and confinement of detainees in compliance with mass arrest operations and procedures found in this directive.

The Operations Commander is responsible for the planning, resourcing and implementation of a traffic control plan to secure the affected area(s) and minimize collateral damage or injuries.

The Operations Commander directs all operational resources including Patrol, Traffic and other sworn and non-sworn elements assigned to tactical response.

The Operations Commander shall conduct the post-incident investigation consistent with agency roles as defined in 520.02, B.

D. PLANNING *[LE 46.1.5]***:**

The Planning Commander will prepare and document an incident response plan.

The Planning Commander collects, evaluates, and disseminates information and intelligence about the incident.

The Planning Commander maintains an incident log and tracks relevant information about the incident.

The Planning Commander prepares reports and is responsible for quality control related to information.

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The Planning Commander coordinates collection of all logs, reports, and data from all command functions related to the incident.

The Planning Commander directs the planning of post-incident demobilization and de-escalation to ensure continued community security and safety while relieving department resources.

E. LOGISTICS *[LE 46.1.6]***:**

The Logistics Commander is responsible for the identification, acquisition, and delivery of all equipment and supplies necessary for the Department to meet its mission during a critical incident. These requests will also be tracked by the Logistics Commander.

The Logistics Commander arranges for transportation resources to assist with mass movement of officers or evacuations, as directed.

The Logistics Commander arranges for the notification and staging of Emergency Medical Support (EMS) resources and coordination with local hospital trauma centers. The Logistics Commander coordinates communications, information systems, and other technical support for Mobile Data Communications System and Records Management System.

The Logistics Commander will coordinate with the Special Weapons and Tactics Team Commander and Team Leader or other special team leaders to replenish equipment and supply needs during the incident.

The Logistics Commander coordinates all Quartermaster functions during the incident.

The Logistics Commander provides for the sheltering, relief, feeding, and sanitation facilities (if required) for all Police Department personnel involved in the operation.

Often, the Logistics function and the Finance/Administration function may be combined.

F. FINANCE/ADMINISTRATION *[LE 46.1.7]***:**

The Administrative Commander tracks and monitors costs, including personnel time, equipment, and supplies. This role also procures additional resources from outside the Department and records costs for future local or federal reimbursements (i.e. FEMA).

The Administrative Commander also tracks on-duty and off-duty time to comply with FLSA standards, while also facilitating emergency purchasing transactions and making recommendations for future operational cost savings. This commander is also responsible for the documentation of injuries to personnel and of potential liability

issues. The Administrative Commander shall prepare appropriate reimbursement documents, when applicable.

520.03 INCIDENT ASSESSMENT

The Incident Commander will conduct the following assessment:
Evaluation:

1. What is the nature of the incident?
2. What hazards exist for response personnel and the public?
3. Do warnings need to be issued?
4. Are there injured persons requiring medical assistance and/or evacuation?
5. Is general evacuation required?
6. How large of an area is affected?
7. Will the area be isolated?
8. What location would make a good staging area?
9. What entrance/exit routes would facilitate response personnel and equipment?
10. Identify contingencies through pre-incident planning.
    - Determine goals and objectives for the incident.
11. What needs to be the outcome?
12. How do we get there?
13. Identify needed resources.
14. Where will we get needed resources?
15. How long will it take to get them here?
16. Are there special resource requirements?
17. Build a plan and structure, including:
    - Responsibilities and tasks.
    - Incident Chain of Command;
    - Coordination issues.
18. Take action.

520.04 TRANSFER OF COMMAND

A typical incident will require the transfer of Incident Command authority from one commander to another (i.e. Officer to Sergeant, Sergeant to Lieutenant, etc.)

As a rule, command authority should only occur after the current Incident Commander and the new Incident Commander have had a face-to-face meeting to assure smooth transition. This briefing should include:

1. Incident conditions, objectives, priorities, and hazards;
2. Incident action plan and current status;
3. Safety consequences and concerns;
4. Deployment and assignment of operating units and personnel;
5. Need for additional resources.

Upon transfer, the new Incident Commander shall announce via police radio, their radio number and the message they are assuming Incident Command.

520.05 TERMINATING COMMAND

When an Incident Command event has de-escalated to a point where conventional resources can manage the scene AND no other agencies remain involved, the Incident Commander should terminate Incident Command via police radio; (901-Incident Command is terminated) At this time, normal patrol and radio procedures are restored.

520.06 COMMAND IDENTIFICATION

Incident Command systems assume the unique name of identity of the street or complex which is the primary location of the event. This allows for simultaneous Incident Command events with minimal confusion.

520.07 WRITTEN REPORT REQUIREMENTS

Any officers involved in an Incident Command operation may be required to complete a written report detailing their observations and participation in the operation, at the direction of the Incident Commander.

520.08 INCIDENT AFTER ACTION AND CRITIQUES

The Incident Commander with the most knowledge of the incident, as determined by the Chief of Police, will be responsible for completion of an After-Action Report, in memorandum format, following each Incident Command event. The After-Action Report will be forwarded up the chain of command for review. A copy of the After-Action Report will be routed to the Accreditation Manager.

Content of the After-Action Report shall include:

1. Complete incident description and history.
2. Number of persons affected or involved.
3. Description of evacuations, obstacles to evacuation, difficulties encountered.
4. Description of damage to property.
5. Persons injured or killed.
6. Description of response involved to the incident.
7. Description of traffic control operations.
8. Mutual Aid response: Complete accounting of personnel and agencies involved, difficulties in coordination and control.
9. Complete description of Incident Command System and names and assignments of officers assigned to various command functions.
10. Location, activation, and operation of EOC or Command Post and staging area(s) and security operations of each.
11. Description of the mobilization process, account of personnel status by on-duty, Emergency Call-In.
12. Assessment of the public information process and effect on media relations.

13. Law enforcement operational actions taken and result, locations of perimeters.
14. Number of persons arrested.
15. Description of mass arrest procedures, including detainee transportation, processing, and confinement.
16. Management review of the Incident Command System process, including information on intelligence processes, communications, transportation and logistics, medical support, procurement of equipment and supplies, account of personnel resources and other expenses, documentation of injuries and other liabilities, post incident demobilization and de-escalation, how well it worked; and
17. Attached copy of the incident response plan incident log.

520.09 TRAINING EXERCISE AND ANALYSIS

The Department will participate in documented practical application, tabletop, or multiple agency training events for Incident Command System operations on a regular basis, utilizing scenarios addressed by the Department's "All Hazard" Plan.

All supervisors should be familiar with the ICS formats, terminology and protocols as relevant to a various range of circumstances. Supervisors can assign additional personnel to different sections, branches and groups as appropriate for the specific incident.

Department Command Staff, Special Weapons and Tactics Team, and other affected agency personnel will participate in documented annual "All Hazard" training. *[LE 46.1.9]*

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Bentonville Police Department
Policies & Procedures

	SUBJECT: **Traffic Control**	POLICY NUMBER: **521.00**
	CALEA STANDARDS: **LE 61.3.2, 61.4.1, 61.4.2**	EFFECTIVE DATE: **XX**
	NOTES:	REVISION DATE: **10/09/2024**
	APPROVAL **Ray Shastid, Chief of Police**	PAGES: **3**

PURPOSE

The purpose of this policy is to establish procedures and guidelines to be used for traffic control and direction to ensure the safe, orderly, efficient, and effective movement of vehicles and pedestrians. This policy also addresses the equipment that officers will utilize when engaged in traffic control.

PROCEDURES

521.01 TRAFFIC COMPLAINTS

Complaints and suggestions from the general public as well as officers involved in patrol and traffic collision investigation activities may lead to the discovery of traffic engineering deficiencies.

Officers of the Bentonville Police Department that observe what is believed to be a traffic engineering deficiency or investigate a collision which is caused by a deficiency, should report it to the traffic unit who will then report the issue to the City of Bentonville Transportation Department, if required, along with the Operations Division Commander.

521.02 DIRECTION and CONTROL *[LE 61.3.2a]*

Traffic collisions often leave roadways partially or fully blocked. Officers should perform the following at a collision scene as necessary:

1. Officers should protect the collision scene by properly positioning their police vehicles while using emergency lighting.
2. Officers may request additional officers to assist in directing traffic until the roadway can be cleared.
3. Officers at the scene should coordinate their traffic direction to eliminate confusion of motorists.
4. In cases of fatal or serious collisions, it may be necessary to completely or partially block the roadway for an extended time. The use of barricades, as well as additional

officers, is authorized for such collisions. The officer assigned to the call for service is responsible for traffic direction and control at a collision scene.

Officers may be requested to assist with traffic direction at critical incidents. Officers may be asked to divert traffic flow away from the incident, stop traffic from entering, or direct traffic away from an incident.

Officers shall ensure motorists/citizens follow instruction and shall ensure they are not allowed to interfere with a scene. Officers will make use of uniform hand signals and gestures for manual traffic direction when working traffic. Officers should take charge of traffic and provide clear, concise, and professional gestures. *[LE 61.3.2b]*

Officers will also be required to assist during periods of adverse road and weather conditions. Officers encountering roadway traffic hazards should initially block the affected roadway with their patrol car. Officers may be required to work traffic manually, using uniformed hand signals, cones, barricades, or by manually operating the traffic light box. Officers may need to request assistance from Street Department personnel who can be contacted by radio or telephone by the Communications Center. *[LE 61.3.2d]*

Traffic light locations may at times need manual operation by officers in times of special events, sporting events, or adverse weather conditions. Typically, officers will be assigned manual operation of traffic control devices during a planned event or will be dispatched at times where a need arises. *[LE 61.3.2c]*

Officers will at times make use of temporary traffic control devices that may include barricades, traffic cones, and illuminating instruction signs. During special events with heavy traffic, these will normally be placed in the form of planned assignments. Temporary traffic control devices can also be requested and placed during serious collisions and for critical incidents that occur on a random basis. *[LE 61.3.2f]*

Any Officer directing traffic, or in the roadway controlling traffic, will be required to wear their department issued reflective vest. *[LE 61.3.2e]*

521.03 OTHER SERVICES

Officers will provide general assistance to motorists in the following capacities: *[LE 61.4.1]*

1. Officers performing patrol should stop and provide reasonable assistance to motorists.

2. Officers should provide the public with information and directions when reasonable.

3. When enroute to a non-emergency call, officers should divert from that call and assist a stranded motorist where there is an appearance of an emergency.

A. Stranded Motorists

Officers should assist stranded motorists by calling for mechanical or towing services at their request. As necessary for the safety of a stranded motorist, officers should position their vehicle(s) utilizing the emergency lights to assist in protecting the motorist from other traffic.

When necessary, officers will request emergency medical services through dispatch and provide aid the extent possible. When reasonable and with the approval of a supervisor, officers may provide transportation for the motorist to a predetermined location.

Officers should ensure the vehicle is towed and persons are safely moved in cases that involve a hazardous or dangerous location. See Policy 406 (Vehicle Impound) for further details regarding handling of vehicles, authorities and documentation requirements.

B. Hazardous Roadway or Debris: *[LE 61.4.2]*

Officers who locate or are dispatched to debris on the roadway or roadside that is easily removable by one person are encouraged to utilize their emergency lighting and position their vehicle for safety purposes as they remove the debris from the roadway.

For dealing with debris or animals that are larger and impractical for an officer, officers should notify the appropriate city service to remove it. For debris on highways with faster moving traffic where there is a likelihood of a collision, the Department will make every attempt to provide traffic control until such time the debris can be removed.

Officers locating or being dispatched to defects in the roadway, highway safety equipment, signs, or damaged mechanical traffic control devices should report to the Communication Center to make proper and immediate notification.

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Bentonville Police Department
Policies & Procedures

	SUBJECT: **Traffic Enforcement**	POLICY NUMBER: **522.00**
	CALEA STANDARDS: **LE 61.1.2, 61.1.4, 61.1.5, 61.1.7, 61.1.10**	EFFECTIVE DATE: **XX**
	NOTES: **ACA 5-65-202, 16-81-102, 12-12-1403, ARCP Rule 5.2, 5.3, 5.4**	REVISION DATE: **09/10/2024**
	APPROVAL **Ray Shastid, Chief of Police**	PAGES: **9**

PURPOSE

The purpose of this policy is to establish the procedures that enable the Bentonville Police Department to execute its traffic related responsibilities and services. The Department's activities are specifically directed toward reducing violations through preventive patrol and active enforcement, and our standards govern the relationships that exist with motorists, pedestrians, courts, and prosecutors.

POLICY

The Department is committed to reducing traffic-related injuries, fatalities, and property damage through proactive traffic law enforcement. The following procedures are intended to support that objective.

PROCEDURES

522.01 TRAFFIC ENFORCEMENT

A. Enforcement:

Officers are required to take appropriate enforcement actions incidental to traffic law violations and shall do so in a firm, fair, and impartial manner. Officers have the discretion to address traffic violations through warnings, citations, and physical arrests.

It shall be at the officer's discretion as to which approach is taken where most traffic violations are concerned. Warnings may be issued when circumstances warrant, especially in the case of inadvertent violations. In most cases, the issuance of a traffic citation is applicable for most minor traffic violations. In some cases, where probable cause to arrest exists for a misdemeanor or felony violation of traffic related crimes, a physical arrest may be appropriate. *[LE 61.1.2a-c]*

B. Uniform Enforcement *[LE 61.1.5]***:**

It is the goal of this policy to provide officers with a consistent approach toward traffic law violations:

1. It is the policy of the Department to enforce situations involving the operation of a vehicle by a driver under the influence of alcohol or drugs. A physical arrest is the preferred method in these situations. Officers will be guided by policy and training pertaining to DWI enforcement and investigations. *[LE 61.1.5a]*

2. Officers encountering operators driving with a suspended or revoked driver's license based on a previous DWI are encouraged to make a physical arrest. Operators whose license has been suspended for other reasons may be issued a citation, but officers should ensure they do not continue to drive the vehicle. *[LE 61.1.5b]*

3. Officers shall be afforded discretion when determining the disposition of moving or non-moving violation enforcement. Officers may consider weather conditions, the subject's manner of driving, traffic volume, location of the offense, and any pedestrian location in determining the appropriate course of action. *[LE 61.1.5c/d]*

4. In dealing with commercial vehicle violations, officers should be mindful of state laws regarding commercial drivers' licenses. Officers may utilize the Arkansas State Police, the Arkansas Highway Police, and the Department of Transportation as resources. *[LE 61.1.5e]*

5. Officers may encounter violators that have violated multiple laws. Officers should be mindful of these different violations and cite or warn accordingly while documenting the various violations. *[LE 61.1.5f]*

6. Newly enacted laws and regulations will occur periodically. The Department's administration and supervisors will assist in identifying these newly enacted laws and introduce them departmental training and communications channels when necessary. Supervisors should discuss the statute changes with their subordinates as needed. *[LE 61.1.5g]*

7. Officers are expected to stay informed of current traffic law. Officers shall understand the difference between primary and secondary violations listed in state statutes and will not stop a vehicle based solely on a secondary violation.

8. Officers are expected to investigate traffic collisions that occur on the public roadways of this city. When evidence exists to indicate what factors contributed to the collision, those factors should be linked to applicable state or local law. It is the preferred course of action to issue a citation for the traffic violation/violations that is the primary contributing factor/factors to the traffic collision occurring on the public roadways. *[LE 61.1.5h]*

9. Officers should be familiar with state laws and city ordinances that govern the movement of pedestrians and bicycles. Officers are afforded the discretion to issue citations when practical and to take opportunities to educate persons when in the best interest of the safety of that person and the public. *[LE 61.1.5i]*

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10. Routine enforcement, collision reporting, and investigation activities frequently lead to the discovery of drivers who have suspected incompetence, physical or mental disability, disease, or other conditions that might prevent the person from exercising reasonable care over a motor vehicle. An officer having grounds to believe a driver is incompetent shall forward report documentation with an attached letter to Arkansas Driver Control of the Office of Driver Services. Refer to A.C.A. 27-16-909 for further details.

C. Enforcement Practices:

The following will govern traffic law enforcement practices for the Department. There are 4 (four) common law enforcement practices for enforcement:

1. Visible Traffic Enforcement- involves officers who observe and handle traffic violations during the performance of their normal duties. These are typically officers conducting traffic enforcement within their assigned patrol area. This will be the primary enforcement technique within the City of Bentonville.

2. Line patrol involves traffic enforcement on a particular section of roadway where violations are frequent or where traffic patterns create hazardous conditions.

3. Directed Patrol is practiced in response to citizen complaints or command directives to address problems such as speeding, DWI, school zone violations etc. This may also be done in response to information gathered through traffic data analysis.

4. Stationary Observation may be either covert or overt and can be used as a technique to make observations of traffic flow and enforce traffic laws at specific locations. This may include the use unmarked vehicles with supervisor approval and the use of all other required equipment (i.e.: body worn cameras, etc.)

D. Violator Classifications:

This policy establishes procedures for officers in their response to violators of specific classifications:

1. It is the policy of the Department that in the case of traffic violations involving juveniles, juveniles may be warned, issued citation, or arrested if justified. Warnings may be issued when circumstances warrant, especially in the case of inadvertent violations. The issuance of a traffic citation is applicable for most minor traffic violations. A physical arrest is the preferred method in all cases where sufficient probable cause exists that a juvenile is driving while intoxicated. For arrest protocol, officers shall follow department policy regarding juveniles.

2. By law, members of the United States Congress and the Arkansas Legislature are immune from arrest during their attendance at the session of their respective

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houses of the legislature and when going to and returning from these sessions, except in cases of treason, felony, and breach of the peace. Officers should exercise good judgment and discretion when facing traffic violators that fall in this category.

3. Actions that may be taken regarding foreign diplomats, consular officials, and their staff members depend on the person's status. All persons who may have a legitimate claim to some sort of immunity should carry diplomatic identification issued by the U.S. State Department. It is the expectation of the Department that all dealings with such persons shall be handled with courtesy and respect and an awareness of the importance of avoiding an incident that will reflect unfavorably on our city, state, and country. Diplomatic and Consular Privileges differ upon category.

   If enforcement action is considered justified and required, a traffic citation is the preferred release method. Each category of official may be issued a traffic citation; however, certain categories of officials cannot be arrested or prosecuted due to immunities. Officers faced with the potential for criminal charges on these officials shall contact supervisory personnel to determine the appropriate course of action. If an arrest is legal and warranted, the supervisor should ensure consular notification is followed as described in BPD Policy 104 (Foreign Consular Notification).

4. Military personnel may be issued warnings, traffic citations, and may be arrested under the same circumstances as other violators in most cases. In cases where military personnel are legitimately in transport to an active-duty station under orders of their commanding officer and when a physical arrest is at stake, officers shall consult their supervisor. The supervisor will assist in making an appropriate determination based on a review of the military person's paperwork, communication with commanding officers that may apply, and review of A.C.A 16-81-102 where immunity to arrest may apply.

522.02 INFORMING THE VIOLATOR *[LE 61.1.4a-d]*

Officers will utilize electronic ticketing, when possible, at the time motorists are charged with violations. Officers should provide the following information to motorists relating to the specific charge as follows:

1. Court appearance date.
2. Advise on optional or mandatory of court appearance by motorist.
3. Advise if violator is allowed to pay the fine prior to court, and
4. Other information that must be provided to the motorist prior to release.

522.03 VEHICLE STOPS *[LE61.1.7a/b]*

A. Once an officer has decided to stop a vehicle, the Communications Center should be notified. When acknowledgment has been received from communications, the officer will advise the following:

1. The intended location of the stop,
2. State of vehicle license,
3. Vehicle license number, and
4. Description of vehicle.

Every consideration should be given in selecting a location with ample space for the stop and with appropriate lighting when possible. Officers should make every effort to avoid making stops at the following locations if possible:

1. on hills
2. in curves
3. at intersections
4. in private drives, or
5. businesses with limited parking

If a traffic violator stops at a location that interferes with the ingress or egress of any business, direct the violator to move to a more suitable location as soon as can be safely done.

At any time during a traffic stop an officer believes that assistance may become necessary, they should notify the Communications Center to dispatch another officer to the scene.

B. Approach:

The officer should be alert to suspicious movements or actions of the violator and passengers. Approaching from the driver's side, the officer should be observant of the interior of the vehicle and stop at a point to the rear of the driver's door to communicate with the driver.

When circumstances dictate, particularly where traffic is close enough to create a potential hazard, the officer may choose to approach the violator's vehicle from the right side and stop at a point to the rear of the front passenger door.

When the violator's vehicle has rear passengers and some indication of potential risk, the officer may choose to have the driver exit the vehicle and join them on the curbside of the police vehicle.

C. High Risk Traffic Stops:

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When an officer is confronted with stopping a suspected armed subject, violent criminal, fleeing suspect, or other situation where the officer reasonably believes a higher level of protection is needed, the following steps should be taken:

1. Immediately notify the communications center of the location, direction of travel, description of vehicle, license plate number, and description of the occupants.

2. The officer should continue to keep the suspect vehicle in view and request additional units to assist in the vehicle stop. If the urgency of the situation does not demand an immediate stop, an officer should not initiate a high-risk vehicle stop alone unless back-up units can respond in a reasonable amount of time.

3. With adequate back-up units in position and a location selected, the officer should initiate the stop. The primary officer should be the officer in charge of the stop and should give all commands to the occupants of the suspect vehicle.

4. Officers should position their vehicles approximately thirty (30) feet behind the suspect vehicle in positions that will maximize opportunities for cover and in a manner that will illuminate (at night) the interior of the vehicle.

5. The operator of the suspect vehicle should be ordered in separate commands to do the following:
    a. Lower the window,
    b. Remove the ignition keys with the left hand, drop them out the window,
    c. Open the door from the outside and step out of the vehicle,
    d. Turn completely around and face away from officers,
    e. Walk backwards until commanded to stop, and
    f. Lie face down on the ground with both arms stretched outward to the side.

6. Designated back-up officer will approach the suspect, handcuff, search, and remove the prisoner to an area of cover. This entire procedure should be used to remove and secure each suspect in turn.

7. With appropriate cover, officers should then approach the suspect vehicle to inspect the passenger compartment and trunk.

NOTE: Only those officers that are reasonably necessary to perform the required function and assure officer safety should remain at the scene of a traffic stop.

522.03<u>"DRIVING WHILE INTOXICATED" PROCEDURES</u> *[LE 61.1.10]*

Established procedures are developed for the Department personnel to follow for the purpose of enforcing Driving While Intoxicated (DWI) violations. As part of its effort to ensure the safety of motorists and pedestrians, the Department will aggressively enforce laws pertaining to traffic violations by drivers who operate a motor vehicle while under the influence of alcohol or drugs.

The Patrol Commander or designee will assign selective personnel at times and locations where analysis and history show a significant number of violations and collisions involving impaired drivers have occurred. A physical arrest is the preferred method in all cases where sufficient probable cause exists that an operator of a motor vehicle is DWI.

A. A police officer's observations are crucial in establishing the requisite probable cause necessary to arrest a motorist for a DWI violation. Police officers must rely on their formal training and experience, placing particular emphasis on those driving actions that give rise to the officer's belief a motorist is driving under the influence.

B. After the decision has been made to stop a motorist suspected of DWI, the officer shall follow departmental procedures for initiating a misdemeanor traffic stop. Certain guidelines and complete evidence must be used to support an arrest, including the documentation of all observations related to driver behavior, officers should note erratic or improper vehicle operation, and utilize the in-car police dash camera anytime available.

C. After contacting a person suspected of DWI, officers are strongly encouraged to conduct field sobriety or performance tests to support their probable cause a person is under the influence of some type of intoxicant or drug. The following tests are certified for use by the National Highway Traffic Safety Administration (NHTSA) to determine probable cause indicative of a lack of sobriety: Walk and Turn test, One-Leg Stand test, and Horizontal Gaze Nystagmus test.

If the officer has a portable breath tester (PBT) available and chooses to administer a PBT test, the officer will follow the manufacturer's directions in giving the test. The results will also be noted on the field note sheet. This test is not NHTSA certified.

D. If after conducting field sobriety tests, an officer has sufficient probable cause to believe a driver has consumed a substance that is impairing his or her ability to operate a motor vehicle, the officer shall arrest the driver following standard arrest procedures. The officer will request the driver submit to a chemical analysis in accordance with the Arkansas' Implied Consent Law, A.C.A 5-65-202.

E. Upon arrival at the testing facility, the officer shall inform the arrested individual of their rights pertaining to the breath test, pursuant to Act 549 of 1983, also known as the Omnibus DWI Act. This statement of rights pertaining to DWI or DUI cites the following:

1. Implied consent statute,
2. Type of chemical analysis to be utilized,
3. Refusal to submit to this chemical test,

4. Right to an additional test by a qualified person.

F. Pursuant to A.C.A 5-65-203, which governs the administration of chemical tests, the Department shall utilize chemical testing in the following order of preference:

1. Breath Test: If the arresting officer believes the offender is solely under the influence of alcohol, a breath test will be conducted.

2. Urine Test: If the arresting officer believes the driver's impairment is solely from drugs, or a combination of drugs and alcohol, a DRE (Drug Recognition Expert) should be contacted after a breath test is performed with results below the legal limit, and a complete drug influence evaluation should be conducted if the subject consents. As a portion of this examination, a urine sample will be collected.

3. Blood Test: If circumstances make the administration of a breath test impractical or if the arresting officer has reason to believe the offender is under the influence of either a combination of alcohol and drugs or drugs only, a blood test may be utilized. This test is not mandated by the state of Arkansas so must either be obtained by consent or a search warrant.

A certified officer will conduct the breath test and shall be responsible for completing all pertinent information and logbook requirements in a timely manner.

The arresting officer is responsible for the disposition of all evidence collected because of the administration of a blood test. The blood vials will be placed in the custody of the Property and Evidence Division in accordance with policy. Blood samples shall be submitted for processing in the following manner:

1. Alcohol and/or Drugs Blood Samples will be submitted to the Arkansas Crime Laboratory for analysis. The arresting officer must complete a State Crime Lab submission form, in addition to the BPD Evidence Submission Form. Officers shall include the chain of custody information within the narrative of their report.

2. Urine sample containers shall be sealed with a biohazard label and then heat-sealed in a polyethylene bag before placing it in the refrigerator. In addition to the BPD Evidence Submission Form, a State Crime Lab submission form shall be completed. The arresting officer shall include the chain of custody information within the narrative of his report.

3. If circumstances make the administration of a breath test impractical or if the arresting officer has reason to believe the offender is under the influence of either a combination of alcohol and drugs or drugs only, a blood test may be utilized. This test is not mandated by the state of Arkansas so must either be obtained by consent or a search warrant. The seeking of a search warrant in regard to blood draws for testing purposes, may be considered based upon the severity of the incident being investigated.

A certified officer will conduct the breath test and shall be responsible for completing all pertinent information and logbook requirements in a timely manner.

The arresting officer is responsible for the disposition of all evidence collected because of the administration of a blood test. The blood vials will be placed in the custody of the Property and Evidence Division in accordance with policy.

Alcohol and/or Drugs related Blood Samples will be submitted to the Arkansas Crime Laboratory for analysis. The arresting officer must complete a State Crime Lab submission form, in addition to the BPD Evidence Submission Form. Officers shall include the chain of custody information within the narrative of their report.

The arresting officer shall submit all the required paperwork to include but not limited to,

1. Arkansas Statement of Rights form,
2. Arkansas Department of Health Breath/Blood Alcohol Report Form,
3. DWI, BAC results.
4. State of Arkansas DFA Omnibus DWI Law Official Driver License Receipt and Notice of Suspension/Revocation Form

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	SUBJECT:	POLICY NUMBER:
	Juvenile Procedures	**525.00**
	CALEA STANDARDS: **LE 1.2.3, LE 44.1.1, LE 44.1.2, LE 44.2.1, 44.2.2, 44.2.3**	EFFECTIVE DATE: **05/24/2024**
	NOTES: **ACA 5-73-119 (a)(1)(A), 5-73-119 (a)(2)(A), 5-74-107, 9-27-309, 9-28-217, 9-27-302, 9-27-313, 9-27-317, 9-27-322**	REVISION DATE: **09/10/2024**
	APPROVAL: **Ray Shastid, Chief of Police**	PAGES: **12**

PURPOSE

Children rely on dependency and supervision for survival. When the family is not active in the supervision and training of children the court must intervene to nurture, train, and supervise childhood. When children are at risk as shown by delinquent behavior, the court will decide what actions, programs, intervention, and treatment are in the child's best interest. When a child's safety or welfare is threatened, the court is permitted to imitate family relations.

POLICY

The Bentonville Police Department protects the rights of juveniles. When necessary, sworn personnel shall apprehend juvenile offenders and seek effective adjudication. A child's trauma or a juvenile's temperament is often changed by exercising a sensitive approach and caring attitude during all juvenile proceedings.

The Department is committed to the development, implementation, and perpetuation of programs designed to prevent and control juvenile delinquency within the community. Each officer must be familiar with the unique requirements of juvenile matters and respond to those requirements by ensuring the constitutional rights of the juvenile are protected, as provided by procedure or statute. *[LE 44.1.1.]*

DEFINITIONS

Custodian: Custodian means a person other than a parent or legal guardian who stands in loco parentis to the juvenile or a person, agency, or institution to whom a court of competent jurisdiction has given custody of a juvenile by court order

Juvenile: A juvenile is defined as a person under the age of eighteen years and subject to jurisdiction of the Juvenile Court. The juvenile court has additional authority of the 18–21year-old population, if offenses occurred prior to their eighteenth birthday.

Juvenile Specialist: The Chief of Police serves as the juvenile specialist for the Department or will appoint another employee/officer to that duty.

PROCEDURES

525.01 JUVENILE CASE MANAGEMENT

A. Commitment to Juvenile Problems:

1. **Prevention and Control of Juvenile Delinquency:**
   The Department is committed to develop and maintain programs to prevent and control juvenile delinquency. All sworn personnel of the Department share responsibility to support our juvenile operations.

2. **Evaluation of Juvenile Programs:**
   The Chief of Police or designee evaluates juvenile enforcement and prevention programs annually and decides, based on thorough analysis, to extend, adjust, or end each program.

B. Police Role in Juvenile Cases:

The Department's role is an extension of the Juvenile Court. Responsibilities of the Department include:

1. Follow up processing to arrests of juveniles.

2. Preparing and coordinating juvenile offender court cases.

3. Diverting juvenile offenders.

4. Designing and implementing programs intended to prevent and control delinquent and criminal behavior by juveniles.

525.02 JUVENILE OPERATIONS

A. Offenses Committed by Juveniles Involving Weapons:

While some situations may dictate another course of action. When a youth is arrested, the juvenile On-Call Intake officer is contacted under ACA 9-27-322 to make a detention decision. Some offenses require the youth to be placed in the Juvenile Detention Center for an immediate hearing within 72 hours as listed below:

1. Unlawful possession of a handgun. ACA 5-73-119 (a)(1)(A)
2. Possession of a handgun on school property. ACA 5-73-119 (a)(2)(A)
3. Unlawful discharge of a firearm from a vehicle. ACA 5-74-107
4. Any felony committed while armed with a firearm.
5. Criminal use of prohibited weapon.
6. Or any offense under statue ACA 9-27-313(d)(1)(A)

The Prosecuting Attorney, or their designee, shall notify the school superintendent or the designee of the school superintendent of the school district to which the juvenile transfers, in which the juvenile is enrolled, or from which the juvenile receives services if the juvenile is adjudicated delinquent for:

1. An offense for which the juvenile could have been charged as an adult.
2. An offense involving a deadly weapon under ACA 5-1-102.
3. Kidnapping under ACA 5-11-102.
4. Battery in the first degree under ACA 5-13-201.
5. Sexual indecency with a child under ACA 5-14-110.
6. First, second-, third-, or fourth-degree sexual assault ACA 5-14-124, 5-14-127.
7. The unlawful possession of a handgun under ACA 5-73-119.

Information provided pursuant to subsections (f) and (g) of this section shall not be released in violation of any state or federal law protecting the privacy of the juvenile. *[ACA 9-27-309(g)]*

If a juvenile is arrested for unlawful possession of a firearm under ACA 5-73-119, an offense involving a deadly weapon under ACA 5-1-102, or battery in the first degree under ACA 5-13-201, the arresting agency shall orally notify the superintendent or the designee of the superintendent of the school district to which the juvenile transfers, in which the juvenile is enrolled, or from which the juvenile receives services of the offense for which the juvenile was arrested or detained within twenty-four (24) hours of the arrest or detention or before the next school day, whichever is earlier. *[ACA 9-27-309(i)(1)]*

Officers shall notify the Benton County Juvenile Intake Officer at time of the arrest to process the offense. The arresting officer is obligated to provide the Intake Officer or Prosecuting Attorney with a Probable Cause Affidavit immediately if the youth is detained. Additionally, the prosecuting attorney may be required to notify the relevant school superintendent or designee criminal proceedings in which the juvenile is adjudicated as delinquent, depending on the specific statutes violated. *[ACA 9-27-309(g)]*

B. Felony Offenses Committed by Juveniles:

When a juvenile is being charged with a felony (other than those in 525.02 A), Officers shall:

1. The officer charging the juvenile shall, as soon as practical, notify the custodial parent, guardian, or custodian of the juvenile's location. *[LE 44.2.2e]*

2. Seek detention approval from a Benton County Juvenile Intake Officer. Upon approval, the juvenile shall be released to the custody of the Juvenile Detention Center. An arrest report shall be completed and forwarded to the Criminal Investigations Division. A detective will complete a probable cause affidavit concerning the charges.

3. If the Benton County Juvenile Intake officer authorizes a release on citation in lieu of incarceration, release the juvenile to their parent/guardian. An arrest report shall be completed and forwarded to the Criminal Investigations Division. The case file will be submitted to the appropriate parties.

4. A juvenile who is arrested for a felony should be transported to the police department or Juvenile Detention Center without delay for continued arrest processing. However, if in custody and the juvenile is in need of emergency medical treatment, the officer shall seek appropriate medical attention. *[LE 44.2.2d]*

C. Misdemeanor Offenses Committed by Juveniles:

When a juvenile is being charged for a misdemeanor offense, the Officer shall:

1. The officer charging the juvenile shall, as soon as practical, notify the custodial parent, guardian, or custodian of the juvenile's location. *[LE 44.2.2e]*

2. Seek detention approval from a Benton County Juvenile Intake Officer. Upon approval, the juvenile shall be released to the custody of the Juvenile Detention Center. An arrest report shall be completed and forwarded to the Criminal Investigations Division. A detective will complete a probable cause affidavit concerning the charges.

3. If the Benton County Juvenile Intake officer authorizes a release on citation in lieu of incarceration, release the juvenile to their parent/guardian. An arrest report shall be completed and forwarded to the Criminal Investigations Division. The case file will be submitted to the appropriate parties.

4. A juvenile who is arrested for a misdemeanor should be transported to the police department or Juvenile Detention Center without delay for continued arrest processing. However, if in custody and the juvenile is in need of emergency medical treatment, the officer shall seek appropriate medical attention. *[LE 44.2.2d]*

D. Status Offenses Involving Juveniles:

An officer may take a juvenile into custody for a status offense (runaway)if there is probable cause to do so and they shall: *[LE 44.2.2.a]*

1. Notify the Benton County Juvenile Intake Officer and make every possible effort to notify the parent, guardian, or other person having care of the juvenile.

2. Return the juvenile to their parent, guardian, or other responsible adult with no further action. *[LE 44.2.1a]*

3. If the parent/guardian of the juvenile resides out of State, the juvenile may be detained for a maximum of 24 hours at the Juvenile Detention Center or an authorized shelter.

E. Other Juvenile Custody Situations:

1. A juvenile may be taken into custody by an officer pursuant to an order of the circuit court.

2. A juvenile may be taken into protective custody if, if there are reasonable grounds to conclude the juvenile is in immediate danger and removal is necessary to prevent serious harm from his surroundings; or from illness or injury and if parents, guardian, or others with authority to act are unavailable or have not taken the action necessary to protect the juvenile from danger and there is not time to petition for and obtain an order of the court prior to taking the juvenile into custody. *[LE 44.2.2b]*

F. Juvenile Holding Logs:

The Juvenile Justice Delinquency Prevention Act requires that all participating states develop a plan, procedure and timetable to monitor all adult jails, adult lockups, juvenile detention and correctional facilities, and nonsecure facilities for compliance with the JJDP Act requirements.

Compliance affects Arkansas' eligibility for formula grant funding under the Act. A community's compliance affects that community's eligibility for JJDP Act Title V funding.

The Communications Center personnel (telecommunicators) will maintain a log for every juvenile who is placed in secure custody situations. The log will record the following information for every held juvenile:

1. name (or identification number)
2. date of birth,
3. race/ethnicity,
4. gender,
5. the offense for which they were arrested
6. the admission date and time
7. the release date and time
8. the purpose for secure custody
9. the court appearance time, if applicable.

These logs should be submitted to, and reviewed by, the Division of Youth Services JJDP compliance monitor

F. Considerations for "Departmental" Diversion:

Officers shall consider at least the following factors when determining diversion related dispositions:

1. Conduct Disorder (any court history)
2. Substance (Severity, frequency, physical and mental status)

3. Peers (Gangs)
4. Leisure time and recreation (lacks structure)
5. Family/Parenting (how they manage their children)
6. Education (on grade level, risk of being retained)
7. Personality Disorder (Mental health disorders)
8. Attitude and Orientation (Do they use violence or crime to deal with conflict/ do they know their role in this process)

G. Types of "Departmental" Diversion:

Officers shall consider the following alternative actions for minor violations:

1. **Verbal Warnings:** Officers may give a verbal warning for minor violations and release with no further action.

2. **Voluntary Actions:** Officers may allow parents/guardians to voluntarily place the juvenile in a social service agency program, or other program.

3. **Parental Conferences:** Officers may hold a conference with parents/guardians for corrective action and release the juvenile to the parent/guardian.

ARCP 5.2. Authority to Issue Citations (a): states a law enforcement officer in the field acting without a warrant who has reasonable cause to believe that a person has committed any misdemeanor may issue a citation in lieu of arrest or continued custody. *[LE 44.2.1b]*

A. Right to counsel *[ACA 9-27-316] [LE. 44.2.3]*

In delinquency and family in need of services cases, a juvenile and his or her parent, guardian or custodian shall be advised by the Law Enforcement Officer taking a juvenile into custody that the juvenile has the right to be represented at all stages of the proceedings by counsel.

A law enforcement Officer shall not question a juvenile who has been taken into custody for a delinquent act or criminal offense until the law enforcement officer has advised the juvenile of his or her rights pursuant to subdivision "3" of this section in the juvenile's own language.

A law enforcement Officer shall not question a juvenile who has been taken into custody for a delinquent act or criminal offense if the juvenile has indicated in any manner that he or she:

1. Does not wish to be questioned.
2. Wishes to speak with his or her custodial parent, guardian, or custodian or to have that person present; or

3. Wishes to consult counsel before submitting to any questioning.

4. The arresting officer shall not question a juvenile in the custody of the Department of Human Services without their attorney present.

B. Waiver of right to counsel – Questioning. *[ACA 9-27-317]*
Waiver of the right to counsel shall be accepted only when:

1. The juvenile understands the full implications of the right to counsel.

2. The juvenile freely, voluntarily, and intelligently wishes to waive the right to counsel; and

3. The parent, guardian, custodian, or counsel for the juvenile has agreed with the juvenile's decision to waive the right to counsel.

The agreement of the parent, guardian, custodian, or attorney shall be accepted only if:

1. That person has freely, voluntarily, and intelligently made the decision to agree with the juvenile's waiver of the right to counsel.

2. That person has no interest adverse to the juvenile; and

3. That person has consulted with the juvenile regarding the juvenile's waiver of the right to counsel.

In determining whether a juvenile's waiver of the right to counsel was made freely, voluntarily, and intelligently, the officer shall consider all the circumstances of the waiver, including:

1. The juvenile's physical, mental, and emotional maturity.

2. Whether the juvenile understood the consequences of the waiver.

3. In cases in which the custodial parent, guardian or custodian agreed with the juvenile's waiver of the right to counsel, whether the parent, guardian or custodian understood the consequences of the waiver.

4. Whether the juvenile and his or her custodial parent, guardian or custodian were informed of the alleged delinquent act.

5. Whether the waiver of the right to counsel was the result of any coercion, force or inducement.
6. Whether the juvenile and his or her custodial parent, guardian or custodian had been advised of the juvenile's right to remain silent and to the appointment of counsel and had waived such rights; and

7. Whether the waiver was recorded in audio or video format and the circumstances surrounding the availability or unavailability of the recorded waiver.

No waiver of the right to counsel shall be accepted in any case in which the parent, guardian or custodian has filed a petition against the juvenile, initiated the filing of a petition against the juvenile, or requested the removal of the juvenile from the home.

No waiver of the right to counsel shall be accepted in any case in which counsel was appointed due to the likelihood of the juvenile's commitment to an institution under ACA 9-27-316(d).

No waiver of the right to counsel shall be accepted when a juvenile has been designated an extended juvenile jurisdiction offender.

No waiver of the right to counsel shall be accepted when a juvenile is in the custody of the Department of Human Services, including the Division of Youth Services of the Department of Human Services.

All waivers of the right to counsel shall be in writing and signed by the juvenile.

When a custodial parent, guardian or custodian cannot be located or is located and refuses to go to the place where the juvenile is being held, counsel shall be appointed for the juvenile. Procedures shall then be the same as if the juvenile had invoked counsel.

After the parent, guardian, custodian, or appointed attorney arrives at the Department, the officer will conduct the interview in the following manner: *[LE 1.2.3.a, b,c]*

1. Confer with the parent, guardian, custodian, or attorney and explain the circumstances of the custody and request permission to question the juvenile; *[LE 44.2.3]*

2. Advise the juvenile of his or her Miranda rights in the presence of the parent, guardian, custodian, or attorney. These rights shall be advised in the native or preferred language of those present. A Department Advice of Rights form should be completed with this advice of rights and applicable signatures will be obtained. *[LE 44.2.2c]*
3. In order to reduce the possibility of duress, no more than two officers shall be present during the interview and the duration of the interview should be limited as much as possible. *[LE 44.2.3]*

4. If at any time the juvenile, parent, guardian, custodian, or attorney requests the interview be stopped, the officers conducting the interview must terminate the interview immediately.

5. Explain to the juvenile and the parent, guardian, custodian, or attorney the procedures that will be followed as they relate to the custody, transportation to the detention center, and the detention hearing. *[LE 44.2.3]*

After consideration of the seriousness of the offense(s), circumstances and previous history, the officer may elect to make a custodial arrest. The officer will then need to contact the Juvenile Intake Officer of the Juvenile Court regardless of the type of the offense. *[LE 44.2.1c]* If the custodial arrest is approved by the Intake Officer, the Officer may then transport the juvenile to the Benton County Juvenile Detention Center with a Probable Cause Affidavit.

525.04 PROCESSING JUVENILES IN CUSTODY

A. Custodial Responsibilities:

Arkansas State Statutes call for Officers to follow these procedures for juveniles in custody.

Constitutional Rights: Prior to interrogating juveniles, advise them of their Constitutional rights in the presence of their parent or guardian. However, parents or guardians' presence is not required when the juvenile will be handled as an adult and the prosecuting attorney authorizes the action.

Notice to Juvenile Officer: Notify Benton County Juvenile Probation of each juvenile taken into custody. Furnish all facts about any persons interested in and having legal custody of the child and reasons for arrest.

Notice to Parents or Guardian: Make a reasonable effort to promptly notify the parents or guardians when Officers take a juvenile into custody. If an Officer is unable make immediate contact, continue with reasonable efforts to establish contact.

Status Offender: Contact Benton County Juvenile Probation for proper disposition or other actions to place juveniles Officers have taken into custody for status offenses.

B. Detaining Juveniles:

Do not hold a juvenile in custody with adults. Keep them out of sight and sound of adults. Immediately release juveniles to their parents, guardian, or other responsible adult unless detention is approved by the Benton County Juvenile Intake Officer or detention is mandated by law.

C. Juveniles Arrest Report:

Complete a juvenile arrest report for each juvenile an officer has arrested/charged with a criminal offense and forward the report to the Criminal Investigations Division.

D. Fingerprinting and Photographing Juveniles:

When a juvenile is arrested for any offense that if committed by an adult would constitute a Class Y, Class A, or Class B felony, the juvenile shall be photographed and fingerprinted by an Officer. ACT 1016 (Fingerprinting and photographing).

E. Deoxyribonucleic Acid (DNA) Samples from Juveniles:
A juvenile who is adjudicated delinquent for the following offenses shall have a DNA sample drawn upon intake at a juvenile detention facility or intake at a Division of Youth Services facility: Rape, Sexual Assault-1st degree or 2nd degree, Incest, Capital Murder, Murder-1st or 2nd degree, Kidnapping, Aggravated Robbery, Terroristic Act, & Aggravated Assault upon a law enforcement officer or an employee of a correctional facility, § 5-13-211, if a Class Y Felony.

F. Custodial Interrogation of Juveniles:
Officers shall contact the Intake Officer at JDC, who will facilitate the release of the juvenile into the care and custody of the investigating personnel.

A law enforcement officer shall not question a juvenile who has been taken into custody for a delinquent act or criminal offense if the juvenile has indicated in any manner that they:

1. Does not wish to be questioned.
2. Wishes to speak with the parent, guardian, custodian or have that person present.
3. Wishes to consult counsel before submitting to any questioning.

525.05 JUVENILE RECORDS

A. Juvenile Records Confidentiality:
[ACA 9-28-217] 1. Except as provided in subsection "3." of this section, reports, correspondence, memoranda, case histories or other material that personally identifies a juvenile, including protected health information, shall be confidential and shall not be released or otherwise made available except to the following persons or entities and to the extent permitted by federal law:

1. The juvenile.
2. The juvenile's parent, guardian, or custodian.
3. The juvenile division of circuit court and court staff.
4. The ombudsman of youth committed to the Division of Youth Services.
5. The attorney for the juvenile.
6. The attorney ad litem for the juvenile.
7. A grand jury or a court upon a finding that information in the juvenile's record is necessary for the determination of an issue before the court or the grand jury.
8. Individual federal and state representatives and senators and their staff members in their official capacity. However, no disclosure shall be made to any committee or legislative body of any information that identifies any recipient of services by name or address unless the juvenile, the juvenile's attorney, and the juvenile's parent, guardian or custodian agree in writing to waive confidentiality

and permit disclosure to the committee or legislative body.

9. Law enforcement or the prosecuting attorney.

10. Service providers, including health care providers, to assist in the care, evaluation, examination or treatment of the juvenile.

11. A governmental agency for an audit or similar activity conducted in connection with the administration of any plan or program if the governmental agency is authorized by law to conduct the audit or activity.

12. A court-appointed special advocate upon presentation of an order of appointment.

13. A federal program or federally assisted program that provides assistance, in cash or in kind, or services directly to individuals on the basis of need.

14. A federal, state or local government entity or any agent of the entity having a need for the information in order to carry out its responsibilities under law to serve or protect a juvenile delinquent or a juvenile who is a member of a family in need of services.

15. Any licensing or registering authority may access to the extent necessary to carry out its official responsibilities; and

16. A multidisciplinary team coordinating a child maltreatment investigation under the Child Maltreatment Act, 12-18-101 et seq., pertaining to the juvenile.

B. Juveniles Involved in a Traffic Collision:

As directed in ACA 27-53-202(2)(A), the name and address of a juvenile shall be included in the documentation of the collision, although it shall be made unavailable for public inspection.

The juvenile's name and address shall be made available in the report under the following circumstances:

1. A parent, legal guardian or custodian of the juvenile.
2. A representative of an involved party's insurance company.

525.06 POLICY REVIEW PROCESS

The BPD's Criminal Investigations Division Commander, or their designee, will conduct an annual review of all policies and procedures dealing with juveniles. The review shall include input from other elements of the juvenile justice system including, but not limited to, the following:

1. Benton County Juvenile Courts.
2. Benton County Juvenile Intake/Probation Office; and
3. Benton County Prosecuting Attorney's Office.

Bentonville Police Department
Policies & Procedures

	SUBJECT: **Criminal Investigation Management**	POLICY NUMBER: **601.00**
	CALEA STANDARDS: **LE 1.2.3, 40.2.3, 42.1.3, 42.2.1, 42.2.8, 42.2.1**	EFFECTIVE DATE: **XX**
	NOTES:	REVISION DATE: **08/29/2024**
	APPROVAL: **Ray Shastid, Chief of Police**	PAGES: **06**

PURPOSE

The purpose of this directive is to establish procedures relating to the function of the Bentonville Police Department's Criminal Investigation Division's function and management. This policy will provide guidance to both uniformed officers and officers specializing in investigations.

POLICY

This policy applies to all personnel assigned to the Criminal Investigations Division (CID), including detectives, support staff, and supervisory officers. It outlines the division's roles, responsibilities, and expectations in handling criminal investigations, from initial response through the prosecution process.

PROCEDURES

601.01 CID ADMINISTRATION

A. The Department will provide and support 24-hour service capabilities for its various criminal investigation functions:

1. Supervisors assigned to each criminal investigation function of the police department will manage and maintain call-out protocol to include an on-call investigator duty roster.

2. Prior to assignment to an investigative position, officers must understand the importance and necessity of an on-call function and agree and accept their individual role in this function.

B. The Department will utilize a computerized case file management system to manage reports and investigations. Information regarding status of cases will be systematically recorded and updated by employees assigned to the investigative divisions and overseen by investigation supervisors. A system for case status control will include the following *[LE 42.1.3 a.]*:

a. Case Number.

b. Investigator assigned.
c. Date investigator was assigned.
d. Supervisor that assigned case; and
e. Date case was closed.

C. CASE FILE STATUS:

Investigators will determine the status of each case *[LE 42.1.3b]*:

1. **Open/Active:** Report has been submitted and may be, or has been, assigned for investigation.

2. **Cleared by Arrest:** A suspect has been identified and arrested.

3. **Cleared by Exception:** Elements beyond law enforcement's control prevent the agency from arresting and formally charging the offender. Any of the following four conditions must be met in order to clear a case by exception:
   a. The offender has been identified.
   b. Investigators have evidence to support an arrest, make a charge, and turn over the offender to the court for prosecution.
   c. The offender's exact location has been identified so the suspect could be taken into custody immediately; and
   d. Circumstances outside the control of law enforcement prohibit the Department from arresting, charging, and prosecuting the offender.

4. **Inactive:** Cases will be deemed as "Inactive" for the following criteria:
   a. Case deactivated, as all available leads are exhausted, but the case has not been brought to a satisfactory conclusion.
   b. Warrant requested.
   c. Prosecution review.

5. **Case Referred** to Another jurisdiction.

6. **Information Closed:** Clearing death investigations exceptionally where no foul play is suspected.

7. **Unfounded:** Investigation has determined the offense did not occur.

D. CASE FILE MANAGEMENT:

Case files should contain preliminary investigative reports, records of statements, results of examinations of physical evidence, case status reports, and other reports needed for investigative purposes. Case files will be maintained, updated, and primarily accessed by assigned investigators. Case files must be secured when not in use. Case files will only be purged under court order or in compliance with State or Federal guidelines *[LE 42.1.3c/d/e]*

When closed case files are removed from CID for storage purposes, the case files will become the responsibility of the Records Division. The Records Division will

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maintain the case files in the records storage area and will be secured in accordance with records keeping and storage policies *[LE 42.1.3d, 82.1.1b]*.

601.02 INTELLIGENCE MANAGEMENT

The intelligence function shall include the collection, processing, and sharing of suspicious incidents and criminal intelligence relating to criminal and homeland security activities. *[LE 40.2.3]*

The intelligence function of the Department will be maintained by the Criminal Investigation Division (CID). The administration of the intelligence function will be overseen by the lieutenant assigned to CID. *[LE 40.2.3b]*

The Department expects and requires that all levels of department personnel value information that may be categorized as intelligence and report such information according to the requirements of this policy. All levels of sworn officers are required to report on intelligence matters to the CID. Non-sworn personnel may seek the assistance of sworn officers to collect and report information, or depending on the circumstances of the reporting person, non-sworn personnel of the police department may collect the information and report it to the CID. *[LE 40.2.3a]*

The Training Unit shall ensure training is provided to all personnel on the collection, processing, and sharing of suspicious incidents and criminal intelligence relating to criminal and homeland security activities.

The CID Lieutenant is responsible for the analysis, security, storage, and dissemination of intelligence information. The CID Lieutenant will safeguard the integrity of all intelligence files, ensure that legal requirements are being followed, and ensure the security of these files. Intelligence files will be maintained separately from other agency records to prevent compromise of the integrity of the file system *[LE 40.2.3b]*.

The CID Lieutenant will ensure that intelligence information will be limited to criminal conduct and activities presenting a threat to the community.

Legal and privacy requirements of the intelligence function will be maintained by the CID Lieutenant. Intelligence information will only be used for law enforcement purposes but may be used for public safety notification. All department employees are expected to keep intelligence information confidential. *[LE 40.2.3c]*

The CID Lieutenant will ensure that vital intelligence information is acted upon and successfully disseminated or transferred to corresponding components within the police department and to outside agencies and components where that information is practical, vital, as well as legally required. *[LE 40.2.3c]*

Intelligence information believed to be out of date or incorrect will be purged under the authority of the CID Lieutenant. *[LE 40.2.3 d]*

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An annual review of procedures and processes of the intelligence function will be overseen by the CID Lieutenant. *[LE 40.2.3e]*

601.03 CID OPERATIONS

A. Officers in every assignment of the Department shall value the importance of each investigation. The following steps will be considered in the preliminary investigation and documented when applicable *[LE 42.2.1]*:

1. Securing the scene.
2. Providing aid, to the extent possible, to the injured.
3. Maintaining scene security and arranging for the collection of evidence *[LE 42.2.1c]*.
4. Observing all conditions, events, and remarks *[LE 42.2.1a]*.
5. Locating and/or identifying witnesses and suspects *[LE 42.2.1b]*.
6. Obtaining statements from complainants, witnesses, and suspects *[LE 42.2.1d]*.
7. Determining if an offense has been committed and the nature of the offense.
8. Effecting an arrest at the scene or through immediate pursuit of the suspect.
9. Providing descriptions, method, direction of flight, and other relevant information.
10. Accurately documenting all pertinent information.

B. Follow-up Investigative Actions:

The following steps will be considered when conducting follow-up investigations and will be completed when applicable. Investigators shall review and analyzing all previous reports prepared in the preliminary phase,
departmental records, and results from laboratory examinations

1. Conducting additional interviews and interrogations.
2. Seeking additional information from uniformed officers and informants.
3. Planning and conducting searches with proper evidence collection and processing.
4. Identifying and apprehending suspects.
5. Determining suspect involvement in other crimes.
6. Determining in detail the exact circumstances of the offense.
7. Checking suspects' criminal histories.
8. Recovering stolen property.
9. Maintaining contact with case principals.
10. Reporting information obtained in investigations in accordance with departmental reporting methods and forward reports to local prosecutor’s office, if required.
11. Preparing cases for court presentation.

C. Multi-Jurisdictional Task Force Operations:

For each long-term multi-jurisdictional investigative task force of which the Department is a participant, the Department will ensure it maintains a directive that includes the following criteria:

1. A written purpose.

2. A defining authority, responsibilities, and written agreements.
3. Evaluating results and the need for continued operations.
4. Staffing, equipment, and resource requirements.
5. Officer safety information.
6. Identification procedures for task force participants.

601.04 INTERVIEW/INTERROGATION

A. Interviews/Interrogations and Constitutional Rights:

Officers of the Bentonville Police Department must understand that persons must be afforded certain constitutional rights in respect to interviews, interrogation and access to counsel *[LE 1.2.3a/b/c]:*

Personnel may conduct interviews as part of the process to gather information related to a criminal investigation. The purpose of the interview is to obtain factual details that can assist in the investigation, whether it involves witnesses, victims, or suspects. These may take place with the consent with the subject involved, as well as with respect to relevant legal requirements.

Interrogation refers not only to express questioning, but also to any words or actions on the part of the police, other than those normally associated with arrest and custody, that the police should know are reasonably likely to elicit an incriminating response from a suspect. When questioning a person in custody, officers shall advise the person of their Miranda Rights.

Upon a person invoking their right to counsel, officers shall cease any line of questioning relating to an alleged criminal offense. Once a person has invoked his or her right to counsel, an interrogation may proceed only in the following two scenarios: the interrogation is conducted in the presence of an attorney, or the person that has invoked his or her rights makes a self-initiated declaration to the officer that he wants to initiate further communications, exchanges, or conversations with the police. Prior to any discussion pertaining to an alleged criminal offense when a person makes a self-initiated declaration after having invoked his rights to counsel, the officer should discuss clearly and openly with the person that he invoked his rights to an attorney, is under no obligation to answer questions, and is entering discussion with the officer at his or her own prerogative and direction.

B. Deception Detection Examinations:

The following rules shall apply to the Department's use of technical aids for the detection of deception. The Chief of Police may choose from a variety of devices used for the detection of deception.

Use of these devices will be restricted to trained personnel that have graduated from the accepted training institutions and have demonstrated sound fundamentals in the use of equipment.

Testing of juveniles requires both the consent of the juvenile and the juvenile's parent or legal guardian.

C. Interview Rooms:

The following procedures shall apply to uniform and non-uniformed personnel utilizing designated interview and interrogation rooms *[LE 42.2.8]*:

Officers may retain possession of their firearms in the interview rooms during citizen-initiated contacts at the police department, interviews with witnesses, and interviews with victims. These contacts will be treated as any other call for service. Otherwise, in the presence of suspects being interviewed, officers shall not enter the interview room with their firearms but may retain possession of other less-lethal weapons. Firearms shall be locked in departmental provided lock boxes *[LE42.2.8a.]*.

Detainees and arrested persons should be searched prior to being placed in an interview room. The room should be searched prior to and after the person has been in the room. Consideration shall also be given for possession of firearms to persons not under arrest *[LE 42.2.8b]*

A detainee is under the immediate officer's care until that time he or she has verbally or physically relinquished control of the detainee to another officer, either for the purposes of interviews or transport. *[LE 42.2.8b]*

During interviews, there should normally be no more than one suspect and two investigators in the interview room. An exception to this rule is that suspects are afforded legal representation. *[LE 42.2.8c]*

All officers are provided with portable radios, and investigators are provided with cellular phones. Prior to interviews, officers should ensure they are equipped with one or the other as a means for summoning assistance. Interview rooms are equipped with real time audio and video. Officers and/or supervisors should be assigned to monitor video as an extra precaution during interviews of subjects in cases involving extraordinary security concerns. After hours, officers and detectives should makeshift supervisors assigned to the station aware of interviews taking place *[LE 42.2.8d]*.

Supervisors are responsible for maintaining minimal furnishings in the interview rooms and should see that the rooms remain uncluttered. Interview rooms shall consist of one table and no more than three chairs. The soft interview room shall normally be used for interviewing victims and victims' family members. The soft interview room will consist of a table, two comfortable chairs, and no more than two additional chairs. All officers/detectives conducting interviews are responsible for inspection of the interview rooms and removal of hazardous items prior to interviews. *[LE 42.2.8f]*

Officers/detectives conducting interviews and interrogations should ensure that persons are afforded adequate access to restrooms, water, and breaks. *[LE 42.2.8g]*

Whenever practical, custodial interrogations should be electronically recorded *[LE 42.2.8e]*.

Bentonville Police Department
Policies & Procedures

	SUBJECT: **Evidence Collection/Processing**	POLICY NUMBER: **603**
	CALEA STANDARDS: **LE 83.1.1, 83.2.1, 83.2.4, 83.2.6**	EFFECTIVE DATE: **XX**
	NOTES:	REVISION DATE: **08/09/2024**
	APPROVAL: **Ray Shastid, Chief of Police**	PAGES: **7**

POLICY

The Bentonville Police Department is committed to proper collection and preservation of physical evidence. These guidelines are written to ensure that physical evidence is identified, collected, preserved properly, and transmitted to a laboratory promptly to enhance its effectiveness in criminal cases.

PROCEDURE

603.01 EVIDENCE PROCESSING

A. The Bentonville Police Department Evidence Technicians will provide analytical service in the following areas:

1. Processing articles for the development of latent fingerprints upon case investigator request.

2. Produce further photographs of submitted evidence items upon department request.

B. The Arkansas State Crime Laboratory may provide crime laboratory services to the Bentonville Police Department in the following areas:

1. Gunshot Residue
2. Basic Serology
3. Firearms/Ballistics
4. Hair and Fiber
5. Drug Cases
6. DNA

C. In the event DNA evidence is collected, it shall be submitted to an American Society of Crime Laboratory (ASCLD) or the National Forensic Science Technology Center (NFSTC- 83.3.2)

1. Toolmarks
2. Comparison of Physical Substances Toxicology
3. Computer Forensics

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4. Comparison of latent prints against finger and palm prints of suspects.
5. Entering latent fingerprints into a computerized database (A.F.I.S.) to identify suspects for comparison purposes.

D. Investigating officers will collect materials and substances from known sources, whenever available. These known standards will be packaged separately from collected unknown evidence. Both should be submitted for analysis by investigators of each case. Some examples might include hair, fibers, vegetation, toolmarks, fingerprints or palm impressions, questioned documents, firearms, and tools.

603.02 CRIME SCENE PROCESSING

Crime scene processing should be carried out in a systematic order. This progression will preserve the condition of evidence during the collection by preventing the introduction of foreign material. First responding officers responsible for crime scene integrity and preliminary investigation unless, and until, such time as being relieved of this responsibility by CID or an officer of higher rank. Officers shall request immediate notification of the Chief of Police, Patrol Commander and Criminal Investigation Division when the situation is a homicide, suicide, accidental death or other serious felony, or one with potentially high community impact *[LE 83.2.1a]*.

1. Assess the scene and determine the scope of the investigation.
2. Secure the scene with crime scene barrier tape.
3. Keep a log of any persons entering or leaving the secured crime scene.
4. Search the crime scene to locate evidence.
5. Video Record the crime scene (optional).
6. Photograph the crime scene and evidence.
7. Measure the crime scene/evidence and create a diagram (optional).
8. Collect 3-D digital scan(s) of particular items of interest (optional).
9. Collect and remove trace evidence or body fluids.
10. Collect larger evidence items.
11. Process for latent fingerprints.
12. Luminescent chemical processing/Alternative light source
13. Search crime scene a second time (repeat above steps).
14. Release crime scene.

The shift commanding officer may make the determination to request further assistance from and turn the scene over to detectives and crime scene specialists in the Criminal Investigation Division (CID).

The methods used for collecting, marking, packaging and storing evidence should be those best suited to preserve the condition of the evidence during the collection process, prevent the introduction of foreign materials, and insure as complete a sample as is practical.

Investigators collecting evidence shall either tag (large items) or place items in an appropriate container. The tag or container shall be marked with the case number and item ("E" number). Items collected for crime lab submission shall be sealed in a paper envelope or box which will be sealed with evidence tape. The collecting investigator shall write their initials over the tape seals. The collectors of evidence will properly document the

date, time, and location where the evidence was discovered in their report. The computerized evidence booking generates a record that will serve as an inventory list and ensure the chain of custody is preserved. There is also a physical chain of custody form which is used to further document chain of custody in some situations (some examples would include multiple items collected during a search warrant with a copy left upon completion of the search/ seizing personal property items from an individual with a copy given to the property owner).

Fatality vehicle accidents are investigated by police officers who have specialized training and experience with these types of incidents. Their vehicles should be equipped for photography, measurements, sketches, and collection of evidence at accident scenes. These officers can request assistance from others including trained crime scene specialists in CID as necessary.

Qualified personnel will be available 24-hours a day and 7-days a week for processing of a crime scene/ traffic collision *[LE 83.1.1]*.

Personnel selected for crime scene/ traffic collision investigation will seek and complete, in coordination with the Training Unit, suitable training for these specialties. Training opportunities may be sought and completed through multiple reputable entities including but not limited to the Arkansas Criminal Justice Institute and private training firms *[LE 83.2.1c]*.

603.03 PHOTOGRAPHS AND VIDEO RECORDING

Photographs and video recordings of a crime scene provide a permanent graphic representation of the appearance and position of objects and their relationship to each other.

Trained Department personnel may take photographs or video recordings at crime scenes.

A complete record of each photograph should be maintained by the investigator taking the photographs so that the following information is available if requested in court:

1. Date/time of photograph
2. Name of photographer
3. Location of occurrence

This can be accomplished by completing a photograph data sheet including all this information and then photographing the data sheet as the first photo of the scene.

It will be the responsibility of the Investigating Officer to upload digital photographs onto the Department computer server and/or the "case file" in the computerized police report system. The downloaded images on the server shall become the master, and the images contained thereon shall never be modified in any way.

The maintenance and routine back-up of the server will be provided by the IT Department.

603.04 FINGERPRINT EVIDENCE

For a latent print to be of evidentiary value, the print must be converted into a visible image. Department investigators have access to the following methods of developing latent prints:

- Powder: Latent prints on hard, dry, and smooth surfaces.
- Chemical Development: Latent prints on absorbent surfaces such as paper, cardboard, and wood.

- Fuming: Developing fingerprints on an item by exposing it to a chemical vapor.

- Immersion: Developing fingerprints by spraying or coating an item of evidence with a chemical that darkens the fingerprint.

- Alternative Light Source: To aid in the location of trace evidence by illuminating trace evidence (hairs, fibers, etc.), finger and palm prints, body fluids, and teeth and bone fragments.

- Photography: In the event print cannot be lifted from the surface on which it has been developed, a photograph must be taken. If taken properly, the photograph will produce an image of the print impression suitable for crime lab submission.

After the print has been developed, the investigator must physically remove the latent fingerprint from its original surface. If a decision is made to lift a latent print, the investigator will use a transparent tape to lift the impression. Once lifted, the adhesive side of the tape should be protected by applying it to a print card. If the impression cannot be lifted, a photograph of the impression shall be taken.

It shall be the responsibility of the investigator who lifted the fingerprint impressions to properly document print cards and place the fingerprints into a paper envelope and enter the envelopes into evidence in a manner consistent with standard operating Property Room/Evidence Procedures.

603.05 COLLECTION OF LIQUID BLOOD SAMPLES AND/OR BODY FLUIDS

The collection of a blood or body fluid sample shall be conducted by a qualified person. They shall be packaged consistent with Property Room/Evidence Procedures. They shall be refrigerated or dried as soon as is practical.

603.06 COLLECTION OF WET OR BLOOD-SOAKED CLOTHING OR FABRIC

Shall be placed in a paper sack at the scene to avoid decomposition. Wet or blood-soaked clothing will be dried and packaged in a manner consistent with Property Room/Evidence Procedures.

603.07 COLLECTION OF DRIED BLOOD OR BODY FLUIDS

Dried blood or body fluids may be collected using a scalpel or lifting the evidence with a clean cotton cloth/swab soaked with distilled water. The collected evidence shall be handled in a manner consistent with Property Room/Evidence Procedures.

603.08 COLLECTION OF TRACE EVIDENCE

Trace evidence shall be collected by the Investigator using a specially filtered vacuum, tape, or another appropriate device. Vacuumed or otherwise “mass collected” trace evidence will be packaged in a manner suitable for gaining the maximum evidentiary value.

603.09 COLLECTION OF FIREARMS

Firearms collected as evidence must be carefully handled to assure the safety of all personnel while also considering its evidentiary value. Unless public or officer safety dictates otherwise, firearms will be photographed and their location documented before being handled, even if the weapon is loaded and/or ready to fire. Firearms will be unloaded and submitted to evidence in a manner consistent with Property Room/Evidence Procedures.

603.10 COLLECTION OF DOCUMENTS

Care should be taken to ensure that documents (checks, notes, bank drafts, etc.) remain in the same condition as when they were received. Documents that may have to be scientifically examined should not be folded, crumpled, or bent, unless they were received that way. Documents should be handled in a way to preserve any latent fingerprints that may be present. Documents shall be submitted to the Evidence Room pursuant to Property Room/Evidence Procedures.

603.11 OTHER EVIDENCE

The collection and preservation of all other types of evidence not discussed within this policy shall be conducted in a manner that preserves the integrity and evidentiary value of the item.

603.12 EVIDENCE TO BE SUBMITTED TO A LABORATORY *[LE 83.2.1b]*

Evidence that is to be submitted to a laboratory for examination shall be handled in the following manner:

1. The submitting investigator shall complete the evidence submission form specific to the laboratory that will be conducting the examination.

2. The Evidence Technician will insure the submitting investigator has completed the proper laboratory submission form and will ensure a copy of this form is transferred to the laboratory with the evidence.

3. All written results of laboratory examinations will be received by the Records Division. A member of the Records Division shall make a copy of the record for the Investigator (or digitally send a copy to said Investigator) and will file the record in the case file (scan document to the computerized police report system).

603.13 DNA COLLECTION AND PRESERVATION

Biological material may contain hazardous pathogens such as the human immunodeficiency virus (HIV) and the hepatitis B virus that can cause potentially lethal diseases. Because of this, and to prevent contamination of the evidence, the investigator will wear protective gloves, and should consider changing them often.

If the scene contains a large area of biological matter, the investigator should also consider wearing sterile protective clothing and mask.

A. Because extremely small samples of DNA can be used as evidence, greater attention to contamination issues is necessary when identifying, collecting, and preserving DNA evidence. The investigator should:

1. Use disposable instruments or clean them before and after handling each

sample.

2. Avoid touching the area where they believe DNA may exist.
3. Avoid talking, sneezing, and coughing over evidence.
4. Avoid touching your face, nose, and mouth when collecting/packaging evidence.
5. Avoid putting evidence into plastic bags, and do not use staples.

B. The collection and preservation of evidence which will be subjected to DNA analysis is best accomplished by the seizure and submission of the original item (i.e. a whole shirt as opposed to a cutting). When seizure of the original item is not practical, DNA evidence can be collected by swabbing or cutting (i.e. a section of carpet from the floor).

1. Slightly moisten a cotton tip swab with clean distilled water.
2. Swab the location of suspected DNA.
3. Place the swab in a sterile Swab Container. Do not place in a plastic container.
4. Each swab should be stored in a separate container.
5. Submit to evidence in accordance with Property Room/Evidence Procedures.

C. Dried blood samples can be lifted from non-porous surfaces with conventional fingerprint tape as well.

1. Place the sticky side down on a piece of plain white typing paper. (The paper will allow the specimen to "breath").
2. Each specimen should be stored in a separate container.
3. Submit to evidence in accordance with Property Room/Evidence Procedures.
4. Cheek swabs can be collected from an individual.
5. In the absence of a court order, written consent must be obtained from the individual.
6. It is preferred the individual have nothing to eat or drink for twenty minutes prior to the collection.
7. Scrub the inside of the cheek with a sterile cotton swab.
8. Place in a sterile container in conformance with Property Room/Evidence Procedures.

D. DNA evidence shall be stored at room temperature or cooler. It shall never be left in direct sunlight or places that may get hot, such as in a police car without air conditioning.

603.14 CRIME AND ACCIDENT SCENE REPORTS *[LE 83.2.6]*

Investigators of crime or accident scenes will prepare written reports of their actions. Major Crime Investigators and Major Accident Investigators must also include this information in their reports:

1. Date and time requested.
2. Name of the initial investigating officer.
3. Disposition of physical evidence.

4. Crime/accident scene measurements (if taken)

603.15 EVIDENCE TRANSFER

Property Room personnel will record all transfers of evidence in the computerized records system. The documentation shall include date and time of transfer, receiving person's name, and location of transfer (i.e. crime lab, court, or other. *[LE 83.2.1d]*

603.16 EQUIPMENT AND SUPPLIES

The Department will provide or procure suitable training and equipment for employees for use in the recovery of latent fingerprints, photography and videography, sketch and/ or digital scene rendering, and the collection and preservation of physical evidence. *[LE 83.2.1d, 83.2.4a-d]*

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Bentonville Police Department
Policies & Procedures

	SUBJECT: **Confidential Informants/Sources**	POLICY NUMBER: **604.00**
	CALEA STANDARDS: **LE 42.2.6**	EFFECTIVE DATE: **XX**
	NOTES:	REVISION DATE: **09/23/2024**
	APPROVAL: **Ray Shastid, Chief of Police**	PAGES: **9**

PURPOSE

The use of citizens during investigations is encouraged and can be used at various levels. The Bentonville Police Department defines two categories: Confidential Informant, Source of Information. Throughout this policy, the term "informant" is commonly used but will be more defined in roles, responsibilities and context in specific policy segments below. The purpose of this policy is to provide protocols for the control and use of each category.

POLICY

The Department hereby establishes specific policies and procedures for using police "informants" by sworn personnel. However, along with the use of "informants" is the danger of civil liability, poor control, and complaints by the confidential informant regarding the officer. It is the policy of the Department to effectively manage all sources of information, properly document their identity and activities, maintain effective control of their funding and activities, and confirm their use to actions supported by law.

DEFINITIONS

Cooperating Individual: Any individual who provides an officer with information. Cooperating Individual may be classified into two categories:

1. Confidential Informant
2. Source of Information

Confidential Informant (CI): Anyone who provides investigative information to a police officer on an on-going basis and has expectations for receiving personal benefit. The informant may or may not want their identity immediately known to others in the law enforcement or general community. This person will satisfy department requirements such as biographic and performance information.

Source of Information: Any person who provides information and may or may not expect some benefit from such action. A source is a person of very limited contact. A source that is to be paid for their information must be reclassified as a Confidential Informant. A digital file will be created

for all Confidential Informants as per procedures established by the Criminal Investigation Division.

Controlling Detective: A detective for the Confidential Informant who is responsible for ensuring proper control and completion of all documentation relating to the CI.

PROCEDURE

604.01 CRITERIA TO ESTABLISH INFORMANT

Before a perspective informant is utilized, the supervisor of the detective cultivating the informant will ensure that the potential informant is debriefed as to their full spectrum of knowledge of all criminal activity.

A. Perspective informants must be approved by the Criminal Investigation Division (CID) Captain or Lieutenant prior to being used by members of any division. A confidential informant file will be completed and forwarded to the CID Captain or Lieutenant. After reviewing the file, the CID Captain or Lieutenant will either approve or disapprove the use of the informant. Upon approval, the Controlling Detective will assign a confidential informant number. Only upon approval of the CID Captain or Lieutenant will a confidential informant number be assigned. *[LE 42.2.6a]*

B. The use of juvenile informants (under 18 years of age) shall require the approval of the CID Captain and the CID Lieutenant. After obtaining the approval, the juvenile may be used only after investigators have discussed the involvement with at least one (1) parent or legal guardian and have obtained written permission from the parent or legal guardian. *[LE 42.2.6 h]*

C. The use of any individual in the below listed categories, who wish to become a cooperating individual, will require the CID Captain's approval and/or the court of jurisdiction if applicable.

1. Persons on federal or state parole
2. Persons on state probation
3. Persons in the custody of any law enforcement agency; and/or
4. Any person with criminal history that the use of them as a cooperating individual could embarrass or discredit the Department.

D. In the event the CID Captain or the CID Lieutenant determines an informant to be unreliable and/or a detriment to the goals of the Department, they shall disapprove all further use of the informant by division personnel and the Controlling Detective will document the informant's deactivation in the appropriate CI file.

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604.02 FORMAL INFORMANT DEVELOPMENT

A. This section contains policies and procedures to be followed in the establishment, use, and handling of informants by the Criminal Investigation Division (CID). The title "informants" covers the following:

1. Confidential Informant: a person who, under the direction of a Controlling Detective, with or without expectation of compensation, furnishes information on drug trafficking, other criminal activity, or performs a lawful service for the Bentonville Police Department in an investigation.

2. Defendant-Informant: as above, but subject to arrest and prosecution for a state or federal offense or a defendant in a pending federal or state case who expects compensation for their assistance in either the form of judicial or prosecution consideration, or compensation of another form.

3. Restricted-Use Informant: any informant who meets any of the following criteria shall be considered a "restricted-use informant," subject to use as authorized below:

   a. Persons less than 18 years of age: ONLY with written consent of parent or legal guardian. *[LE 42.2.6h]*

   b. Persons on probation or parole (Federal or State). The individual's probation or parole officer shall, except under an extraordinary circumstance, be contacted prior to any use as an informant with the contact of the officer being documented.

B. The title "informant," as well as the informant requirements, does not apply to "Sources of Information." A Source of Information is a person or organization, not under the direction of a specific investigator, who provides information without becoming a party to the investigation itself; an employee of an organization who, through the routine course of their activities, obtains the information of value and provides it to the Department; or a concerned citizen who witnesses an event of interest to the Department. Should a person who would otherwise be considered a source of information become a continuing active part of a criminal investigation, then the status would be shifted to that of a confidential informant.

NOTE: Should a source of information seek financial compensation or become a recipient of any type of payment, they must be established and assigned an informant identification number for the purpose of payment.

C. There are three (3) criteria that must be met to establish a person as a "confidential informant," as follows:

1. The person is able to assist the Department in a present or future investigation.

2. The person will not foreseeably compromise the Department.

3. The person will accept the direction necessary to effectively utilize his services.

D. Informants under the control of another agency are not subject to the requirements of this Department policy. Frequently, situations occur in which control of the informant is shared between the Department and other agencies, or the control by the other agency is nominal, or the Department provides direction to the informant through the other agency. The nature of the relationship between the parties will be continuously reviewed by the investigator involved and his immediate supervisor.

E. In the event control shifts to more responsibility being with the Department than the other agency, the informant will be established as an informant with the Department.

F. The following additional requirements shall apply to the development of defendants/informants.

1. A defendant may be advised that their cooperation will be brought to the attention of the appropriate prosecutor. No further representations or assurances may be given without approval of the CID Captain. The Prosecuting Attorney shall have sole authority to decide whether to prosecute a case against a defendant/informant.

2. The appropriate prosecutor shall be advised of the nature and the scope of the defendant's cooperation through the period of their use.

604.03 ESTABLISHMENT OF AN INFORMANT FILE SYSTEM *[LE 42.2.6b]*

The Narcotics Supervisor shall be responsible for maintaining informant files in the LERMS Narcotics Module.

A file shall be maintained on each CI used by officers. Each file shall be coded with an assigned informant control number and shall contain the following information:

1. Informant's name, date of birth and other identifiers to include aliases
2. Name of officer initiating use of the informant
3. Informant's photograph/fingerprints/criminal history
4. Briefs of information provided by the CI and subsequent reliability.
5. Signed Cooperating Individual agreement
6. Updates on active or inactive status of the informant.
7. Special skills, avocations
8. Physical descriptors, scars, tattoos, other distinguishing features,
9. Photographs of tattoos (**when possible**)
10. Current home address and telephone number
11. Current employer, position, address, and telephone number
12. Marital status and number of children

13. Vehicles owned and their registration numbers
14. Places frequented
15. Total financial payments made to the CI
16. All activities
17. Deactivation and details/outcome

Physical Informant files shall be maintained in a secured area within the CID. These files should be reviewed at a minimum of every six (6) months and should not go over twelve (12) months without a review. The date of review will be documented and retained in the informant's file.

The informant files shall be utilized to provide a source of background information about the informant and a complete history of the information received from the informant. These files are meant to enable review and evaluation by the appropriate supervisor of information given by the informant.

Minimize incidents that could be used to question the integrity of investigators or the reliability of the CI. If an informant is determined to be unreliable, the informant's file shall be placed in the inactive informant file. Access to all informant files shall be restricted to members of the Narcotics Unit, the Chief of Police, and the Commander of CID or their designee. *[LE 42.2.6 c]*

Sworn personnel may only review an individual's informant file upon the approval of the CID Captain. The requesting officer shall submit a written request explaining the need for review. A copy of this request with the officer's name shall be maintained in the CI's file.

604.04 <u>UTILIZATION OF INFORMANTS</u> *[LE 42.2.6 g]*

Informants are assets of the Department, not a specific investigator. At their discretion, CID supervisors may reassign an informant to the control of another investigator or another agency.

The investigator/informant contacts will be of a strictly professional nature. Exclusive social or business contacts are expressly prohibited.

Contact with informants will be such that their knowledge of Department facilities, operations, activities, and personnel is kept to a minimum. Informants shall always be under police escort while inside the Department.

All contacts with informants should be under scrutiny and with the knowledge of the immediate supervisor. Any contact with informants of the opposite sex shall only take place with a witness present.

At no time will an informant be allowed to carry a firearm or any concealed weapon during an undercover operation. This will also be the case if the informant holds a valid concealed

carry firearms permit. This is to ensure the safety of the informant and operational team members. *[LE 42.2.6 f]*

All information received will be documented and verified if possible. Every attempt will be made to keep track of the informant's independent activities. Informants (and sources of information) shall be advised at the outset that:

1. They shall not violate criminal law in furtherance of gathering information or providing services to the Bentonville Police Department, and that any evidence of such knowledge will be reported to the appropriate law enforcement agency.

2. They have no official status, implied or otherwise, as investigators or employees of the Bentonville Police Department.

3. The information they provide may be used in criminal proceedings, and although the Department will use all lawful means to protect their confidentiality, this cannot be guaranteed; and

4. It is a state offense to threaten, harass, or intimidate anyone who provides information about a crime to a law enforcement agency. Should informants experience anything of this nature, as a result of their cooperation with the Bentonville Police Department, they should contact their controlling detective immediately.

Cooperating individuals will sign a Department form (Cooperating Individual Agreement) acknowledging that they have read and agreed to the above conditions. Their signature and a date will be witnessed by two (2) officers.

Sworn personnel assigned to the Criminal Investigation Division are permitted to work as Controlling Detectives. Sworn personnel assigned to other divisions of the Department will, at times, discover or develop information from various sources in the community. This is an expected part of their routine duty assignment. If those sources of information develop into meeting the specific parameters of this policy, the members of CID should be contacted, and the source evaluated for potential of becoming a "confidential informant."

604.05 UNDERCOVER PURCHASE PROCEDURES

Where an informant is to participate in an undercover purchase in which they may encounter official buy funds, controlled drugs, or anything else of potential evidentiary value, the informant will be thoroughly searched both before and after the undercover encounter and, where possible, kept under continuous observation in between. Any personal money that the informant may have will be retained by the controlling detective directing the operation until the completion of said operation. The reason for this is to preclude questions as to the validity or integrity of the evidence.

Under no circumstances will an officer of the opposite sex of the informant conduct the search of the informant. If the informant is using a vehicle other than a Department unit in an undercover purchase, the vehicle must also be searched thoroughly both before and after the purchase. The search of the informant and vehicle will be documented within the investigator's report.

Following the undercover purchase, the informant should be thoroughly debriefed by one (1) member of the investigative team with emphasis on details occurring while the informant was out of sight and/or hearing of the investigators monitoring the undercover purchase.

During an informant operation, the informant will be monitored visually and/or electronically for the duration of the operation. This monitoring will include surveillance of any exits to which an informant will have access or deviations of previous instructions. Again, whenever possible, electronic surveillance should be utilized in order to monitor the safety of undercover investigators and/or informants and verify the activities that occurred outside of the surveillance investigator's observation.

It shall be the responsibility of the **Narcotic Unit Supervisor** to ensure that investigators under their command comply with this procedure.

604.06 DEBRIEFING OF INFORMANTS

As part of the established process, a full debriefing of informants will take place. The nature and the extent of this debriefing will vary with the individual's background (e.g., whether he is a longtime associate of criminals, etc.). A line of inquiry will be developed so that all knowledge of criminals and criminal activity, both drug and non-drug related, will be covered. The general order of priority to the criminal information sought will be as follows:

1. Actionable drug related criminal information.
2. General drug related criminal information.
3. Non-drug related criminal information.

Debriefing will not be limited to nor overly focused upon the priority. It could well be that a broad coverage of the second priority will lead to a better choice of targets and objectives in an over simplified discussion of the actionable information.

In obtaining information on a drug trafficker, the financial aspects of his activities will also be included (e.g., how the money is transferred, assets, proceeds, etc.). The drug related information sought will not be limited to the traffic with the geographic boundaries of the immediate area.

Non-drug related criminal information will be disseminated to the appropriate investigator/division/agencies unless there is a valid reason not to do so.

All debriefings will be fully reported in a supplement report. These reports will be written to the appropriate intelligence or case file. In some areas, the debriefings will have to be cross-filed by criminal report number to other intelligence and case files.

604.07 DISCLOSURE OF INFORMANT IDENTITY *[LE 42.2.6 d]*

Informants shall be advised at the outset that the information they provide may be used in a criminal proceeding and that although the Department will use all lawful means to protect their confidentiality, this cannot be guaranteed.

The disclosure of an informant's identity, even when no prior guarantee of confidentiality was made, will be avoided whenever possible. An informant's confidentiality will be thoroughly discussed with the prosecutor prior to the trial or other proceedings, and any alternative will be given full consideration.

In situations where the disclosure of an informant's identity might adversely affect the outcome of a more significant investigation, the Department may conceivably recommend dismissal of the immediate case. A decision of this nature may only be made by the Criminal Investigation Division Commander.

If the issue of disclosure arises during an investigator's testimony and they are uncertain of the legal requirement, they should request time to discuss the matter with the prosecuting attorney.

604.07 DEACTIVATION OF INFORMANTS

An informant will be deactivated when:

1. They no longer have the potential to furnish information or services which could lead to a significant prosecution or interdiction of drugs.
2. They are no longer willing to cooperate.
3. Their cooperation has been determined to be unsatisfactory.
4. They have become a detriment to the investigator and/or the Department.

Should an informant be deactivated due to unsatisfactory cooperation or behavior, the investigator assigned to that particular informant will give written supporting justification in a report that will be placed in the cooperating individual's informant file.

DRAFT

604.08 INFORMANT PAYMENTS *[LE 42.2.6 e]*

An informant may be financially compensated for their service when:

1. The informant has provided substantial information, which aids the Department in a criminal investigation. All information provided by an informant must be fully evaluated prior to any informant payment.

2. The informant provides evidence, which aids the Department in a criminal investigation. All evidence provided by the informant must be obtained legally and within the guidelines of departmental policy.

3. The informant is in good standing with the Department and requires funds to aid in furtherance of an ongoing investigation (e.g., gas money, rent payment, cell phone service).

All informant payments will only be made utilizing funds supplied by the Department Drug Fund. At no time will an informant payment be made utilizing a detective or officer's personal funds.

All financial payments made to an informant will be witnessed by another detective or officer, who will sign in the appropriate location on the Department Drug Fund Expenditure Report form. All Expenditure Report forms must be submitted to the Narcotics Supervisor within 48 hours of payment. All informant payments must also be documented by the controlling detective in the appropriate LERMS Narcotic Investigation or Intelligence report.

All informant payments must be authorized by the Narcotics Supervisor, who will sign in the appropriate location on the Bentonville Police Department Drug Fund Expenditure Report form and then note the transaction in appropriate LERMS Narcotic Investigation or Intelligence report.

DRAFT

Bentonville Police Department
Policies & Procedures

	SUBJECT: Intelligence Management	POLICY NUMBER: 609
	CALEA STANDARDS: LE 40.2.3	EFFECTIVE DATE: XX
	NOTES:	REVISION DATE: 09/06/2024
	APPROVAL: Ray Shastid, Chief of Police	PAGES: 3

PURPOSE

The following will establish guidelines on the process of gathering intelligence information not specifically related to criminal cases.

POLICY

It is the policy of the Bentonville Department that the appropriate procedures will be followed for the collection and sharing of information and events that qualify as intelligence information, as well as the storage and eventual destruction of that intelligence once the intelligence has no further value.

DEFINITION

Intelligence: Information collected, analyzed, and organized in a manner that will contribute to the prevention of illegal activity and identify those engaged in crime. Intelligence is derived from information that has been evaluated and properly vetted before it is disseminated to law enforcement agencies.

PROCEDURES

609.01 INTELLIGENCE GATHERING

While the detectives, under the supervision of the Criminal Investigation Division Commander (CID), or their designee, will have primary responsibility over the intelligence function at the Department, each member of the Department is responsible for gathering and reporting information in support of and acting on information produced.

The CID Commander or their designee shall ensure that information collected during the intelligence gathering process is related to criminal conduct, potential threats, and/or disruptions to the community. Examples of criminal activities and potential threats to be monitored by a police officer or detective include, but are not limited to:

1. Organized crime activities.
2. Gang-related criminal activities.

3. Subversive (of government) criminal activities.
4. Narcotic, gambling, and vice criminal activities.
5. Terrorism.
6. Civil disorder/Anarchist activities.
7. Habitual criminal activities.

A police officer or detective shall be assigned to gather intelligence as part of their regular duties. Intelligence should be referred to the CID Commander, or others who are designated to receive specific intelligence-related information. The CID Commander shall regularly review the intelligence files.

The CID Commander or their designee can deploy intelligence personnel and equipment and utilize intelligence techniques when appropriate and necessary. The CID Commander or designee may assign trained personnel to collect, evaluate, analyze, and disseminate intelligence data regarding criminal activities. Personnel assigned may also consult other agencies to assist in an intelligence investigation(s) and/or contribute intelligence information to their data.

The use of any specialized intelligence equipment is limited to those officers who have been trained in the safe, effective, and legal use of such equipment.

609.02 INTELLIGENCE STORAGE/DISTRIBUTION

A. Intelligence data not specifically related to criminal conduct, but part of an active investigation, shall remain in a locked file cabinet or in a BPD secure computer file, unless being utilized by authorized personnel. The intelligence files are maintained separately from all other Department records. Information in these files shall be maintained by the assigned detective or personnel. The CID Commander is responsible for auditing the integrity of the files and access is limited to the following:

1. Chief of Police.
2. CID Supervisors.
3. Detective(s)
4. Those individuals actively involved in intelligence activities.

B. Distribution of the information should be guarded so that information that is not current or not verified is not shared with other department personnel. However, timely information that could be used to solve a case or prevent further crime should be shared with other sworn staff, area law enforcement agencies, ROCIC, and the state Fusion Center, either via an electronic message to others or through a poster created with specific information on a person either wanted or who has been engaged in concerning behavior at or the local area.

C. Intelligence files shall be strictly controlled, monitored, and documented in a manner designed to protect against unauthorized disclosure or destruction of the information contained within them. Incident reports shall be written as necessary. These reports keep the Chief of Police informed of organized crime, hate groups,

gangs, terrorist organizations, and other organized efforts of an illegal nature that pose a significant danger to the safety and well-being of the community.

D. Intelligence can also be used to pass on information to others outside of Whitewater Police Department under the below categories:

1. Law Enforcement Sensitive: Only be shared with other law enforcement agencies, ROCIC, Fusion Center
2. General Public: Can be shared with anyone

609.03 INTELLIGENCE REVIEW/PURGING and DESTRUCTION

A. Intelligence case files shall be regularly reviewed, updated, corrected, and/or purged by a police officer or detective and approved and monitored by the CID Commander or their designee.

All file material selected for purging and destruction shall only be removed and destroyed when it meets any of the following:

1. No longer useful
2. No longer relevant
3. Invalid
4. Inaccurate

B. Files that are not related to criminal conduct or activities that present a threat to the community shall be terminated and purged by the assigned officer and the CID Captain shall be notified. Out-of-date intelligence information and incorrect information shall be purged from intelligence records and may be released to the central records system upon approval of the CID Commander. Information shall be reviewed and validated for continuing compliance with submission criteria before the expiration of its retention period. All intelligence information is retained and purged in compliance with ACA 14-2-204.

C. The CID Commander or their designee shall conduct a documented annual review of intelligence procedures and processes during the first quarter of each year and is due to the Chief of Police.

DRAFT

Bentonville Police Department
Policies & Procedures

	SUBJECT: **Records Management**	POLICY NUMBER: **802.00**
	CALEA STANDARDS: **LE 82.1.1, 82.1.2, 82.1.6, 82.2.3, 82.3.4, COM 6.7.1, 6.7.2, 6.7.6, 6.8.6**	EFFECTIVE DATE: **XX**
	NOTES: **A.C.A. 14-2-204**	REVISION DATE: **09/23/2024**
	APPROVAL **Ray Shastid, Chief of Police**	PAGES: **6**

PURPOSE

The purpose of this policy is to establish guidelines and procedures for the effective management, maintenance, and safeguarding of police records. This policy ensures that all records are accurate, accessible, secure, and compliant with applicable laws and regulations. The Records Unit is responsible for the systematic organization, storage, and retrieval of records, supporting the operational needs of the Department.

POLICY

This policy establishes procedures for the management of official Bentonville Police Department records and defines guidelines to ensure the confidentiality, access, and security of those records. This policy shall apply to all members of the Department.

PROCEDURES

802.01 PRIVACY AND SECURITY OF RECORDS

Agency files stored in the Department, shall be secured from the public and shall only be accessible by authorized Bentonville Police Department personnel. Other department records that have been scanned into electronic cases files in the Bentonville Police Department Records Management System (RMS) are accessible by department personnel with RMS access rights provided by administration. Only authorized department personnel shall make entries into the computerized records files. *[LE 82.1.1a, LE 82.1.2c]*

When present, Records Unit personnel will be available to assist with records requests. Original records shall only be obtained with the assistance of Records Unit personnel. Department personnel may photocopy records needed for investigation or revision, with the assistance of Records Unit personnel. The removal of original records must be authorized by Records Unit personnel and must be logged with a records checkout placeholder maintained by Records Unit personnel. *[LE 82.1.1a]*

Security in the Records Unit shall be maintained using electronic access control measures for doors and mechanical locking devices on drawers and cabinets. Department personnel

other than designated supervisors will not have access the records unit after hours. Any original case documents of sensitive nature and/or documents involving juvenile offenders shall be secured prior to records unit personnel leaving at the end of the duty day. If any original records need to be accessed when records unit personnel are not present (holidays, after hours, etc.), personnel must contact the Records Unit Manager or member of administration. *[LE 82.1.1b]*

Physical records needing to be archived and removed from the Department Records Unit will be maintained in the Bentonville Police Department evidence building. Security for the facility shall be controlled by Property and Evidence personnel using facility keys. *[LE 82.1.1a]*

802.02 COMPUTER SECURITY *[LE 82.1.6, COM 6.8.6]*

The Department's process for maintaining security of computer records shall be guided by the City of Bentonville IT Group. IT personnel shall ensure the following:

1. The Department computer system data shall be backed up daily to minimize potential loss of information. *[LE 82.1.6a, COM 6.8.6a]*

2. Physical backup media shall be transferred to an off-site storage server to preserve information. *[LE 82.1.6b, COM 6.8.6b]*

3. IT personnel shall maintain security of the computer system/network by assigning user accounts and monitoring the use of the computer system/network. Each Bentonville Police Department employee shall have a unique password known only to that employee. *[LE 82.1.6c, COM 6.8.6c]*

4. IT personnel shall conduct user account audits at least annually and submit a report on the audit to the Administrative Division Commander. *[LE 82.1.6d, COM 6.8.6d]*

5. IT personnel will abide by the Criminal Justice Information Services (CJIS) Security Policy.

802.03 CASE NUMBERING SYSTEM *[LE 82.2.3, COM 6.7.6]*

All calls for service (citizen reports of crime, citizen complaints, etc.) and officer-initiated calls shall be issued a computer-generated incident number at the time the incident is reported. A computer-generated case number is created from the incident if a report is written. The case number automatically matches that of the incident number.

Each year on January 1st at midnight, the computer numbering system will begin with the current year and start with number one (ex: 2024-00000001). Each number thereafter shall be consecutive and shall be separate for each incident.

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802.04 RECORDS COLLECTION, DISTRIBUTION and STORAGE

All handwritten reports, tickets, warnings, served warrants, etc. will be placed in the designated baskets in the Records area for processing. Scanned attachments are filed in the case report with the corresponding case report number.

Records personnel will make appropriate computer report entries. Original documents shall remain within the Records Unit until any documents are to be archived.

A. Criminal Investigations Unit Documents:

Documents produced by the Narcotics Unit will be maintained in the RMS Narcotics module while under active investigation. When the investigation is no longer active, the case is transferred to the Cases module in RMS. Narcotics investigations moved to the Case module are not necessarily available for release to the public and will be reviewed by the Division Commander for approval of release.

Upon return of criminal case reports, after review by the appropriate prosecuting authority, original case files are forwarded to Records for filing.

Arkansas State Crime Lab Submission forms are submitted to and maintained by the Property Unit and uploaded to the applicable case.

B. Citations:

Bentonville Police Department citations are issued electronically and maintained through the electronic citation system website.

Citation book numbers will be issued in sequences of fifty. Officers log into the electronic citation system's secure website to check out a block of citation numbers. *[LE 82.3.4a]*

Citations yet to be issued are accounted for through the electronic citation system. Citations that have been issued to offenders, are to be synced into the system by Officers prior to the end of each shift. The electronic citations are then processed by Records Unit personnel into the RMS. Each citation is accessible from the electronic citation system's website or through Bentonville Police Department RMS. After processing, citations are remotely imported by Bentonville District Court into their system. *[LE 82.3.4b, 82.3.4c]*

In the rare event that a citation needs to be voided, an officer can contact records to have the action completed. The following requirements must be followed:

1. The offender must not have a copy of the citation.
2. The issuing Officer must email their supervisor and records unit personnel to request the citation be voided. The email shall include the offender's name, citation number, charge(s), and the reason for void.

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3. The request must happen prior to records processing the citation. In the event the citation has been processed, records will notify the Officer who must then contact the city prosecutor of the situation.

C. Citation System Updates:

If a new statute is required in the electronic citation system, an electronic citation system Administrator must be contacted to add that statute before the citation can be issued for that charge. Administrators are the Records Manager, and the Administrative Lieutenant and Captain.

D. WARRANTS:

1. Issuance of Warrants:

Arrest warrants are generated by the District or Circuit Courts, depending on the type and jurisdiction of the warrant. The issuing authority ensures that all legal requirements are met prior to issuing the warrant.

2. Transportation of Warrants:

Once generated, arrest warrants are transported by designated Department personnel from the respective courthouse to the Communications Center. This process ensures timely processing and accountability for all active warrants.

3. Warrant Entry:

Upon arrival at the Communications Center, Telecommunicators are responsible for entering warrants into the Arkansas Crime Information Center (ACIC), National Crime Information Center (NCIC), and the RMS. The accuracy of the information entered is critical to ensure proper tracking and enforcement.

4. Execution and Service of Warrants:

Sworn Department personnel are responsible for serving arrest warrants in accordance with established procedures. Once a warrant is served, Telecommunicators are notified and tasked with updating the status in the RMS as well as the ACIC/NCIC databases to reflect that the warrant has been executed.

5. Recall of Warrants:

Arrest warrants may be recalled by direction of the issuing court. Personnel in the Records Unit are responsible for executing the court's direction and ensuring that the warrant is removed in all relevant systems, including ACIC/NCIC and RMS. This step finalizes the process and prevents further potential enforcement action on the recalled warrant.

6. Accountability and Validations:

The Department shall comply with ACIC regulations and regularly conduct validations of the warrant processing system. Any discrepancies or issues identified will be addressed promptly by the appropriate unit.

7. **Holder of the Record Agreement:**
   Bentonville Police Department has a Holder-of-the Record Agreement with Northwest Arkansas Community College (NWACC). NWACC records that are entered into NCIC/ACIC are stored at the Bentonville Police Department Communications Center. Telecommunicators enter, update, and remove records, as well as confirm hits on the records. NWACC is responsible for immediately notifying the Communications Center of any changes in the status of their records.

802.04 JUVENILE RECORDS

Additional information regarding juveniles can be found in Policy 525 Juvenile Protocols.

A. Collection of Juvenile Records:
Reports involving juveniles are shown as juvenile within the RMS by the party's information being entered into a Juvenile Jacket. *[LE 82.1.2a]*

B. Dissemination of Juvenile Reports:
Juvenile reports are made available only to law enforcement or other authorized parties upon their request. All case reports involving juveniles are filed separately from adult case reports based on their jacket type. Information on juvenile suspects/offenders may only be released pursuant to a court order.

C. Retention of fingerprints and photographs:
Juveniles are photographed and fingerprinted in accordance with Arkansas State Statute 9-27-320. Juvenile fingerprints are retained through the AFIS System on those charges where fingerprinting is required by the State of Arkansas. Photographs are retained in the Bentonville Police Department RMS, in the juvenile's jacket. The arresting officer is responsible for photographing the juvenile in the RMS System if it meets the same statute requirements. If a juvenile is adjudicated delinquent by the court and is sent to the Police Department for photographing and/or fingerprinting, the same retention rules apply. *[LE 82.1.2b]*

D. Disposition of Juvenile Records:
Upon reaching adult age all records of juveniles shall continue to be stored separately as juvenile records. When ordered by the court, the Records Unit shall expunge all applicable social histories, records, and information of a juvenile in accordance with the court order. *[LE 82.1.2d, LE 82.1.2e]*

802.05 RELEASE OF RECORDS

The Bentonville Police Department releases agency records in accordance with the Arkansas Freedom of Information Act (FOIA). *[LE 82.1.1c]*

Records unit personnel will be responsible for processing requests for copies of police records. Police records will be redacted as necessary prior to release and dissemination will be made according to applicable state laws.

The appropriate fee will be collected for the report copies and the cash or checks will then be transferred to City of Bentonville Finance Office.

802.05 RETENTION/DESTRUCTION *[COM 6.7.2]*

Any files maintained by the Department shall at a minimum be maintained in accordance with ACA 14-2-204.

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RESOLUTION NO. _____

A RESOLUTION ADOPTING ADDITIONAL POLICIES TO THE BENTONVILLE POLICE DEPARTMENT 2024 POLICY AND PROCEDURES MANUAL; AND FOR OTHER PURPOSES.

WHEREAS, the Bentonville Police Department enrolled in the CALEA Accreditation at the end of 2022 and began the three (3) year process of accreditation;

WHEREAS, the Bentonville Police Department staff is requesting the adoption additional Police Department Policies as set forth herein; and

WHEREAS, Command Staff, Accreditation Manager, and Legal Department recommend adopting the additional policies for the Bentonville Police Department 2024 Policy and Procedures Manual.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the City of Bentonville Police Department 2024 Policy and Procedures Manual is updated to reflect the recommended additional Police Department Policies pertaining to the following subjects: Responsibility and Authority (105), Mission Statement, Vision and Core Values (106), Cash Fund/Accounts Maintenance (205), Grievance Policy (312), Benefits Program (316), Media Access (516), Incident Command System (520), Juvenile Policy (525-revised), Traffic Control (521), Traffic Enforcement (522), Juvenile Procedures (525), Criminal Investigation Management (601), Evidence Collection/Processing (603), Confidential Informants/Sources (604), Intelligence Management (609) and Records Management (802).

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED this _____ day of _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, MAYOR

ATTEST:

_____
MALORIE MARRS, CITY CLERK

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/8/2024	**Submitted By:**	Josh Stacey
Phone:	479-418-8653	**For Department(s):**	Parks and Recreation
Email:	jstacey@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☑ Budget Adjustment ☑ Waiver of Bid ☑ Emergency Clause
☑ Ordinance ☐ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Ordinance approving Bid Waiver for Crossland Heavy Contractors, Inc. to Repair Flyover Bridge
Action Recommendation & Justification:	Approval of Bid Waiver and budget adjustment, in the amount of $137,513.29, to Crossland Heavy Contractors, Inc. for repairs to the Razorback Greenway Flyover Bridge at NE A Street, due to damage caused by the May 26, 2024 storm. A budget adjustment is needed.
Additional Comments for Consideration (Optional):	The bid waiver is requested in order to use the original contractor for repair. Doing so will circumvent voiding the warranty on the original work. This will be funded by General Fund Reserves and submitted to FEMA for 75% reimbursement. There is also a property insurance claim in progress for coverage.
Amount for Approval:	$ 137,513.29

Budget Impact

Is this Item Budgeted? ☐ YES ☑ NO ☐ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

105030-44430	Building/Ground Maintenance	$ 137,513.29	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue

Fund(s) Impacted (check all that apply) ☑ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

Memo

To: City Council, Mayor Orman

From: Josh Stacey, Parks and Recreation Deputy Director

CC: David Wright, Parks and Recreation Director

Date: October 16, 2024

Re: Council approval of a Bid Waiver and Budget Adjustment, in the amount of 137,513.29, for the repairs of the Flyover Bridge on the Razorback Greenway.

Parks and Recreation Staff is seeking City Council's approval of a bid waiver and budget adjustment to Crossland Heavy, in the amount of $137,513.29 for necessary repairs to the Razorback Greenway Flyover Bridge at NE A Street.

Following the May 26 storm, Parks and Recreation had to immediately close the Flyover Bridge due to damage suffered. We hired a structural engineer to evaluate the condition of the bridge and design necessary repairs to ensure the integrity of the structure. The firm found a structural beam (and more) was damaged and should be replaced.

Because the bridge is under warranty, we immediately began consulting with Crossland Heavy. Our intent from the beginning was for them to perform the work, provided they submit reasonable price. After working with Crossland Heavy, and their subcontractors, we are confident price is fair and reasonable. Staff recommends the waiver based on the existing warranty that continues until April 2025 for a bridge that we insure for $8.5MM.

The repair work is expected to take 3-4 weeks. This work is all FEMA reimbursement eligible and has been vetted by our FEMA consultant, Thompson Consulting. A budget adjustment is required for this work. After submitting the request to FEMA, we are anticipating 75% of the funds to be reimbursed for this project.

If you have any questions regarding this item, please contact Josh Stacey at jstacey@bentonvillear.com or call 418.8653.

Attachments:
Pricing from Crossland Heavy

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

City Hall
305 SW A Street
Bentonville, AR 72712

SERVICE CONTRACT: Razorback Greenway Flyover Bridge Repair

THIS CONTRACT is made in Benton County, Arkansas, by and between the City of Bentonville, Arkansas, hereinafter "City," and Crossland Heavy Contractors, Inc., hereinafter "Contractor" (collectively, the "Parties"), Witnesseth:

1. DESCRIPTION. This Contract has been awarded to Contractor as a result of Contractor's Quote (attached hereto as **Exhibit B**) to the City's Invitation for Quotes for the Razorback Greenway Flyover Bridge Repair, as specified in the Scope of Work (attached hereto as **Exhibit A**). The work shall consist of performing the services, including all labor, material, equipment, products and all other items necessary to perform the work, as set forth in this Contract and **Exhibit A**.

2. PRIMARY CONTACTS. The primary contact for the Contractor shall be _____. The primary contact for the City shall be the City of Bentonville Parks Deputy Director, or designated assignee.

3. CONTRACT TERM. The term for this Contract shall be one hundred twenty (120) days, commencing on the effective date of this Contract.

a. Effective Date: The Effective Date of this Contract shall be defined as the executed date on the Signature Page of this Contract.

b. Construction Timeline:

1. Preconstruction Meeting: The Parties shall meet prior to work beginning to review the Scope of Work.
2. Work shall begin within seven (7) days of Notice to Proceed. Contractor shall notify the City's contact seven (7) days prior to work beginning.
3. Work shall reach 100% completion within ninety (90) days from work beginning.

c. Any changes to the Term of this Contract or to the Construction Timeline shall be agreed upon by the Parties in writing and shall be in accordance with this Contract and all applicable procurement laws and the City of Bentonville Purchasing Policy.

4. WORK PROCEDURES. All work procedures shall be in accordance with this Contract and with the Exhibits attached hereto.

a. Specifications. All work shall be performed in accordance with industry standards and best practices, and as specified in this Contract and in the Exhibits attached hereto.

b. Change Orders and Amendments. Any changes to the Scope of Work shall be handled via Change Order or Amendment to this Contract, as applicable. No Change Order or Amendment shall be approved unless approved in writing by the City. All Change Orders or Amendments must be pre-approved prior to any work commencing, any materials being purchased, or any other fee being incurred related to the change. The City shall not be responsible for changes in work unless the Change Order or Amendment is pre-approved in writing by the City.

1. **Owner's (City's) Contingency:** Not applicable

c. Unsatisfactory Results. Contractor agrees to remedy any unsatisfactory results, within the terms of this Contract.

d. General. The Contractor shall conduct their operations in such a manner that does not cause damage to property owned by the City or other individual. In the event damage occurs, Contractor shall replace or repair the damaged area(s) or item(s) at no cost to the City and as directed by the City. In the event that Contractor fails to make the necessary repairs, the City may use City staff or outside vendors to repair any damage. Any costs the City incurs for repairing damage or replacing items resulting from Contractor's operations may be deducted from monies due to Contractor.

5. FEES, EXPENSES, AND SCHEDULE. The City agrees to pay Contractor based upon the total quote price including tax, as defined herein, for actual work performed or material stored on-site. Contractor agrees to only perform the type of services outlined in this Contract and the Exhibits attached hereto. Fees and contingencies shall be as follows:

a. Total Fee for Construction: $137,513.29 (one hundred thirty-seven thousand, five hundred thirteen dollars and twenty-nine cents).

b. Owner's Contingency: Not applicable

6. ADDITIONAL SERVICES. Any service outside of the services stated herein and in the Exhibits attached hereto, must be pre-approved by the City, in writing, and in accordance with the City of Bentonville Purchasing Policy prior to any additional work proceeding.

7. INVOICING. Contractor shall submit an invoice (or Pay Application), for work performed or materials stored on-site, to the City's Contact for review. Invoices approved for payment will be processed by the City. Payment will only be made for actual work completed and approved by the City's Contact. All invoices submitted pertaining to work performed or items delivered for this Contract must include 24STORM.

a. The Contractor may choose to submit progress invoices (for actual work performed or materials stored on site) or one invoice after 100% completion.

8. PAYMENT.

a. Inaccurate Invoicing. In the event that the City becomes credibly informed that any representations of Contractor provided in its invoicing are wholly or partially inaccurate, the City may withhold payment of sums then, or in the future, otherwise due to Contractor until the inaccuracy and the cause thereof is corrected to the City's reasonable satisfaction.

b. Service Failure. In the event of a service failure, where the service performed is not in accordance with the specifications set forth by the City, or otherwise not in accordance with this Contract, the City may withhold sums otherwise due to

Contractor that are specifically for the area in which the service failure occurred, until correction of the service failure is confirmed. In the event that Contractor fails to correct the service failure within forty-eight (48) hours of being notified, or if the Contractor fails to correct the service failure in a manner which brings the work into specification as approved by the City's contact, the City reserves the right to cancel the Contract immediately.

9. TERMINATION FOR LACK OF FUNDS. If, for whatever reason, adequate funding is not made available by City to support or justify continuation of the level of services to be provided by Contractor under this Contract, City may terminate or reduce the amount of services to be provided by Contractor under this Contract. In such event, City will notify Contractor in writing at least thirty (30) days in advance of such termination or reduction of services for lack of funds.

10. DISPUTE RESOLUTION. City and Contractor agree that disputes relative to the Services will first be addressed by negotiations between the Parties. If direct negotiations fail to resolve the dispute, the Party initiating the claim that is the basis for the dispute may take such steps as it deems necessary to protect its interests; provided, however, that notwithstanding any such dispute, Contractor will proceed with the services as per this Contract as if no dispute existed, and City will continue to make payment for Contractor's completed services; and provided further that no dispute will be submitted to arbitration without both Parties' express written consent.

11. SUBCONTRACTING. Contractor may not subcontract or assign any of the services to be performed under this Contract, without first obtaining the written approval of the City. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge Contractor from any obligation under this Contract. Any Subcontractor approved by the City must be fully licensed and insured to perform the work.

a. Holmes Erection Inc.

1. Work to be performed: Erection, Rigging, Crane Rental
2. Does Subcontractor's portion exceed $50,000.00: No

b. JL Bryson, Inc.

1. Work to be performed: Fabrication
2. Does Subcontractor's portion exceed $50,000.00: No

12. INSURANCE. Contractor shall purchase and maintain, at minimum, such insurance as defined herein and furnish Certificates of Insurance to the City naming the City of Bentonville as additionally insured. The insurance shall be appropriate for the performance of the work, as described herein, and shall provide protection from damage occurring to City owned property and from, and any other claims which may arise out of or result from the Contractor's performance of the work; whether it is to be performed by the Contractor, any subcontractor or supplier, or by anyone directly or indirectly employed by any of them to perform any of the work, or by anyone for whose acts any of them may be liable:

The policies of insurance required are as follows:

1) Workers' Compensation:
    a. State: Statutory
    b. Applicable Federal: Statutory
2) Comprehensive or Commercial General Liability: $1,000,000.00 – Each Occurrence

In the event that any interruption or change in insurance coverage may occur, the Contractor shall provide the City with thirty (30) days written notice of any such interruptions or changes. Failure to maintain the required insurance will result in the direct breach of this Contract and subsequent termination.

13. INDEMNIFICATION AND HOLD HARMLESS. For purposes of this Contract, Contractor agrees to indemnify, defend and hold harmless the City, its officers, appointees, employees, and agents from any and all loss, damage, liability or expense, of any nature whatsoever caused or incurred as a result of the negligence or other actionable fault of Contractor, its affiliates, subsidiaries, employees, agents, assignees, and subcontractors and their respective employees and agents. Contractor is not required hereunder to defend the City, its officers, appointees, employees, or agents from assertions that they were negligent, nor to indemnify and hold them harmless from liability based on the City's negligence.

14. SAFETY AND SUPERVISION. The Contractor shall be solely responsible for the safety, supervision and direction of Contractor's employees and personnel while performing the work pertaining to this Contract. The Contractor shall utilize their best skills and general industry best practices to ensure a safe work environment for the Contractor, Contractor's employees and personnel, and the civilians that may be located within work site(s) at the time when work is being performed. The Contractor shall, at all times, enforce strict discipline and good order among his employees and personnel, and shall not employ or contract any person to perform the services to be provided to the City that is not skilled or is unfit for providing such services.

15. TAXES, LICENSES AND PERMITS. The Contractor shall pay all Local, State and Federal taxes required by law and shall secure all permits and licenses necessary for the execution of the services described herein.

16. DAMAGES. All operations pertaining to the services described herein shall be confined to the areas awarded to Contractor as set forth herein and as are described in the Exhibits attached hereto, unless otherwise permitted by written communication from the City. The Contractor shall be solely liable for any damages caused by Contractor, or Contractor's employees or personnel, to such premises or otherwise in performance of this Contract.

17. ENTIRE CONTRACT. This Contract, including all documents and Exhibits included by reference herein, constitutes the entire Contract between the Parties and supersedes all prior agreements, whether oral or written, covering the same subject matter. This Contract may not be modified or amended except in writing mutually agreed upon and accepted by both Parties to this Contract.

18. NO THIRD PARTY BENEFICIARIES. Nothing contained herein will create a contractual relationship with, or any rights in favor of, any Third Party.

19. INDEPENDENT CONTRACTOR. Contractor is an independent contractor and is not an agent or employee of City.

20. COMPLIANCE WITH LAWS. Contractor will abide by all applicable federal, state and local laws, ordinances and regulations applicable at the time the services are rendered.

21. APPLICABLE LAW, JURISDICTION, VENUE. Interpretation of this Contract and disputes arising out of or related to this Contract will be subject to and governed by the laws of the State of Arkansas. Jurisdiction and venue for any suit arising out of or related to this Contract will be in the District Court of Benton County, Arkansas.

22. SEVERABILITY. If any provision of this Contract is determined to be void, invalid, unenforceable or illegal for whatever reason, such provision(s) will be null and void; provided, however, that the remaining provisions of this Contract will be unaffected and will continue to be valid and enforceable.

23. AMBIGUITY. If any ambiguity, inconsistency or conflict arises in the interpretation of this Contract, the same will be resolved by reference first to the terms and conditions of this Contract.

[Signature Page Follows]

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

City Hall
305 SW A Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

SIGNATURE PAGE

The Parties hereto have caused this Contract to be executed this

_____ (the effective date).

CITY OF BENTONVILLE, ARKANSAS

By: _____

Stephanie Orman, Mayor

By: _____

(Signature)

**By signing this Contract, Signor attests that they are authorized to bind this Company to this Contract.*

Name (*printed*):_____

Title:_____

Crossland Heavy Contractors, Inc.

Address:_____

_____

_____

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

City Hall
305 SW A Street
Bentonville, AR 72712

EXHIBIT A

SCOPE OF WORK

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

City Hall
305 SW A Street
Bentonville, AR 72712

SCOPE OF WORK

Contractor will perform the following services for this Project:

- The scope involves repairs on the Razorback Trail Flyover due to storm damage. The work primarily focuses on structural components, handrails, and the integrity of the bridge section.
- Fabrication and installation of five (5) sections of handrails, which include bead blasting of weathering steel.
- Delivery of all fabricated materials to the site.
- Equipment procurement necessary for the installation.
- Supply and installation of one (1) precast beam and panel system for the repair.
- All precast components will match the existing structure's specifications and texture.
- Integral coloring of precast components as per the current design.
- Crane rental for the lifting and placement of precast materials.
- Inspection services to ensure compliance with structural standards.
- Delivery and installation of handrails on the mountain bike trail.
- Required mobilization of a 165-ton crane with operator and riggers for a period of 7 working days.
- Assistance of a secondary rigger for counterweights if necessary.
- Dump truck rental as required for hauling debris and materials.
- The Contractor must follow all industry standards and City specifications to ensure the proper repairs to the flyover bridge.
- The City reserves the right to inspect the work at any point during the repair process. Final acceptance will be based on a complete and satisfactory inspection of the Flyover Bridge by the City's designated representative.
- Upon completion of the project, the Contractor shall clean the worksite, removing all debris, equipment, and unused materials.

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

City Hall
305 SW A Street
Bentonville, AR 72712

EXHIBIT B

CONTRACTOR'S QUOTE

Project: Razorback Trail Flyover - NE A Street
Description: Storm Repairs

CROSSLAND HEAVY CONTRACTORS

Materials	# of Units	UOM	Unit Price		Extension
Precast Beam and Panels	1.0	LS	$ 20,946.00		$ 20,946.00
Small Tools and Supplies	1.0	LS	$ 2,094.60		$ 2,094.60
			Total Materials		**$ 23,040.60**
			Tax	***9.75%***	**$ 2,246.46**
			Fee	***6.5%***	**$ 1,643.66**
			Total Materials w/Fee		**$ 26,930.72**

Labor	Hourly $	# of Units	MH/U	Total MH	Extension
Assistant Superintendent	$115.00	1	70	70	$ 8,050.00
Craft Foreman	$64.00	1	70	70	$ 4,480.00
Skiled Laborer	$36.00	2	70	140	$ 5,040.00
			Total Labor		**$ 9,520.00**
			Fee	***6.5%***	**$ 618.80**
			Total Labor w/ Fee		**$ 10,138.80**

Equipment	Hours	Hourly Rate	Days	Day Rate	Extension
			Total Equipment		***$ -***
			Fee	***6.5%***	***$ -***
			Total Equipment w/Fee		***$ -***

Subcontractor	# of Units	UOM	Unit Price		Extension
Outside Crane Rental	1	LS	$ 49,401.90		$ 43,784.40
CMT Inspection	1	LS	$ 13,500.00		$ 13,500.00
Railing Sub - Mtn Bike Trail	1	LS	$ 36,714.00		$ 36,714.00
Dump Truck	3	HR	$ 105.00		$ 315.00
			Total Direct Cost		**$ 94,313.40**
			Fee	***6.5%***	**$ 6,130.37**
			Total Subcontractor w/Fee		**$ 100,443.77**

Total Amount		***$ 137,513.29***
Days Requested		***0***

JLBry-son Inc.
Construction · Fabrication
479-439-9171 | PO BOX 1479, Huntsville AR 72740 | jlbrysoninc.com

Office: 479.439.9171
PO Box 1479
Huntsville, AR 72740
20121 E Hwy 412
Springdale, AR 72764

Quote #: 1108
Date: 5/28/2024

Quoted To:
Stetson Beck
Crossland Heavy Contractors

Project Name
Razorback Bike Traffic Trail Repair

Scope:
- Fabrication and installation of (5) Handrail sections
- Delivery
- Bead Blasting of weathering steel
- Equipment for installation

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Exclusions:
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Payment schedule:

0%	down upon receipt of purchase order.	$	-
100%	at completion before delivery	$	36,714.00
		Totals: $	**36,714.00**

JL Bry-son Inc.
Construction · Fabrication
479-439-9171 | PO BOX 1479, Huntsville AR 72740 | jlbrysoninc.com

Office: 479.439.9171
PO Box 1479
Huntsville, AR 72740
20121 E Hwy 412
Springdale, AR 72764

Quote #: 1108
Date: 5/28/2024

Terms and Conditions:

- Quotation is valid for 30 calendar days.
- Delivery to jobsite Excluded.
- Weekend work if requested will be reimbursed as requested.
- Material tax Excluded.
- Bonds will be an additional 1.5%
- All fabrications in accordance with AISC.
- Market volatility may require raw material to be purchased as soon as feasibly possible; materials will be stored at JL Bryson facilities. If material prices increase before purchase order is received, JLB reserves the right to increase invoice as necessary to cover increased cost of material.
- Buyer agrees to pay for stored material when billed. Buyer agrees to pay all invoices in full within 30 days of invoice. No retainage shall be held. Buyer agrees to 1.5% monthly interest on any unpaid invoice after 30 days.
- JLB reserves the right to make corrections to this proposal if clerical or typographical errors are found.
- JLB is not responsible for faults or issues of electrical wiring.

Buyer hereby accepts quote, including pricing, exclusions, qualifications, and terms stated within this quote.

Signature:

Purchase order number: **Date:**

Must have signature, purchase order number, and date before JL Bry-son can start any construction or fabrication.

Thank you,

Matthew Hale
JL Bryson, Inc.

September 25, 2024

Crossland Construction Company, Inc.
Attn. Stetson Beck

Reference: Change Order #1 - REVISED
Precast Concrete Boardwalk Replacement Components
Razorback Trail (PTNA# 2022-1858)
Bentonville, AR

Dear Stetson:

As requested by you, we have prepared a cost estimate for the replacement PermaTrak scope that is described below.

The resulting scope change for PermaTrak is the following:

- Replace beam: (1) B29 (25'-1")
- Replace treads (16 Total): (4) T2, (2) T3, (1) T5, (6) T6, (1) T7, (1) T8, (1) T9
- All precast components, where required, shall be integrally colored to be the same color as the current PermaTrak scope.
- All treads will be formed with standard texture to match the current PermaTrak scope.
- Delivered to jobsite

PermaTrak can perform the above scope for an additional cost of $20,946.00. This cost does not include sales tax.

Please sign and return a copy via email to jphilbin@permatrak.com and this order will be fulfilled.

Accepted this _____day of _____, 2024

Buyer:_____.

By:_____.

Print Name:_____.

Title:_____.

Buyers P.O. #_____.

Respectfully submitted,

PermaTrak North America, LLC

By: _____.

Jason V. Philbin, P.E.

Title: President

TERMS AND CONDITIONS

Note: There is no binding understanding, term, condition, warranty, course of dealing or trade usage not fully expressed in these Terms and Conditions or an Attachment. The Contract constitutes the entire agreement between the parties and shall supersede and invalidate any prior written or verbal agreements that may be or have been in effect for the related subject matter. The terms of an Attachment shall control in the event of any conflict with these Terms and Conditions.

1. Definitions. The following definitions apply to these Terms and Conditions:

"Attachment" means any document prepared by PermaTrak that is (i) attached to these Terms and Conditions or (ii) expressly referred to in a document that constitutes an Attachment under (i).

"Contract" means these Terms and Conditions, any Attachment and any document mutually executed by PermaTrak and Purchaser intended to comprise the agreement between the parties for the Products and Services.

"Products" means precast products or other products that PermaTrak is to provide Purchaser in accordance with the Contract.

"Purchaser" means the entity to which PermaTrak is providing Products or Services under the Contract.

"PermaTrak" means PermaTrak North America LLC.

"Services" means all services that PermaTrak performs or has agreed to perform under the Contract.

2. Payment. Purchaser agrees to pay in full for the Products and Services without retainage or the right of set-off or back charges or similar charge without PermaTrak's written consent. If Purchaser fails to pay invoices when due or if PermaTrak has reasonable doubt of Purchaser's ability to pay at any time, PermaTrak may demand advance payment for subsequent deliveries or suspend or terminate performance without penalty. Purchaser agrees to comply with any other pricing terms or conditions contained in any Attachment.

3. Delivery; Title Transfer; Risk of Loss. Delivery will be FOB destination, with freight allowed to Purchaser's jobsite. Prices quoted include all shipping costs to the jobsite and are based on upon full truck loads as allowed by law. PermaTrak access to the jobsite will be provided by Purchaser, with all costs of such access to be borne by Purchaser. Any necessary construction of access roads is to be undertaken by Purchaser. Any costs associated with a delay in the delivery date within one week of the agreed upon delivery date shall be at Purchaser's expense. Waiting time in excess of one hour at the time of delivery will be charged according to local rates for equipment and operation. A fuel surcharge fee may also be added at the time of invoice.

4. Acceptance of Products. Purchaser shall be deemed to have accepted the Products on the earlier of (i) actual acceptance by Purchaser or Purchaser's representative or (ii) the 5th day after delivery, if Products have not been rejected.

5. Limited Warranties. PermaTrak warrants that its precast products will, under normal conditions, maintain their structural integrity and shape for a period of 20 years from the date of installation. The foregoing warranty does not cover damage due to defective foundation work, faulty installation, loads in excess of those for which the products are designed, sudden impact, explosion, earthquake or other forces or conditions not within the scope of normal condition

With regard to other products, if any, sold by PermaTrak to Purchaser and with regard to Services, if any, provided by PermaTrak to Purchaser,, PermaTrak warrants that such products and Services will be free from manifestations of defects in material and workmanship for a period of one year after the date of delivery of the products or performance of the Services.

PERMATRAK MAKES NO OTHER WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO ANY PRODUCTS OR SERVICES. ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE DISCLAIMED AND EXCLUDED.

6. Limitation of Purchaser's Remedies and PermaTrak's Liability. In the case of precast products, PermaTrak's liability under this warranty shall be limited to, at PermaTrak's option, either repairing or providing replacements for the nonconforming products. In the case of other products, PermaTrak's liability shall be limited to, at PermaTrak's option, repairing, providing replacements for, or refunding the purchase price of, the nonconforming products. In the case of Services, PermaTrak's liability shall be limited to, at PermaTrak's option, reperforming or refunding the amount paid for the nonconforming Services

This warranty does not cover, and PermaTrak shall not be responsible for, costs and expenses incurred in connection with the removal of nonconforming precast or other products or the installation of replacement precast or other products. PermaTrak's total cumulative liability in any way arising from or pertaining to any Products or Services shall not in any case exceed the purchase price paid by Purchaser for such Products or Services. IN NO EVENT SHALL PERMATRAK HAVE ANY LIABILITY FOR COMMERCIAL LOSS, LOST PROFITS, CLAIMS FOR LABOR, OR CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES OF ANY TYPE, WHETHER PURCHASER'S CLAIM IS FOUNDED IN CONTRACT, TORT, WARRANTY, STRICT LIABILITY, NEGLIGENCE OR OTHERWISE. IT IS EXPRESSLY AGREED THAT PURCHASER'S REMEDIES EXPRESSED IN THIS PARAGRAPH ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES.

7. Force Majeure. In any event and in addition to all other limitations stated herein, PermaTrak shall not be liable for any act, omission, result or consequence, including but not limited to any delay in delivery or performance, which is (i) due to any act of God, the performance of any government order, local labor shortage, fire, flood or other casualty, governmental regulation or requirement, shortage or failure or raw material, supply, fuel, power or transportation, breakdown of equipment, or any cause beyond PermaTrak's reasonable control whether of similar or dissimilar nature to those above enumerated, or (ii) due to any strike, labor dispute, or difference with workers, regardless of whether or not PermaTrak is capable of settling any such labor problem.

8. Claims by Purchaser. Purchaser must notify PermaTrak of any claims for nonconforming or defective Products or Services within 30 days after the date within the applicable warranty period on which the nonconformity or defect was or should have been discovered by Purchaser or Purchaser's representative, or else Purchaser's claim will be barred. In addition, PermaTrak must be given an opportunity to investigate the claim before Purchaser disposes of the Products or prevents performance of the Services, or else Purchaser's claim will be barred. Any lawsuit or other action by Purchaser based upon breach of the Contract must be commenced within one year from the date of delivery by PermaTrak or, in the case of a cause of action based upon an alleged breach of warranty, within one year from the date within the applicable warranty period on which the defect is or should have been discovered by Purchaser or Purchaser's representative.

9. Intellectual Property. Purchaser acknowledges that it does not have any existing right, title, or interest in or to any intellectual property related to the Products, Services, or designs provided in connection with the Contract. The Contract does not convey any proprietary interest in any intellectual property related to the Products, Services or the designs provided in connection with the Contract, or grant Purchaser any rights of ownership or to the use of these designs.

10. Taxes. Prices are exclusive of and subject to federal, state and local taxes where applicable.

11. PermaTrak's Right of Termination. In addition to the other rights of termination provided for in the Contract, and if the Contract is made pursuant to any governmental rule or regulation, plan, order or other directive, upon the termination thereof, PermaTrak shall have the option of canceling the Contract in whole or in part.

12. Waiver. Failure or inability of either party to enforce any right hereunder shall not waive any right with respect to any other or future rights or occurrences.

13. Modification; Assignment. No modification, assignment or transfer of the Contract after approval shall be binding upon PermaTrak unless in writing and signed by PermaTrak.

14. Severability. In case any provision of this Contract shall be declared invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired.

15. Applicable Law. This Contract shall be governed by, and construed and enforced in accordance with, the laws of the State of North Carolina. Purchaser and PermaTrak specifically agree that any legal action brought relating to this Contract will be brought and tried in a state or federal court in Mecklenburg County, North Carolina.

16. Attorney Fees and Costs: If any lawsuit is brought to declare the effect of or to enforce any provision of the Terms and Conditions, or to declare the effect of or enforce any right or remedy arising via the quotation and/or the parties' agreement, the prevailing party in such a lawsuit shall be entitled to recover its reasonable attorneys' fees and costs.

Holmes Erection Inc.

Erection, Rigging, Crane Rental
5107-Wheeler Avenue
Fort Smith, AR 72901
479-646-4331 Fax 479-646-6676

Crane Estimate

September 26th, 2024
Croslsand Heavy
ATTN: Stetson Beck
Email: sbeck@heavycontractors.com

The following is an estimate to supply the necessary crane needed to set precast In Bentonville.

Equipment/Items involved	Qty of Hours / Items	Hourly Rate/ Item Prices	TOTAL
Mobilization In	0	$ -	$ 1,770.00
Mobilization Out	0	$ -	$ 1,770.00
165-ton - Includes operator and 1 rigger	70	$ 460.00	$ 32,200.00
~~Extra rigger (if requested)~~	~~70~~	~~$ 75.00~~	~~$ 5,250.00~~
2nd Load of counter-weights (2nd rigger)	0	$ 130.00	$ -
Overtime - Operator & Rigger(s)	14	$ 120.00	$ 1,680.00
Crane Travel Permits	2	$ 175.00	$ 350.00
perdiem	7	$ 450.00	$ 3,150.00
	0	$ -	No Charge
		Sub-total	$ 40,920.00 ~~46,170.00~~
		7% Safety and Enviromental fee added to total	$ 2,864.40 ~~3,231.90~~
		Overall Total	$ 43,784.40 ~~49,401.90~~

NOTE:

1) Overtime rate above will be applicable to any work over 8 hours, past 4:30PM, or weekends/holidays

2) This is for (7) 10-hour working days with the crane, any extra time will be billed additional.

3) This work is to be completed during regular working days during daylight hours (Monday-Friday)

Exclusions:

1) Connecting/disconnecting of any connections
2) Flagging off crane work radius' while crane is in use and prior to arrival.

ACCEPTANCE OF PROPOSAL

_____ _____

Authorized Signature **Date** **Eli Stringer- Estimator**

Note: This proposal may be withdrawn by us if not accepted within 30 days.

NOTE This proposal must be signed and returned before any work can begin with this project.

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

City Hall
305 SW A Street
Bentonville, AR 72712

EXHIBIT C

FEMA CONTRACT LANGUAGE

CONTRACT ADDENDUM _____
FEMA CONTRACT REQUIREMENTS

ARTICLE 1. REQUIRED CONTRACT PROVISIONS

1.01 Contract Requirements.

This contract may be eligible for FEMA reimbursement. FEMA requires inclusion of the following contract provisions for procurement under exigent or emergency circumstances. The Parties must comply with these provisions as a minimum. In the event of a conflict with other provisions in this contract that address the same or a similar requirement, the provisions that are stricter and impose the greater duties upon Contractor shall apply.

1.02 Remedies.

In addition to all other remedies included in this contract, Contractor shall, at a minimum, be liable to the City for all foreseeable damages it incurs as a result of Contractor violation or breach of the terms of this contract. This includes without limitation any costs incurred to remediate defects in Contractor's services and/or the additional expenses to complete Contractor's services beyond the amounts agreed to in this contract, after Contractor has had a reasonable opportunity to remediate and/or complete its services as otherwise set for in this contract. All remedies provided for in this contract may be exercised individually or in combination with any other remedy available hereunder or under applicable laws, rules and regulations. The exercise of any remedy shall not preclude or in any way be deemed to waive any other remedy.

1.03 Termination.

(1) *Termination for Convenience by the City.* In compliance with 2 C.F.R. Part 200, Appendix II(B), the city reserves the right to terminate this Contract, without any penalty whatsoever, upon fifteen (15) calendar days' notice to the Contractor.

(2) *Termination for Cause.* In compliance with 2 C.F.R. Part 200, Appendix II(B), if either party fails to perform a material obligation under this Contract, the other party may consider the non-performing party to be in default and may assert a default claim by giving the non-performing party a written and detailed notice of default. "Material" shall mean an essential term or obligation of this Contract. Except for default by a party for failing to pay any amount when due under this Contract, which must be cured within ten (10) calendar days after the receipt of written notice of default, the defaulting party will have will have ten (10) calendar days after receipt of the written notice of default to either (i) cure the default or (ii) if the default is not curable within ten (10) calendar days, to provide a written cure plan. The defaulting party will begin implementation of

the cure plan immediately after receipt of written notice that the other party approves the plan. If the defaulting party fails to cure the default, the non-defaulting party may terminate any unfulfilled portion of this Contract. Upon termination of this Contract, each party shall pay to the other party any funds due under this Contract up to the date of termination. In the event of termination, all finished or unfinished drawings, surveys, and reports prepared by the Contractor shall, at the option of the City, become the City's property, and the Contractor shall be entitled to receive just and equitable compensation for services rendered in accordance with the Contract Documents up to the effective date of termination pursuant to the terms of the Contract Documents, as long as the total payment to the Contractor does not exceed the maximum compensation set forth in the agreement.

ARTICLE 2. ADDITIONAL REQUIRED CONTRACT PROVISIONS

2.01 Nondiscrimination and Equal Employment Opportunity.

Pursuant to 41 C.F.R Part 60-1.4(b), during the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a

formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided,* that if the applicant so participating is a state or

local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

2.02 Compliance with the Davis-Bacon Act

(1) All transactions regarding this contract shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141- 3144, and 3146-3148) and the requirements of 29 C.F.R. pt. 5 as may be applicable. The contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable.

(2) Contractors are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor.

(3) Additionally, contractors are required to pay wages not less than once a week.

2.03 Compliance with the Copeland “Anti-Kickback” Act.

(1) *Contractor.* The contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.

(2) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier

subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

(3) *Breach.* A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12.

2.04 Compliance with the Contract Work Hours and Safety Standards Act.

(1) *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation, in the sum of $27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required.

(3) *Withholding for unpaid wages and liquidated damages.* The City of Bentonville shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages.

(4) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses set forth in herein and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor.

2.04 Clean Air Act and the Federal Water Pollution Control Act.

<u>Clean Air Act</u>

(1) The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

(2) The contractor agrees to report each violation to the City of Bentonville and understands and agrees that the City of Bentonville will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

(3) The contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.

Federal Water Pollution Control Act

(1) The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

(2) The contractor agrees to report each violation to the City of Bentonville and understands and agrees that the City of Bentonville will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

(3) The contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.

2.05 Suspension and Debarment.

(1) This contract is a covered transaction for the purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(2) The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) This certification is a material representation of fact relied upon by City of Bentonville. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available

to City of Bentonville, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

2.06 Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended).

(1) Contractors who apply or bid for an award of $100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

(2) Appendix A, 44 C.F.R. Part 18 – Certification Regarding Lobbying

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

_____
Signature of Contractor's Authorized Official

_____
Name and Title of Contractor's Authorized Official

_____
Date

2.07 Procurement of Recovered Materials, 2 C.F.R., Appendix II(J); and 2 C.F.R. §200.322.

(1) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired –

1. Competitively within a timeframe providing for compliance with the contract performance schedule;

2. Meeting contract performance requirements; or

3. At a reasonable price.

(2) Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

(3) The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

ARTICLE 3. FEMA-RECOMMENDED CONTRACT PROVISIONS

3.01 Access to Records.

The following access to records requirements apply to this Contract:

(1) The Contractor agrees to provide the City of Bentonville, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.

(2) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

(3) The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the Contract.

(4) In compliance with the Disaster Recovery Act of 2018, the City of Bentonville and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

3.02 Changes/Modifications.

(1) *Contract.* Any modification to this Contract shall be in writing, signed by all parties to the Contract.

(2) *Contract Price.* The total Contract Price plus shall not be increased without the prior approval of the Bentonville City Council in the form of a Council resolution and prior written approval signed by the City's Mayor.

(3) *Change Order.* The City of Bentonville may, at any time, as the need arises, order changes in the scope of the Work without invalidating the Contract, provided, the cost of the change, modification, change order, or constructive change is allowable, allocable, within the scope of grant or cooperative agreement, and reasonable for the completion of project scope. Any changes to the Work shall be set forth in writing in a

Change Order signed by the Mayor or the Mayor's designee. If such changes increase or decrease the time required for performance of the Work, an equitable adjustment may be authorized by a Change Order signed by the Mayor and approved by the Bentonville City Council, if necessary or required.

(4) *Modification.* No conditions, usage of trade, course of dealing or performance, understanding or agreement purporting to modify, vary the terms or conditions of this Contract shall be binding unless hereafter made in writing and signed by the party to be bound, and modification shall be effected by the acknowledgment or acceptance of any forms containing terms or conditions or variance with or in addition to those set forth in this Contract.

3.03 Non-Use of DHS Seal, Logo, and Flags.

The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

3.04 Compliance with Federal Law, Regulations, and Executive Orders.

This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the Contract. The Contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives.

3.05 No Obligation by the Federal Government.

The Federal Government is not a party to this Contract and is not subject to any obligations or liabilities to the non-federal entity, contractor, or any other party pertaining to any matter resulting from the Contract.

3.06 Program Fraud and False or Fraudulent Statements or Related Acts.

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this Contract.

ORDINANCE NO. _____

AN ORDINANCE AUTHORIZING THE MAYOR AND THE CITY CLERK TO ENTER INTO AN AGREEMENT WITH CROSSLAND HEAVY CONTRACTORS, INC., TO REPAIR THE FLYOVER BRIDGE, IN THE AMOUNT OF ONE HUNDRED THIRTY-SEVEN THOUSAND FIVE HUNDRED THIRTEEN DOLLARS AND TWENTY-NINE CENTS ($137,513.29); ADJUSTING THE 2024 BUDGET; WAIVING THE REQUIREMENT OF COMPETITIVE BIDDING; PROVIDING FOR THE EMERGENCY CLAUSE; AND FOR OTHER PURPOSES.

WHEREAS, following the storm on May 26, 2024, the Razorback Greenway Flyover Bridge at NE A Street was damaged and has been permanently closed;

WHEREAS, due to the bridge being under warranty, consulting was completed with Crossland Heavy Contractors, they have extended a fair and reasonable price for repairs and Staff recommends a bid waiver to preserve the existing warranty; and

WHEREAS, this will be funded by General Fund Reserves and, whatever portion is not covered by the property insurance claim, will be submitted to FEMA for seventy-five percent (75%) reimbursement.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS.

Section 1: That the Mayor and City Clerk are hereby authorized to enter into an agreement with Crossland Heavy Contractors, Inc. to complete repairs on the Flyover Bridge at NE A Street, in an amount not too exceed one hundred thirty-seven thousand five hundred thirteen dollars and twenty-nine cents ($137,513.29);

Section 2: The 2024 Budget is adjusted to appropriate one hundred thirty-seven thousand five hundred thirteen dollars and twenty-nine cents ($137,513.29) from General Fund Reserve to Account #105030-44430 – Building/Ground Maintenance;

Section 3: In order to preserve the warranty, there exists an exceptional circumstance whereby the requirements of competitive bidding are neither practical nor feasible and the City Council hereby waives that requirement;

Section 4 - Emergency Clause: The need to make this purchase is immediate and an emergency is hereby declared to exist and this Ordinance shall be in full force and effect from the date of its passage and approval;

Section 5 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 6 - Repeal of Conflicting Ordinances: All Ordinances of the City Council, or parts of Ordinances of the City Council, in conflict herewith are hereby repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

ATTEST:

_____
STEPHANIE ORMAN, Mayor

_____
MALORIE MARRS, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Greg Hughes
Phone:	479-696-0204	**For Department(s):**	Parks & Recreation
Email:	ghughes@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☑ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution to Award Bid IFB-24-56 to Skyline Printing for 2025 Run Bentonville Hoodies
Action Recommendation & Justification:	Resolution to award bid IFB-24-56: 2025 Run Bentonville Hoodies to Skyline Printing per the unit prices attached. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	Skyline Printing provided the lowest bid.
Amount for Approval:	$

Budget Impact

Is this Item Budgeted? ☑ YES ☐ NO ☐ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

This expense has been budgeted.

CITY OF BENTONVILLE, ARKANSAS PURCHASING DEPARTMENT

FORMAL SEALED BID TABULATION

Date of Bid Opening:	8/22/2024	Time of Bid Opening:	1:30 PM CST	Solicitation ID Number:	IFB-24-56

Solicitation Title: 2025 Run Bentonville Half Marathon Finisher Hoodies

				Bidders:	Greenlayer		Fyre Marketing		Skyline Printing		Jet Custom Screenprinting Bid Style #1		Jet Custom Screenprinting Bid Style #2		Jet Custom Screenprinting Bid Style #3		Canwell MTS LLC	
Line Item	Estimated Quantity	Unit of Measure	Description		Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price
1	400	EA	Extra Small Hoodie, as specified		*Greenlayer's Bid Submission was rejected during Bid Evaluation due to sending multiple samples within the same bid submission.		$7.99	$3,196.00	$7.88	$3,152.00	$10.15	$4,060.00	$9.05	$3,620.00	*Jet Custom Screenprinting had one bid rejected during Bid Evaluation due to the bid form being altered.		*Canwell MTS LLC's Bid Submission was rejected due to missing sample submission	
2	800	EA	Small Hoodie, as specified				$7.99	$6,392.00	$7.88	$6,304.00	$10.15	$8,120.00	$9.05	$7,240.00				
3	1,100	EA	Medium Hoodie, as specified				$7.99	$8,789.00	$7.88	$8,668.00	$10.15	$11,165.00	$9.05	$9,955.00				
4	1,000	EA	Large Hoodie, as specified				$7.99	$7,990.00	$7.88	$7,880.00	$10.15	$10,150.00	$9.05	$9,050.00				
5	300	EA	Extra Large (XL) Hoodie, as specified				$7.99	$2,397.00	$7.88	$2,364.00	$10.15	$3,045.00	$9.05	$2,715.00				
6	75	EA	Double Extra Large (XXL) Hoodie, as specified				$7.99	$599.25	$9.53	$714.75	$11.25	$843.75	$10.10	$757.50				
7	25	EA	Triple Extra Large (XXXL) Hoodie, as specified				$7.99	$199.75	$10.62	$265.50	$11.75	$293.75	$10.75	$268.75				
				Total Bid Price			$29,563.00		$29,348.25		$37,677.50		$33,606.25					

purchasing@bentonvillear.com - (479) 271-3115

RESOLUTION NO. _____

A RESOLUTION AWARDING BID #IFB-24-56; AUTHORIZING THE MAYOR AND CITY CLERK TO ENTER INTO AN AGREEMENT WITH SKYLINE PRINTING; AND FOR OTHER PURPOSES.

WHEREAS, Skyline Printing is the lowest qualified bidder for bid #IFB-24-56;

WHEREAS, this agreement covers the purchase of hoodies for the 2025 Run Bentonville on a per unit price; and

WHEREAS, this is a budgeted item.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are authorized to enter into an agreement with Skyline Printing, for the purchase of hoodies for the 2025 Run Bentonville, on a per unit price;

Section 2: The total estimated purchase cost, per unit price, is twenty-nine thousand three hundred forty-eight dollars and twenty-five cents ($29,348.25);

Section 3 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, MAYOR

ATTEST:

_____
Malorie Marrs, CITY CLERK

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Tracy Billings
Phone:	479-696-0229	**For Department(s):**	Transportation
Email:	tbillings@bentonvillear.com		

Item Type (Check all that apply)

☐ **Informational** ☐ **Bid Award** ☐ **Enter into an Agreement** ☐ **Change Order**
☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☐ **Emergency Clause**
☐ **Ordinance** ☑ **Resolution** ☐ **Informational**

Title, Recommendation & Justification

Title:	Resolution Setting a Public Hearing for a Utility Easement Vacation (VAC24-0010)
Action Recommendation & Justification:	Approve Resolution to set Public Hearing for November 12, 2024 for Utility Easement Vacation located at Lot 16 of Loesche Subdivision (VAC24-0010).
Additional Comments for Consideration (Optional):	
Amount for Approval:	$ 0

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☐ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

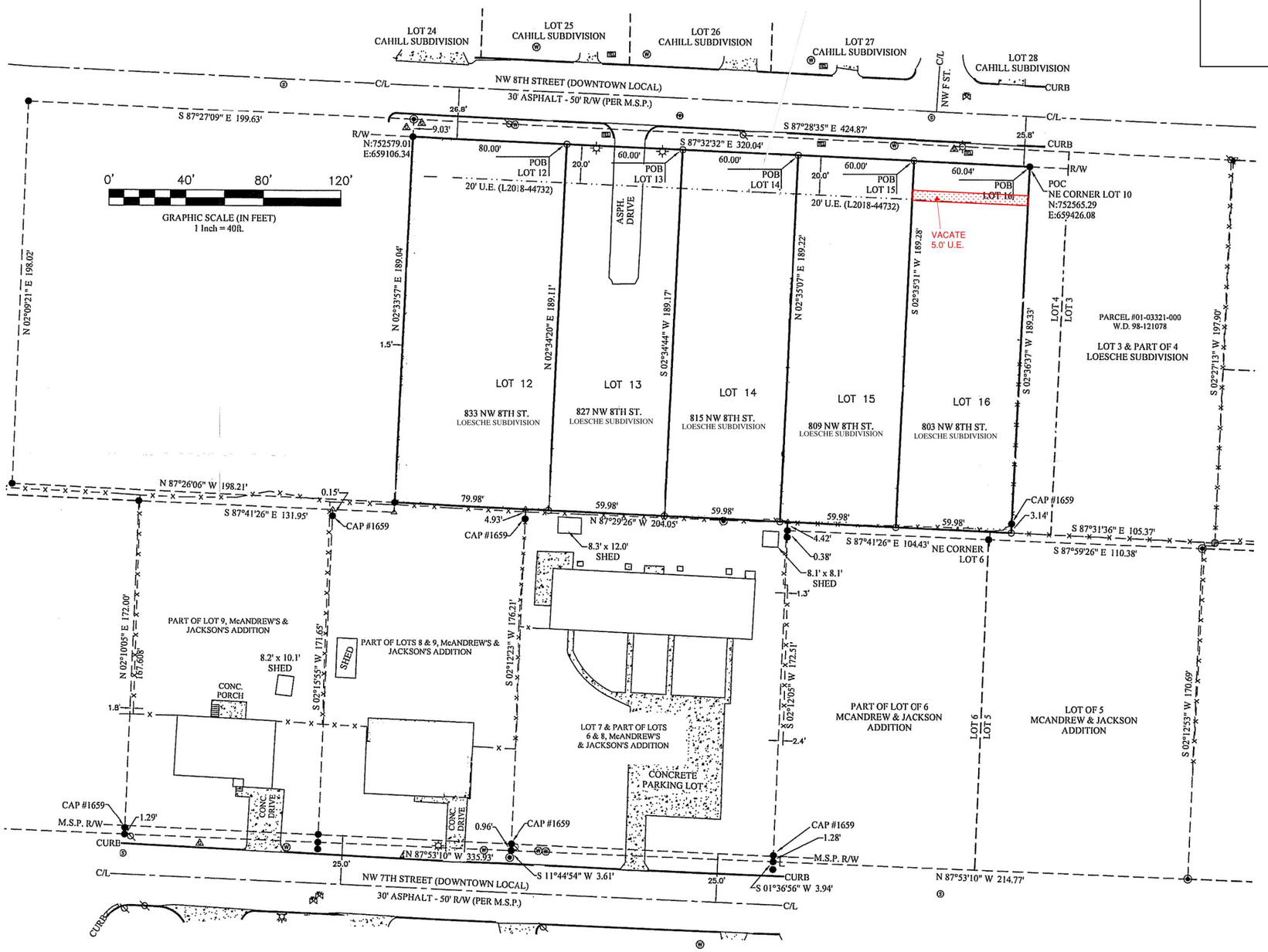
Budget Impact Notes for Consideration (Optional):

UTILITY EASEMENT VACATION
803 NW 8TH ST

RECORDING NUMBER/DATE

LEGEND

EASEMENT VACATION



RESOLUTION NO._____

IN THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

WHEREAS, a petition was duly filed with the City Council of Bentonville, Arkansas by Steve Domahidy requesting utility easement vacation (VAC24-0010) within the City of Bentonville, Arkansas be vacated, which said utility easement is described as follows:

A PORTION OF AN EXISTING UTILITY EASEMENT LOCATED ON A PART OF LOT 16 OF LOESCHE SUBDIVISION, TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, SAID EASEMENT DEDICATED PER DOCUMENT NO. L201844723, SAID PORTION OF EASEMENT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO-WIT: BEGINNING AT A POINT WHICH IS S02°36'37"W 15.00' FROM AN EXISTING REBAR MARKING THE NORTHEAST CORNER OF SAID LOT 16 AND RUNNING THENCE S02°36'37"W 5.00', THENCE N87°32'32"W 60.04', THENCE N02°36'37"E 5.00', THENCE S88°32'32"E TO THE POINT OF BEGINNING, CONTAINING 0.0069 ACRES, MORE OR LESS.

WHEREAS, Ark. Code Ann. Section 14-301-302(c) provides that the City Council shall by resolution fix a day for the hearing of the petition and shall direct the City Clerk and Recorder to give notice of the meeting, by publication, once per week for two (2) consecutive weeks in some newspaper published in and having general circulation in Bentonville, Benton County, Arkansas.

NOW, THEREFORE, BE IT RESOLVED, by the City of Bentonville, Arkansas, that the petition to close the above described utility easement is set for a hearing November 12, 2024 at 6:00 p.m. in the City Council Room of the City of Bentonville, Arkansas, and the Bentonville City Clerk and Recorder is directed to give notice of this meeting by publication as set forth by Ark. Code Ann. Section 14-301-302(c).

The above and foregoing resolution was passed, approved, and adopted the_____ day of _____, 2024 at a regular meeting of the City Council of the City of Bentonville, Arkansas.

_____
Malorie Marrs, City Clerk
Bentonville, Arkansas

_____
Stephanie Orman, Mayor
City of Bentonville, Arkansas

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/8/2024	**Submitted By:**	Dan Weese
Phone:	479-254-2024	**For Department(s):**	Transportation
Email:	dweese@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution to Purchase Bat Mitigation Credits - J Street Interchange - The Conservation Fund
Action Recommendation & Justification:	Staff requests approval to allow the Mayor to authorize the purchase of bat mitigation credits from The Conservation Fund for the removal of 32.1 acres of suitable summer foraging habitat (trees). Mitigation is for the J Street Interchange project (PIIP22-0038). No budget adjustment is needed.
Additional Comments for Consideration (Optional):	
Amount for Approval:	$ 334,931.40

Budget Impact

Is this Item Budgeted? ☐ YES ☑ NO ☐ ITEM HAS NO COST ☐ OTHER: 2021 Street Bond

Budget Adjustment *(to be completed by Finance when applicable)*

Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description	$ Expense	$ Revenue

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s): _____

Budget Impact Notes for Consideration (Optional):

IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arkansas Ecological Service Field Office
110 South Amity Road, Suite 300
Conway, Arkansas 72032

May 2, 2024

Mr. Mr. Josh Seagraves
c/o Kayti Ewing
Arkansas Department of Transportation
10324 Interstate 30
Little Rock, Arkansas 72209

Consultation Code: 2022-0030877

Dear Mr. Seagraves:

The U.S. Fish and Wildlife Service (Service) reviewed your April 25, 2024, request, assessment, and determinations for Arkansas Department of Transportation (ArDOT) Job 090676, I-49/NE J St. Intchng. (Bentonville) (S) in Benton County, Arkansas. ARDOT is planning to construct a new interchange along Interstate 49 (I-49) that would provide a connection to NE J Street in Bentonville. Approximately 4.7 acres of direct habitat impacts will occur within 100 feet from existing roads and 27.4 acres will occur beyond 100 feet from existing roads. In total, 32.1 acres of trees would be cleared. In addition, the proposed project will convert approximately 12.4 acres of potentially suitable herbaceous habitat to transportation use.

The official species list obtained from the Service's Information for Planning and Consultation (IPaC) identified the following endangered and threatened species, proposed species, and candidate species as potentially occurring within the project boundaries; the endangered Gray Bat (*Myotis grisescens*), the endangered Indiana Bat (IBAT) (*Myotis sodalis*), the endangered Northern Long-eared Bat (NLEB) (*Myotis septentrionalis*), the endangered Ozark Big-eared Bat (*Corynorhinus (=Plecotus) townsendii ingens*), the proposed endangered Tricolored Bat (*Perimyotis subflavus*), the threatened Eastern Black Rail (*Laterallus jamaicensis ssp. jamaicensis*), the threatened Piping Plover (*Charadrius melodus*), the threatened Red Knot (*Calidris canutus rufa*), the proposed threatened Alligator Snapping Turtle (*Macrochelys temminckii*), the threatened Ozark Cavefish (*Amblyopsis rosae*), the endangered Neosho Mucket (*Lampsilis rafinesqueana*), the candidate Monarch Butterfly (*Danaus plexippus*), and the threatened Missouri Bladderpod (*Physaria filiformis*).

This project was found to be outside of the scope of the "FHWA, FRA, FTA Programmatic Consultation for Transportation Projects affecting NLEB or IBAT; therefore, ARDOT provided an assessment, determinations, avoidance and minimization measures (AMMs), and conservation measures for these species. The Service agrees with your assessment and concurs with your determinations of "may affect, not likely to adversely affect" for IBAT and NLEB.

The assessment indicated that this action would cause direct impacts through conversion of approximately 32.1 acres of summer foraging habitat. As an AMM for the action, ARDOT proposes a project restriction that, tree clearing will only occur during the inactive season. ARDOT does not intend to perform a presence/absence survey for threatened/endangered bat species due to the project schedule. The City of Bentonville concurred with ARDOT's recommendation to incorporate voluntary conservation measures (VCM) and committed to contribute $334,931 into the Range-wide Indiana Bat and Northern Long-eared Bat In-Lieu Fee Program for the removal of 32.1 acres of suitable summer foraging habitat.

The Service believes that due to the location of the area being affected occurring within mostly developed and fragmented habitat along or adjacent to existing roadways, having relatively limited suitable contiguous habitat within the footprint of the action, the distance to known species locations, distance to known karst recharge areas, application of AMMs including inactive season only clearing restrictions, and the proposed VCMs; we cannot be reasonably certain that this action will have anything more than insignificant and/or discountable direct or indirect effects to these species that are not measurable/detectable. Based on these factors, ARDOT made a determination of NLAA for these species and the Service concurs.

For similar reasons and the implementation of standard SPs/BMPs for sediment, erosion, and contaminants, the Service concurs with ARDOT's determination of "may affect, not likely to adversely affect" for the Gray Bat, Ozark Big-eared Bat, Ozark Cavefish, and Neosho Mucket, as we cannot be reasonably certain that this action will have anything more than insignificant and/or discountable direct or indirect effects to these species that are not measurable/detectable. Furthermore, the Service concurs with your non-jeopardy determinations for Tri-colored Bat and Alligator Snapping Turtle. This concurrence concludes your ESA Section 7 responsibilities for these species related to this action.

The Monarch Butterfly is a candidate species, and as such, is not federally protected under the ESA. However, the Service recommends agencies implement conservation measures for candidate species in action areas, as these are species by definition that may warrant future protection under the Act. In accordance with the 2020 Voluntary Prelisting Species Conservation Program (VPL Program), ARDOT will plant and maintain native wildflowers after construction as a conservation measure. The Service appreciates and supports this voluntary conservation action.

In addition to the federally listed species conservation measures, ARDOT proposed AMMs to be implemented into the project design for other species and habitats of conservation concern, including migratory bird conservation and stream/spring protection. These measures include seasonal tree clearing restrictions as mentioned previously that will benefit bats, migratory birds, and other fish and wildlife; the ARDOT Special Provisions (SPs); Stormwater BMPs; vegetation buffers; and Erosion and Sediment Control BMPs that will minimize effects and benefit a wide

range of species and help conserve habitat. The Service agrees with and supports ARDOT in implementing the proposed AMMs.

In summary, the Service has no additional comments or concerns, concurs with your determinations. The Service recommends that your agency contact the Arkansas Ecological Services Field Office to re-initiate consultation or re-evaluate the determination key(s) in IPaC if: 1) the scope, timing, duration, or location of the proposed project changes, 2) new information/surveys reveal the action may affect listed species or designated critical habitat; a karst feature is encountered; or 3) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Arkansas Ecological Services Field Office should take place before project changes are final or resources are committed.

For further assistance or if you have any questions, please contact Lindsey Lewis at (501) 513-4489 or lindsey_lewis@fws.gov.

Sincerely,

CHRISTOPHER DAVIDSON Digitally signed by CHRISTOPHER DAVIDSON Date: 2024.05.02 16:02:17 -05'00'

Chris Davidson
Acting Field Supervisor

cc: Project File
Read File
Filename: https://doimspp-my.sharepoint.com/personal/lindsey_lewis_fws_gov/Documents/Documents/PROJECTS/FY2024/ARDOT/ARDOT Job 090676 - NE J Street- I-49 Interchange/20240429_Ltr_Concurrence_ARDOT Job 090676 - I-49 - NE J St Intchng_LCL.docx

IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arkansas Ecological Service Field Office
110 South Amity Road, Suite 300
Conway, Arkansas 72032

September 4, 2024

Mr. Josh Seagraves
c/o Kayti Ewing
Arkansas Department of Transportation
10324 Interstate 30
Little Rock, Arkansas 72209

Consultation Code: 2022-0030877

Dear Mr. Seagraves:

The U.S. Fish and Wildlife Service (Service) reviewed your April 25, 2024, request, assessment, and determinations for Arkansas Department of Transportation (ArDOT) Job 090676, I-49/NE J St. Intchng. (Bentonville) (S) in Benton County, Arkansas. ARDOT is planning to construct a new interchange along Interstate 49 (I-49) that would provide a connection to NE J Street in Bentonville. Approximately 4.7 acres of direct habitat impacts will occur within 100 feet from existing roads and 27.4 acres will occur beyond 100 feet from existing roads. In total, 32.1 acres of trees would be cleared. In addition, the proposed project will convert approximately 12.4 acres of potentially suitable herbaceous habitat to transportation use. **This letter is a supplemental revision to our May 2, 2024, letter and contains a minor addition of details related to the species and calculations of conservation measures used for reporting purposes. This is not a re-initiation of consultation.**

The official species list obtained from the Service's Information for Planning and Consultation (IPaC) identified the following endangered, threatened, proposed, and candidate species as potentially occurring within the project boundaries; gray bat (*Myotis grisescens*), Indiana bat (IBAT) (*Myotis sodalis*), northern long-eared bat (NLEB) (*Myotis septentrionalis*), Ozark big-eared bat (*Corynorhinus (=Plecotus) townsendii ingens*), endangered tricolored bat (*Perimyotis subflavus*), eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), alligator snapping turtle (*Macrochelys temminckii*), Ozark cavefish (*Amblyopsis rosae*), Neosho mucket (*Lampsilis rafinesqueana*), monarch butterfly (*Danaus plexippus*), and Missouri bladderpod (*Physaria filiformis*).

This project was found to be outside of the scope of the "FHWA, FRA, FTA Programmatic Consultation for Transportation Projects affecting NLEB or IBAT; therefore, ARDOT provided an assessment, determinations, avoidance and minimization measures (AMMs), and conservation measures for these species. The Service agrees with your assessment and concurs with your determinations of "may affect, not likely to adversely affect" for IBAT and NLEB.

The assessment indicated that this action would cause direct impacts through conversion of approximately 32.1 acres of summer foraging habitat. As an AMM for the action, ARDOT proposes a project restriction that tree clearing will only occur during the inactive season. ARDOT does not intend to perform a presence/absence survey for threatened/endangered bat species due to the project schedule. The City of Bentonville concurred with ARDOT's recommendation to incorporate voluntary conservation measures (VCM) and committed to contribute $334,931 into the Range-wide Indiana Bat and Northern Long-eared Bat In-Lieu Fee Program for the removal of 32.1 acres of suitable summer foraging habitat.[1]

The Service believes that due to the location of the area being affected occurring within mostly developed and fragmented habitat along or adjacent to existing roadways, having relatively limited suitable contiguous habitat within the footprint of the action, the distance to known species locations, distance to known karst recharge areas, application of AMMs (including inactive season only clearing restrictions), and the proposed VCMs, we cannot be reasonably certain that this action will have anything more than insignificant or discountable direct or indirect effects to these species that are not measurable/detectable. Based on these factors, ARDOT made a determination of NLAA for these species and the Service concurs.

For similar reasons and implementation of standard special provisions (SPs)/best management practices (BMPs) for sediment, erosion, and contaminants, the Service concurs with ARDOT's determination of "may affect, not likely to adversely affect" for the gray Bat, Ozark big-eared bat, Ozark cavefish, and Neosho mucket, as we cannot be reasonably certain that this action will have anything more than insignificant and/or discountable direct or indirect effects to these species that are not measurable/detectable. Furthermore, the Service concurs with your non-jeopardy determinations for tricolored bat and alligator snapping turtle. This concurrence concludes your ESA Section 7 responsibilities for these species related to this action.

The monarch butterfly is a candidate species, and as such, is not federally protected under the ESA. However, the Service recommends agencies implement conservation measures for candidate species in action areas, as these are species by definition that may warrant future protection under the Act. In accordance with the 2020 Voluntary Prelisting Species Conservation Program (VPL Program), ARDOT will plant and maintain native wildflowers after construction as a conservation measure. The Service appreciates and supports this voluntary conservation action.

In addition to the federally listed species conservation measures, ARDOT proposed AMMs to be implemented into the project design for other species and habitats of conservation concern, including migratory bird conservation and stream/spring protection. These measures include seasonal tree clearing restrictions as mentioned previously that will benefit bats, migratory birds, and other fish and wildlife; the ARDOT SPs; Stormwater BMPs; vegetation buffers; and Erosion and Sediment Control BMPs that will minimize effects and benefit a wide

range of species and help conserve habitat. The Service agrees with and supports ARDOT in implementing the proposed AMMs.

In summary, the Service has no additional comments or concerns, concurs with your determinations. The Service recommends that your agency contact the Arkansas Ecological Services Field Office to re-initiate consultation or re-evaluate the determination key(s) in IPaC if: 1) the scope, timing, duration, or location of the proposed project changes, 2) new information/surveys reveal the action may affect listed species or designated critical habitat; a karst feature is encountered; or 3) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Arkansas Ecological Services Field Office should take place before project changes are final or resources are committed.

For further assistance or if you have any questions, please contact Lindsey Lewis at (501) 513-4489 or lindsey_lewis@fws.gov.

Sincerely,

CHRISTOPHER DAVIDSON

Digitally signed by CHRISTOPHER DAVIDSON
Date: 2024.09.04 11:14:45 -05'00'

For Jason Hight
Field Supervisor

cc: Project File
Read File
Filename: https://doimspp-my.sharepoint.com/personal/lindsey_lewis_fws_gov/Documents/Documents/PROJECTS/FY2024/ARDOT/Logged/ARDOT Job 090676 - NE J Street- I-49 Interchange/20240904_Ltr_Concurrence_ARDOT Job 090676 - I-49 - NE J St Intchng_LCL.docx

[1] A ratio of 1.5 was used to get 48.15 acres of conservation credits (32.1 acres of cleared habitat x 1.5) for both Indiana Bat and Northern Long-eared Bat species resulting in a total stacked credit calculation of $334,931 for voluntary conservation contribution.

THE CONSERVATION FUND

INVOICE

Attention Accounts Receivable
1655 N. Fort Myer Dr., Suite 1300
Arlington, VA 22209
Phone: 703-525-6300
Fax: 703-525-4610

DATE: September 4, 2024

INVOICE # 1

Address:

Jarrod Brightwell, PE
Staff Engineer
City Of Bentonville Engineering Dept
3200 SW Municipal Dr
Bentonville, AR 72712
#479-418-8675
jbrightwell@bentonvillear.com

For: Payment to TCF Ibat In-Lieu Fee Arkansas Account # 15052

Please make checks payable to The Conservation Fund
The Conservation Fund (TCF) waives the Late Payment Penalty (LPP) for this invoice.

DESCRIPTION	AMOUNT
Job 090676, I-49/NE J St. Intchng. (Bentonville) in Benton County, Arkansas. USFWS Project Code:2022-0030877	$334,931.40
BALANCE DUE	$ 334,931.40

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR AND CITY CLERK TO ENTER INTO AN AGREEMENT WITH THE CONSERVATION FUND FOR THE PURCHASE OF BAT MITIGATION CREDITS, IN AN AMOUNT NOT TO EXCEED THREE HUNDRED THIRTY-FOUR THOUSAND NINE HUNDRED THIRTY-ONE DOLLARS AND FORTY CENTS ($334,931.40); AND FOR OTHER PURPOSES.

WHEREAS, the City of Bentonville Staff request approval for the purchase of bat mitigation credits from The Conservation Fund for the removal of 32.1 acres of suitable summer foraging habitat;

WHEREAS, this agreement is for the J Street Interchange Project (PIIP22-0038; MUNIS# 21ST0002); and

WHEREAS, this agreement will be paid using Street Bond monies.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS.

Section 1: That the Mayor and Clerk are hereby authorized to enter into an agreement with The Conservation Fund, for the purchase of bat mitigation credits, related to the J Street Interchange Project, in an amount not to exceed three hundred thirty-four thousand nine hundred thirty-one dollars and forty cents ($334,931.40);

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, MAYOR

ATTEST:

_____
Malorie Marrs, CITY CLERK

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Dennis Birge
Phone:	479-271-5964	**For Department(s):**	Transportation - Airport
Email:	dbirge@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☑ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution to Award Bid IFB-24-24 for the VBT Southeast Taxiway B Extension (Phase 2)
Action Recommendation & Justification:	Resolution awarding bid IFB-24-24 to APAC in the amount of $1,218,395.00 for the VBT Southeast Taxiway B Extension (Phase 2) project. A budget adjustment is needed.
Additional Comments for Consideration (Optional):	APAC was the sole bidder for this project. This is being funded by the FAA Grant approved on 9/10/24. The budget adjustment below is needed to appropriate the grant funds and reflects the City match of 10%. This budget adjustment also funds the following agenda item for Garver Work Order No. 5.
Amount for Approval:	$ 1,218,395.00

Budget Impact

Is this Item Budgeted? ☐ YES ☑ NO ☐ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
101650-33110	Federal Direct Grant	$	$ 1,255,314
101650-47390	Improv Other than Bldg / Other	$ 1,389,795	$
		$	$
		$	$

Fund(s) Impacted (check all that apply) ☑ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

The City's matching portion for the grant, in the amount of $134,481.00 is adjusted from general fund into Improv Other than Bldg/Other.

SPECIFICATIONS AND CONTRACT DOCUMENTS

BENTONVILLE MUNICIPAL AIRPORT

BENTONVILLE, ARKANSAS

SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)

AIP NO. 3-05-0006-021-2023 (DESIGN)
AIP NO. 3-05-0006-023-2024 (CONSTRUCTION)

GARVER PROJECT NO. 23A13191
CITY OF BENTONVILLE PROJECT NO. IFB-24-24

Prepared For:

CITY OF BENTONVILLE

MAY 2024

GARVER
GarverUSA.com

00 00 01 CERTIFICATIONS

SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)
GARVER PROJECT NO. 23A13191
CITY OF BENTONVILLE PROJECT NO. IFB 24-24

I hereby certify that the applicable portions of this project plans and specifications were prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the State of Arkansas.

SEAL AND SIGNATURE	APPLICABLE DIVISION OR PROJECT RESPONSIBILITY
Christopher Maestri, P.E. Digitally Signed 05/12/2024	Project Manager Civil Engineer
Quinton Smith, P.E. Digitally Signed 05/12/2024	Electrical Engineer

GARVER, LLC CERTIFICATE OF AUTHORIZATION:

Expiration Date: December 31, 2024

SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)

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CONTRACT DOCUMENTS AND GENERAL REQUIREMENTS

BIDDING REQUIREMENTS

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00 21 00 INSTRUCTIONS TO BIDDERS
00 22 13 BIDDER'S CHECKLIST OF REQUIRED ITEMS
00 41 00 BID FORM
00 43 13 BID BOND
00 43 36 LIST OF PROPOSED SUBCONTRACTORS
00 43 43 WAGE RATES
00 45 13 QUALIFICATIONS STATEMENT
00 45 39 DBE PARTICIPATION REPORTING
00 45 46 BIDDER CERTIFICATIONS

CONTRACT DOCUMENTS

00 51 00 NOTICE OF AWARD
00 52 00 CONTRACT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)
00 55 00 NOTICE TO PROCEED
00 61 13 PERFORMANCE BOND
00 61 16 PAYMENT BOND
00 65 16 CERTIFICATE OF SUBSTANTIAL COMPLETION

CONDITIONS OF THE CONTRACT

00 72 00 FAA GENERAL PROVISIONS
00 73 00 SPECIAL PROVISIONS

SUPPLEMENTAL SPECIFICATIONS

SS-100 CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)
SS-101 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)
SS-110 STANDARD SPECIFICATIONS
SS-120 CONSTRUCTION SAFETY AND SECURITY
SS-130 TRENCH AND EXCAVATION SAFETY SYSTEMS
SS-300 BASIC ELECTRICAL REQUIREMENTS
SS-301 ELECTRICAL DEMOLITION AND RELOCATION WORK
SS-302 UTILITY ALLOWANCES
SS-310 AIRPORT LIGHTING SYSTEMS
SS-407 ASPHALT CONCRETE HOT MIX SURFACE COURSE (ARDOT)

TECHNICAL SPECIFICATIONS

C-100 CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)
C-102 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL
C-105 MOBILIZATION
C-110 METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)
P-101 PREPARATION/REMOVAL OF EXISTING PAVEMENTS

P-152	EXCAVATION, SUBGRADE, AND EMBANKMENT
P-153	CONTROLLED LOW-STRENGTH MATERIAL (CLSM)
P-209	CRUSHED AGGREGATE BASE COURSE
P-401	ASPHALT MIX PAVEMENT
P-602	EMULSIFIED ASPHALT PRIME COAT
P-603	EMULSIFIED ASPHALT TACK COAT
P-610	CONCRETE FOR MISCELLANEOUS STRUCTURES
P-620	RUNWAY AND TAXIWAY MARKING
D-705	PIPE UNDERDRAINS FOR AIRPORTS
D-754	CONCRETE GUTTERS, DITCHES, AND FLUMES
T-901	SEEDING
T-904	SODDING
T-905	TOPSOIL
L-108	UNDERGROUND POWER CABLE FOR AIRPORTS
L-110	AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS
L-115	ELECTRICAL MANHOLES AND JUNCTION STRUCTURES
L-125	INSTALLATION OF AIRPORT LIGHTING SYSTEMS

CITY OF BENTONVILLE
Bentonville, Arkansas
SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)
SOLICITATION ID: IFB-24-24

00 11 00 ADVERTISEMENT FOR BIDS

Sealed bids for **SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)**, to be constructed for **CITY OF BENTONVILLE** will be received at the office of the **CITY OF BENTONVILLE ADMINISTRATIVE SERVICES BUILDING** and addressed to **1000 SW 14th STREET, BENTONVILLE, AR 72712,** until **2:00PM** on **THURSDAY, MAY 30, 2024,** at which time the bids shall be publicly opened and read aloud. The bid opening will be located in Room A239, on the second floor. Sealed bids submitted prior to the bid opening should be sent to the City of Bentonville, Attn: Purchasing, 2nd Floor 1000 SW 14th Street, Bentonville, AR 72712. Sealed bids must be clearly labeled on the outer envelope with the Bidder's company name, the solicitation ID and project name. The City is not responsible for bids which are not received or recognized due to being improperly labeled.

An Optional Pre-Bid Conference will be held at 2:00pm local time on May 21, 2024 via virtual meeting. Pre-Bid Conference Attendance is optional for bidders on this project. Information regarding the virtual meeting will be sent out to all plan holders one week prior to the meeting time. Potential bidders not on the plan holder list prior to the pre-bid conference may request access to the pre-bid conference by contacting Chris Maestri (CMMaestri@GarverUSA.com, 479-257-9188).

The Project includes, but is not limited to, construction of approximately 600 linear feet of 35 foot wide asphalt parallel taxiway extension, including airfield signage and associated grading and drainage improvements as shown on the plans and indicated in the specifications.

Bids will be received for a single prime contract. Bids shall be on a unit price basis as indicated in the Bid Form.

Digital copies of the bid documents are available at http://Planroom.GarverUSA.com for a fee of $22. These documents may be downloaded by selecting this Project from the "Plan Room" link, and by entering Quest Project Number 8954046 on the "Browse Projects" page. For assistance and free membership registration, contact QuestCDN at 952.233.1632 or info@questcdn.com. Documents can be examined at Garver's office, **4300 South JB Hunt Drive, Suite 240, Rogers, AR 72758. Addendums to the bid package will be issued through the Garver online Plan Holders List; therefore, all Bidders shall be responsible for downloading the bid documents from the Garver online plan room in order to be included in the Plan Holders List. Bidders must enter the addenda numbers in Article 3.01 of the Bid Form to verify receipt.**

Proposals shall be accompanied by a cashier's or certified check upon a national or state bank in an amount not less than five percent (5%) of the total maximum bid price payable without recourse to the owner, or a bid bond in the same amount from a reliable surety company, as guarantee that the Bidder will enter into a contract and execute performance and payment bonds within ten (10) days after notice of award of Contract to him. Such bid guarantee shall be made payable to CITY OF BENTONVILLE.

All Bidders shall make good faith efforts, as defined by Appendix A of 49 CFR Part 26, Regulations of the Office of the Secretary of Transportation, to subcontract a minimum of 5.7% of the dollar value of the prime contract to small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE).

Bidders must be licensed to perform work within the state of Arkansas.

Federal Requirements for Federally Funded Projects. This Project is being partially funded under the Federal Aviation Administration (FAA) Airport Improvement Program (AIP). Contractors must comply with specific federally required provisions as listed herein and contained in the contract documents. The following federal provisions are incorporated in this solicitation by reference:

- Buy American Preference (49 USC § 50101)
- Trade Restriction Certification (49 USC § 50104, 49 CFR part 30)
- Disadvantaged Business Enterprise (49 CFR part 26)
- Davis-Bacon Requirements (2 CFR § 200, Appendix II(D), 29 CFR Part 5)
- Procurement of Recovered Materials (2 CFR § 200.322, 40 CFR part 247, Solid Waste Disposal Act)
- Debarment and Suspension (2 CFR part 180 (Subpart C), 2 CFR part 1200, DOT Order 4200.5)
- Lobbying and Influencing Federal Employees (31 USC § 1352, 2 CFR part 200 Appendix II(J), 49 CFR part 20 Appendix A)

Affirmative Action Requirement.

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade:	3.3%
Goals for female participation in each trade:	6.9%

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **Arkansas, Benton County, City of Bentonville.**

Civil Rights Title VI Assurance
The **CITY OF BENTONVILLE**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all Bidders that it will affirmatively ensure that any Contract entered into pursuant to this advertisement, disadvantaged business will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Bids must remain in effect for **120** days after the bid opening date. Within **120** days from the bid date, the Owner may award the contract to the lowest responsive, responsible Bidder or reject any or all Bids for the Project.

The **CITY OF BENTONVILLE** reserves the right to reject any or all Bids, to waive irregularities in the Bids and bidding deemed to be in the best interests of the **CITY OF BENTONVILLE**, and to reject nonconforming, nonresponsive, or conditional bids.

Owner: **CITY OF BENTONVILLE**
By: **Kelsi Frederick**
Title: **Purchasing Manager**
Date: **05/12/2024**

This publication was paid for by the City of Bentonville Legal Department.

END OF ADVERTISEMENT FOR BIDS

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00 21 00 INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

1.01 Terms used in these Instructions to Bidders not otherwise defined have the meanings indicated in the General Provisions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

A. *Successful Bidder* – The lowest responsible, Bidder submitting a responsive Bid to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

B. *Issuing Office* – The office from which the Bidding Documents are to be issued.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit written evidence establishing its qualifications such as financial data, previous experience, and present commitments, as detailed in Section 00 45 13 Qualifications Statement, which must be completed in ink and returned for evaluation **with the Bid** along with any Owner required documentation.

3.02 The criteria which will be used to determine the lowest responsive and responsible Bidder are as follows:

A. Responsive Bidder: Means a Bidder who has submitted a Bid which conforms in all material respects to the Bidding Documents.

B. Responsible Bidder: Means a Bidder who has the capacity and capability in all respects to perform fully the contract requirements and who has the integrity and reliability to assure good faith performance. Among factors to be considered in determining whether the Bidder meets these standards, are:

1. financial, material, equipment, facility, and personnel resources and expertise necessary to meet contractual requirements;

2. a record of integrity;

3. a record of successful completion, defined as, completion of a project within a reasonable time and budget;

4. qualified legally to contract with the Owner, and;

5. has not failed to supply any necessary information in connection with the inquiry concerning responsibility.

3.03 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.04 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

3.05 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

A. The Project site is identified in the Bidding Documents. By definition, the "Site" includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Special Provisions identify:

a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.

b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. Owner will make pdf digital copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Provisions, has been identified and established in the Special Provisions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Special Provisions do not identify Technical Data, the default definition of Technical Data set forth in Section 10 of the General Provisions will apply.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in the Special Provisions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Plans or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in the Special Provisions.

4.03 *Site Visit and Testing by Bidders*

A. Bidder shall conduct Site visit(s) by appointment, during normal working hours, and shall not disturb any ongoing operations at the Site.

B. Bidder is not required to conduct any subsurface testing of Site conditions.

C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.

D. Bidder shall comply with all applicable laws and regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

A. If applicable, Site visits and work at the Site will be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Special Provisions.

4.05 *Other Work at the Site*

A. Reference is made to Section 70-04 of the General Provisions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

A. Examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;

B. Visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. Become familiar with and satisfy itself as to all laws and regulations that may affect cost, progress, and performance of the Work;

D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings;

E. Consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods,

techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

F. Agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;

I. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and

J. Agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 6 – PRE-BID CONFERENCE

6.01 **An optional** pre-Bid conference will be held at the date and time identified in the Advertisement for Bids and addenda as appropriate. Representatives of Owner and Engineer will be present to discuss the Project. Bidders **should** attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than forty-eight (48) hours prior to the date for opening of Bids may not be answered. Only questions answered by addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents. The final addenda shall be issued at a minimum of twenty-four (24) hours prior to the opening of bids' date and time.

ARTICLE 8 – BID SECURITY

8.01 A Bid must be accompanied by bid security made payable to Owner in an amount of **5 percent** of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a cashier's or certified check, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting requirements acceptable to the owner.

8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the Contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults as set forth in this Section 8.02.

8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or **121** days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

9.01 The number of days within which, or the dates by which, milestones are to be achieved and the Work is to be substantially completed and ready for final payment are set forth in the Contract.

ARTICLE 10 – LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, for failure to timely attain a milestone, substantial completion, or completion of the Work in readiness for final payment, are set forth in the Contract.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 See Section 60-03 of the General Provisions.

11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 Bidders shall submit Section 00 43 36, List of Proposed Subcontractors with the Bid, for prior approval of the Owner.

If requested by Owner, before executing any subcontract, and within three (3) days after Bid opening, the apparent Successful Bidder, and any other Bidder so requested, shall submit an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such subcontractor, supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed subcontractor, supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award. Declining to make requested substitutions will **not** constitute grounds for forfeiture of the Bid security of any Bidder.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable subcontractors, suppliers, or other individuals or entities.

12.03 The quantities of work or material stated in unit price items of the Bid are supplied only to give an indication of the general scope of the Work; the Owner does not expressly or by implication agree that the actual amount of work or material will correspond therewith.

ARTICLE 13 – PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form shall be completed either in ink or type and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”

C. A conditional Bid will not be considered.

13.02 A Bid by a corporation or partnership shall be executed in the corporate or partnership name by an officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate or partnership address and state of incorporation shall be shown. The corporate seal shall be affixed and attested by the corporate secretary or an assistant corporate secretary.

13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.04 A Bid by an individual shall show the Bidder’s name and official address.

13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venture partner in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

13.06 All names shall be printed in ink below the signatures.

13.07 The Bid shall contain an acknowledgment of receipt of all addenda, the numbers of which shall be filled in on the Bid Form.

13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

13.09 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder’s state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

14.01 Unit Price

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

B. The “Bid Price” (sometimes referred to as the extended price) for each unit price Bid item will be the product of the “Estimated Quantity” (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding “Bid Unit Price” offered by the Bidder. The total of all unit price Bid items will be the sum of these “Bid Prices”; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract price will be determined in accordance with Section 90 of the General Provisions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.02 Allowances

A. For cash allowances the Bid price shall include such amounts as the Owner deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents.

ARTICLE 15 – SUBMITTAL OF BID

15.01 The Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.

15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title and number(s) (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation “BID ENCLOSED.” The Bidders name and return address shall be plainly marked on the package. Mailed Bid shall be addressed to **the address stated in the Advertisement for Bid**.

15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.

16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder may be disqualified from further bidding on the Work, at the discretion of the Owner.

ARTICLE 17 – OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive. Owner also reserves the right to waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new Bids; or proceed with the work otherwise.

19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.

19.03 Evaluation of Bids

A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its alternate Bids for which Owner determines funds will be available at the time of award.

C. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

D. In the comparison of Bids, schedules will be applied in the same order of priority as listed in the Bid Form. For comparison purposes schedules will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions to Bidders, the award may be made to said Successful Bidder for the schedule in which the Owner determines funds will be available at the time of award.

19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of subcontractors and suppliers proposed for those portions of the Work for which the identity of subcontractors and suppliers must be submitted as provided in the Bidding Documents.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed subcontractors or suppliers.

19.06 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.07 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Owner.

19.08 Unless otherwise indicated, a single award will not be made for less than all the Bid Items of an individual Bid schedule. In the event the Work is contained in more than one Bid schedule, the Owner may award schedules individually or in combination. In the case of two or more Bid

schedules which are alternative to each other, only one of such alternative schedules will be awarded.

ARTICLE 20 – BONDS AND INSURANCE

20.01 Section 30-05 of the General Provisions, as may be modified by the Special Provisions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Contract (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF CONTRACT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Contract along with the other Contract Documents as identified in the Contract. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Contract (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. The Owner shall deliver one fully executed counterpart of the Contract to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Section 50-05 of the General Provisions.

ARTICLE 22 – SALES AND USE TAXES

22.01 The project **Owner is not** exempt from **Arkansas** state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes **shall** be included in the Bid.

ARTICLE 23 – RETAINAGE

23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Section 90-06 of the General Provisions.

ARTICLE 24 – CONTRACTS TO BE ASSIGNED

24.01 Not Used

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END OF INSTRUCTIONS TO BIDDERS

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00 22 13 BIDDER'S CHECKLIST OF REQUIRED ITEMS

This Bidder's Checklist is provided to ensure all required forms are completed and returned as part of the Bid submission. All forms must be included as indicated for a Bid to be considered a complete, responsive Bid. Appropriate signatures and date are required on each document. If an item is missing, the Bid may be declared unresponsive and therefore rejected as further set forth in the Instructions to Bidders. **This sheet will serve as the cover sheet for the Bid submission.**

	Completed*	Spec. Section
Acknowledgement of All Addenda	☑	00 41 00
Bid contains the following forms:		
1. Bid Form/Proposal	☑	00 41 00
2. Bid Bond	☑	00 43 13
3. List of Proposed Subcontractors	☑	00 43 36
4. Qualifications Statement	☑	00 45 13
5. DBE Participation Reporting	☑	00 45 39
6. Bidder Certifications	☑	00 45 46
7. Current Insurances and Coverages	☑	
*Check when filled out, signed, and included with submission of bid packet.		

Within three (3) days after Bid Opening:
Bidder acknowledges to provide within three (3) days after Bid Opening (Low Bidder Only):
1. Bidder's Qualifications of Subcontractor (if requested)
2. Bidder's Safety Records (if requested)

Within fifteen (15) days after Notice of Award:
Bidder acknowledges that within fifteen (15) days after Notice of Award, Successful Contractor is required to complete the following before execution and award of the Contract:
1. Section 00 52 00, Contract (all pages and supporting documents)
2. Section 00 61 13, Performance Bond
3. Section 00 61 16, Payment Bond
4. Completed Certificates of Insurance

Prior to Construction (Awarded Contractor):
1. Construction Schedule - before preconstruction conference
2. Contractor Safety Plan Compliance Documents (SPCD)

Seal (if incorporated)

Bidder Name: APAC-Central, Inc.

Address: 755 E. Millsap Rd

City, State, Zip Code: Fayetteville, AR 72703

Contractor Number: 0011840424

Contact Name: Doug Luetjen

Title: Operations Manager

Contact Number: 479-652-9840

Contact Email: DOUG.LUETJEN@APAC.COM

Signature of Authorized Agent for Bidder: [redacted]

Date: 5/30/2024

00 41 00 BID FORM

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

CITY OF BENTONVILLE
1000 SW 14TH Street, Bentonville, AR 72712

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for **120** days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

2.02 In submitting this Bid, Bidder acknowledges and accepts Contractor's representations as more fully set forth in the Contract.

2.03 In submitting this Bid, Bidder certifies Bidder is qualified to do business in the State of Arkansas as required by laws, rules and regulations or, if allowed by statute, covenants to obtain such qualification prior to contract award.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following addenda:

Addendum No.	Addendum, Date
001	5/27/2024

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all laws and regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have

been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

K. The submission of the Bid constitutes that applicable sales taxes are included in the stated Bid prices for the work, unless provision is made herein for the bidder to separately itemize the estimated amount of sales tax.

L. By submitting a bid/proposal under this solicitation, the Bidder understands that the bid/proposal is subjected to the **Davis-Bacon Act, including prevailing wage rates,** Contract Work hours and Safety Standards Act.

M. By submitting a bid/proposal, the Bidder understands that the bid/proposal is subjected to the **Federal Aviation Administration requirements referenced in the Special Provisions.**

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder acknowledges that (1) each Bid unit price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

5.02 Bidder will complete the Work in accordance with the Contract Documents for the enclosed prices.

5.03 BID ALTERNATES

A. The undersigned Bidder offers to make, at the bid alternate prices (Additive) following, the changes in the Work covered in the total bid price set forth in unit price schedule ("Total Base Bid Price") that are specified in the bid alternates priced below:

B. It is understood that:

1. All bid alternate prices shall be filled in. The work detailed by the bid alternate(s) is an extension of the nature of the work for the Total Base Bid Price's project. This proposal requires that the undersigned Bidder propose on all work detailed by the Total Base Bid Price's project and the decrease in work as detailed by each and all of the bid alternates. Failure to comply with this requirement of submitting a price for each and all of the bid alternates may render the Bid non-responsive and may cause its rejection.

2. ***Any bid items contained within the alternate unit price schedule that are measured quantities (TN, SY, CY, SF, LF, EA, etc.) shall match exactly the unit price found within the base bid unit price schedule. Lump sum bid items will not be required to meet this requirement.]***

3. The acceptance or rejection of any or all of these bid alternates is at the option of the Owner.

4. Acceptance or rejection of bid alternates will not necessarily be made on the basis of price alone.

5. The acceptance or rejection of one or more bid alternates will not affect the Total Base Bid Project bid, nor other conditions of this bid, nor the price of other accepted bid alternates.

6. The order in which the bid alternates shall be considered for award is as follows:

   a. Base Bid A + Alternate A-1

   b. Base Bid A

7. Reference Document 00 21 00, Article 19 for Method of Award.

8. The undersigned has carefully examined the plans and other contractual documents and has coordinated the scopes between the Total Base Bid Documents and the Bid Alternate Documents. Through submittal of a bid, the undersigned agrees and understands that

the documents have been prepared with the highest level of care in the effort to coordinate the scopes of the Total Base Bid Project documents and the Bid Alternate documents. The undersigned agrees and accepts the responsibilities to coordinate and construct all required interconnections and coordination facilities between the Total Base Bid Project and any of, any combination of, and/or a total combination of the Bid Alternates to develop complete and operational facilities that meet the regulatory requirements for the facilities and the requirements set forth by these contract documents.

5.04 BID SCHEDULES

A. Not used.

CITY OF BENTONVILLE
SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)
UNIT PRICES: Base Bid A

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
1	SS-120-3.1	Construction Safety and Security	LS	1	$32,500.00	$32,500.00
2	SS-130-4.1	Trench and Excavation Safety Systems	LS	1	$11,500.00	$11,500.00
3	SS-300-5.1	Lockout/Tagout and Constant Current Regulator Calibration Procedures	LS	1	$1,500.00	$1,500.00
4	SS-301-5.1	Existing Concrete Encased Electrical Duct Bank, Removed	LF	20	$90.00	$1,800.00
5	SS-301-5.2	Existing Concrete Encased, Electrical Junction Structure, Removed	EA	1	$600.00	$600.00
6	SS-301-5.3	Existing Base Mounted Guidance Sign, Removed and Stored, Foundation Demolished	EA	1	$2,400.00	$2,400.00
7	SS-302-3.1	Power Utility Allowances	ALLOW	1	$20,000.00	$20,000.00
8	SS-310-5.1	Temporary Airfield Lighting	LS	1	$14,500.00	$14,500.00
9	C-102-5.1	Temporary Erosion Control	LS	1	$6,500.00	$6,500.00
10	C-105-6.1	Mobilization (Maximum 10% of Total Bid)	LS	1	$92,000.00	$92,000.00
11	P-101-5.1	Pavement Removal	SY	340	$50.00	$17,000.00
12	P-101-5.3	Pavement Markings Removal	SF	8,100	$2.50	$20,250.00
13	P-152-4.1	Unclassified Excavation	CY	2,510	$34.00	$85,340.00
14	P-152-4.2	Borrow Excavation (Stone Backfill)	CY	2,750	$65.00	$178,750.00
15	P-152-4.3	Unsuitable Excavation (Stone Backfill)	CY	2,750	$65.00	$178,750.00
16	P-209-5.1	Crushed Aggregate Base Course (13" Thickness)	SY	4300	$38.00	$163,400.00
17	P-209-5.2	Separation Geotextile	SY	4,870	$5.00	$24,350.00
18	P-401-8.1	Asphalt Surface Course	TON	680	$190.00	$129,200.00
19	P-620-5.1a	Runway and Taxiway Marking (Reflective)	SF	4,100	$2.00	$8,200.00
20	P-620-5.1b	Runway and Taxiway Marking (Non-Reflective)	SF	12,300	$1.00	$12,300.00
21	D-705-5.1a	6" Perforated Underdrain Pipe	LF	40	$115.00	$4,600.00
22	D-705-5.1b	6" Non-Perforated Outfall Pipe	LF	140	$115.00	$16,100.00
23	D-705-5.2	Concrete Outlet Protector	EA	1	$2,075.00	$2,075.00
24	D-754-5.1	Concrete Ditch Paving	SY	10	$700.00	$7,000.00
25	T-901-5.1	Seeding	AC	2.5	$2,200.00	$5,500.00
26	T-904-5.1	Sodding	SY	2,360	$5.00	$11,800.00
27	T-905-5.1	Topsoil (Obtained On-Site; 4" Thickness)	SY	13,950	$3.50	$48,825.00
28	L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit	LF	250	$10.75	$2,687.50
29	L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, Above the Duct Bank or Conduit, Including Connections/Terminations	LF	550	$8.25	$4,537.50
30	L-110-5.1	Concrete Encased Electrical Duct Bank, 2-Way 2-Inch C	LF	175	$88.00	$15,400.00

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31	L-110-5.2	Non-Encased Electrical Conduit, 1-Way 2-Inch C	LF	125	$13.00	$1,625.00
32	L-115-5.1	Electrical Junction Structure, L-867 Class 1, Size 16" Diemeter by 24" Depth	EA	3	$2,350.00	$7,050.00
33	L-125-5.1	L-858(L) Bese Mounted, 2-Module Guidence Sign, Installed	EA	4	$3,875.00	$15,500.00
34	L-125-5.2	L-858(L) Base Mounted, 3-Module Guidance Sign, Installed	EA	3	$7650.00	$22,950.00
35	L-125-5.3	New Sign Panels, Installed in Existing Guidance Sign	EA	19	$950.00	$18,050.00
36	L-125-5.4	Existing Sign Panels, Relocated to Existing Sign	EA	18	$360.00	$6,480.00
37	L-125-5.5	Existing Stored Guidance Sign, Installed on New Foundation with Relocated Sign Panels	EA	1	$3,875.00	$3,875.00
38	SP-C-01	Owner's Protective Insurance	LS	1	$23,500.00	$23,500.00

Total Bid - Base Bid A $1,218,395.00

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CITY OF BENTONVILLE
SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)
UNIT PRICES -Alternate A-1

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
1	SS-407-9.1	ARDOT ACHM Surface Course (1/2") (PG 76-22)	TON	680	$195.00	$132,600.00
2	P-401-8.1	Asphalt Surface Course	TON	(680)	$190.00	($129,200.00)
					Total Bid - Alternate A-1	$3,400.00

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ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Section 90-09 of the General Provisions on or before the dates or within the number of calendar days indicated in the Contract.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security (00 43 13);

B. List of Proposed Subcontractors (00 43 36)

C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

D. Contractor's License No.: 0011840424 or Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;

E. Required Bidder Qualifications Statement (00 45 13) with supporting data; and

F. DBE Participation Reporting (00 45 39)

G. Bidder Certifications (00 45 46)

H. Current Insurances and Coverages

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Provisions, and the Special Provisions.

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ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

APAC-Central, Inc

By:
[Signature] [redacted]

[Printed name] Doug Luetjen

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] [redacted]

[Printed name] Ruben Castelum

Title: Operations Manager

Submittal Date: 5/30/24

Address for giving notices:

755 E. Millsap Rd

Fayetteville, AR 72703

Telephone Number: 479-587-3300

Fax Number: 479-587-3300

Contact Name and e-mail address: Doug Luetjen

DOUG.LUETJEN@APAC.COM

Bidder's License No.: 0011840424
(where applicable)

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Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bond Number: 05302024

Bid Bond

CONTRACTOR:
(Name, legal status and address)

APAC-Central, Inc.
755 E. Millsap Road
Fayetteville, AR 72703

SURETY:
(Name, legal status and principal place of business)
Fidelity and Deposit Company of Maryland
1299 Zurich Way
Schaumburg, IL 60196-1056
State of Inc: Illinois

OWNER:
(Name, legal status and address)
City of Bentonville, AR
1000 SW 14th Street
Bentonville, AR 72712

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

BOND AMOUNT: 5%

PROJECT:
(Name, location or address, and Project number, if any)

SE Taxiway B Extension Phase 2, (IFB-24-24)

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 30 day of May , 2024

[redacted]
(Witness)

APAC-Central, Inc.
[redacted]
(Title)
(Seal)

Fidelity and Deposit Company of Maryland
[redacted]
(Title) n-Fact
(Seal)

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by **Robert D. Murray, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Brandon Lefevre, Murry Cline, Michael Dugan, Kristopher McClanahan, Michael Eshleman, Doug Luetjen, James Hawkins, Joshua Davis and Doug Fronick, all of Fayetteville, Arkansas**, EACH, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: Any and all bid bonds issued on behalf of **APAC - Central, Inc. of Fayetteville, Arkansas** each in a penalty not to exceed the sum of $1,000,000, **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 3rd day of January, A.D. 2023.

ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

[redacted]
By: Robert D. Murray
Vice President

[redacted]
By: Dawn E. Brown
Secretary

State of Maryland
County of Baltimore

On this 3rd day of January, A.D. 2023, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

[redacted]

Iva Bethea
Notary Public
My Commission Expires September 30, 2023

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 30th day of May, 2024.

[redacted]

By: Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
Ph: 800-626-4577

If your jurisdiction allows for electronic reporting of surety claims, please submit to:
reportsfclaims@zurichna.com

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any Performance bond and Payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

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00 43 36 LIST OF PROPOSED SUBCONTRACTORS

I, the undersigned Bidder, hereby certify that proposals from the following subcontractors were used in the preparation of my Bid. I agree that if I am the successful Bidder and if the following subcontracts are approved, I will not enter into contracts with others for these divisions of the work without prior written approval from the Engineer and the Owner.

The Bidder should ensure that DBEs and other small businesses have the opportunity to participate in the performance of the work that is the subject of this solicitation and should take all necessary and reasonable steps for this assurance. If the responses below do not clearly indicate that the contract goal for DBE participation has been achieved, documentation shall be attached to clearly demonstrate to the satisfaction of the Owner that a *good faith effort* has been made as defined and described in Appendix A of 49 CFR Part 26. The Bidder shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts. Firms qualified as a DBE for this Project shall be certified by the Arkansas DOT. Firms qualified as a small business enterprise (SBE) shall be certified by the US Small Business Administration or the Arkansas Economic Development Commission.

For Annual Gross Receipts:

- Enter 1 for Less than $1 Million
- Enter 2 for More than $1 Million, Less than $5 Million
- Enter 3 for More than $5 Million, Less than $10 Million
- Enter 4 for More than $10 Million, Less than $15 Million
- Enter 5 for More than $15 Million

Type of Work: Erosion control & landscaping

Subcontractor's Name: Envirotrac Safety & Erosion, Inc.

Arkansas License No.:

Address: PO Box 985 Danville, AR 72833

DBE: (Yes) / No (circle one) Contract Amount: $36,274.62

SBE: Yes / (No) (circle one)

Date Firm Established: 1990

Annual Gross Receipts (enter the range only): 3

Type of Work: Broadway Electric, Inc.

Subcontractor's Name: Airport lighting and signage

Arkansas License No.:

Address: PO Box 1403, Forrest City, AR 72335

DBE: Yes / (No) (circle one) Contract Amount: $109,920.00

SBE: (Yes) / No (circle one)

Date Firm Established: 1980

Annual Gross Receipts (enter the range only): 3-4

Type of Work: Hauling

Subcontractor's Name: Couch Excavating

Arkansas License No.: 0127460425

Address: 13125 Farm Rd 2165, Cassville, MO 65625

DBE: (Yes) / No (circle one) Contract Amount: $22,800.00

SBE: Yes / (No) (circle one)

Date Firm Established: 1990

Annual Gross Receipts (enter the range only): 2-3

Type of Work: Striping

Subcontractor's Name: Custom Pavement Maintenance & Safety

Arkansas License No.: 0354090524

Address: PO Box 435, Van Buren, AR 72957

DBE: Yes / (No) (circle one) Contract Amount: $32,846.00

SBE: Yes / (No) (circle one)

Date Firm Established: 2000

Annual Gross Receipts (enter the range only): 3-4

Bidder (General Contractor): APAC-Central, Inc.

Arkansas License No.: 0011840424

Address: 755 E. Millsap Rd, Fayetteville AR

DBE: Yes / (No) (circle one)

SBE: Yes / (No) (circle one)

Date Firm Established: 1980

Annual Gross Receipts (enter [redacted]

By: Doug Luetjen, [redacted] *

Title: Operations Man[redacted]

Percent of Contract to be Completed by DBE: 5.87

*Signature must be the same as on the Bid form.

Notes:

(1) This form must be completed and submitted with *good faith effort* documentation provided in the sealed Bid to be considered responsive at the time of the bid opening.

(2) Bidder and subcontractors shall have evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids.

00 43 43 WAGE RATES

"General Decision Number: AR20240158 01/05/2024

Superseded General Decision Number: AR20230158

State: Arkansas

Construction Type: Highway

County: Benton County in Arkansas.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally
required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658.
Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.20 per hour (or the applicable wage rate listed on this wage

		determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.	

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the
Executive Orders and a classification considered necessary for
performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker
protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2024

SUAR2014-030 07/21/2014

	Rates	Fringes
CARPENTER, Includes Form Work	$ 16.06 **	0.00
CEMENT MASON/CONCRETE FINISHER	$ 16.48 **	0.00
ELECTRICIAN, Includes Traffic Signalization	$ 20.40	0.00
FENCE ERECTOR	$ 12.94 **	0.00
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine)	$ 13.25 **	0.00
HIGHWAY/PARKING LOT STRIPING: Painter	$ 21.75	0.00
INSTALLER - GUARDRAIL	$ 17.12 **	0.00
IRONWORKER, REINFORCING	$ 14.22 **	0.00
IRONWORKER, STRUCTURAL	$ 17.52	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 14.68 **	0.00
LABORER: Common or General	$ 11.75 **	0.00
LABORER: Mason Tender - Cement/Concrete	$ 12.33 **	0.00

LABORER: Pipelayer	$ 14.33	**	0.00
OPERATOR: Asphalt Spreader	$ 15.80	**	0.00
OPERATOR: Backhoe/Excavator/Trackhoe	$ 16.93	**	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 16.06	**	0.00
OPERATOR: Broom/Sweeper	$ 12.00	**	0.00
OPERATOR: Bulldozer	$ 17.46		0.00
OPERATOR: Crane	$ 22.58		0.00
OPERATOR: Drill	$ 14.85	**	0.00
OPERATOR: Grade Checker	$ 16.36	**	0.00
OPERATOR: Grader/Blade	$ 17.28		0.00
OPERATOR: Hydroseeder	$ 10.79	**	0.00
OPERATOR: Loader	$ 14.79	**	0.00
OPERATOR: Mechanic	$ 20.28		0.00
OPERATOR: Milling Machine	$ 16.77	**	0.00
OPERATOR: Oiler	$ 19.29		0.00
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 18.76		0.00
OPERATOR: Post Driver (Guardrail/Fences)	$ 16.97	**	0.00
OPERATOR: Roller	$ 15.80	**	0.00
OPERATOR: Scraper	$ 16.50	**	0.00

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OPERATOR:  Screed.............$ 16.78 **          0.00

OPERATOR:  Tractor.............$ 17.61           0.00

TRAFFIC CONTROL:   Flagger.....$ 14.53 **          0.00

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper...........$ 12.45 **          0.00

TRUCK DRIVER:  Dump Truck.....$ 16.53 **          0.00

TRUCK DRIVER:  Flatbed Truck.....$ 21.03          0.00

TRUCK DRIVER:  Lowboy Truck......$ 19.68          0.00

TRUCK DRIVER:  Servicer.........$ 15.31 **          0.00

TRUCK DRIVER:  Water Truck.....$ 14.73 **          0.00

TRUCK DRIVER: Semi/Trailer
Truck..........................$ 12.50 **          0.00
------------------------------------------------------------
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WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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** Workers in this classification may be entitled to a
higher
minimum wage under Executive Order 14026 ($17.20) or 13658
($12.90).  Please see the Note at the top of the wage
determination for more information. Please also note that
the
minimum wage requirements of Executive Order 14026 are not
currently being enforced as to any contract or subcontract
to
which the states of Texas, Louisiana, or Mississippi,
including
```

their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification
and wage rates that have been found to be prevailing for the
cited type(s) of construction in the area covered by the wage
determination. The classifications are listed in alphabetical
order of ""identifiers"" that indicate whether the particular
rate is a union rate (current union negotiated rate for local),
a survey rate (weighted average rate) or a union average rate
(weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed
in dotted lines beginning with characters other than ""SU"" or
""UAVG"" denotes that the union classification and rate were
prevailing for that classification in the survey. Example:
PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of
the union which prevailed in the survey for this
classification, which in this example would be Plumbers. 0198
indicates the local union number or district council number
where applicable, i.e., Plumbers Local 0198. The next number,
005 in the example, is an internal number used in processing
the wage determination. 07/01/2014 is the effective date of the
most current negotiated rate, which in this example is July 1,
2014.

Union prevailing wage rates are updated to reflect all rate

changes in the collective bargaining agreement (CBA) governing
this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that
no one rate prevailed for this classification in the survey and
the published rate is derived by computing a weighted average
rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates
the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates
the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007
in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion
date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a
new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union
average rate. OH indicates the state. The next number, 0010 in

the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal

process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator
(See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the
interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an
interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

00 45 13 QUALIFICATIONS STATEMENT

THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT PERMITTED BY LAWS AND REGULATIONS

1. SUBMITTED BY:

Official Name of Firm: APAC-Central, Inc.

Address: 755 E. Millsap Rd

Fayetteville, AR 72703

2. SUBMITTED FOR:

Owner: **CITY OF BENTONVILLE**

Project Name: **SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)**

TYPE OF WORK: This project includes, but is not limited to, construction of approximately 600 linear feet of 35 foot wide asphalt parallel taxiway extension, including airfield signage and associated grading and drainage improvements as shown in the plans and indicated in the specifications.

3. CONTRACTOR'S CONTACT INFORMATION

Contact Person: Doug Luetjen

Title: Operations Manager

Phone: 479-587-3300

Email: DOUG.LUETJEN@APAC.COM

4. AFFILIATED COMPANIES:

Name: Standard Materials Group, Arkhola

Address: 755 E. Millsap Rd

Fayetteville, AR 72703

5. TYPE OF ORGANIZATION:

☐ SOLE PROPRIETORSHIP

Name of Owner: _____

Doing Business As: _____

Date of Organization: _____

☐ PARTNERSHIP

Date of Organization: _____

Type of Partnership: _____

Name of General Partner(s): _____

_____

_____

☒ CORPORATION

State of Organization: Delaware

Date of Organization: 1980

Executive Officers:

- President: Brandon Lefevre
- Vice President(s): Murry Cline

_____

_____

- Treasurer: Ryan Tuthill
- Secretary: Steve Goth

☐ LIMITED LIABILITY COMPANY

State of Organization: _____

Date of Organization: _____

Members: _____

_____

_____

☐ JOINT VENTURE

Sate of Organization: _____

Date of Organization: _____

Form of Organization: _____

Joint Venture Managing Partner

- Name: _____
- Address: _____

Joint Venture Managing Partner

- Name: _____
- Address: _____

Joint Venture Managing Partner

- Name: _____
- Address: _____

6. LICENSING

Jurisdiction: Arkansas

Type of License: State Contractors License

License Number: 011840424

Jurisdiction: _____

Type of License: _____

License Number: _____

Has firm listed in Section 1 ever been fined or suspended by a Contractor's licensing board?

☐YES ☒ NO

If YES, attach as an Attachment details including where and why.

7. CERTIFICATIONS

CERTIFIED BY:

Disadvantage Business Enterprise: _____

Minority Business Enterprise: _____

Woman Owned Enterprise: _____

Small Business Enterprise: _____

Other (_____): _____

8. BONDING INFORMATION

Bonding Company: Fidelity & Deposit Comp. of Maryland

Address: 600 Red Brook Blvd

Owings Mills, MD 21117

Bonding Agent: Marsh Surety

Address: 445 South Street, Suite 210

Morristown, NJ 07960

Contact Name: Kimberly Leonard

Phone: 973-401-5381

Aggregate Bonding Capacity: Unlimited

Available Bonding Capacity as of date of this submittal: Unlimited

9. FINANCIAL INFORMATION

Financial Institution: Bank of America

Address: _____

Account Manager: _____

Phone: _____

Credit available: $ Available Upon Request

10. CONSTRUCTION EXPERIENCE:

Current Experience: Attached

List on **Schedule A** all uncompleted projects currently under contract (If Joint Venture list each participant's projects separately).

Previous Experience: Attached

List on **Schedule B** all projects completed within the last 5 Years (If Joint Venture list each participant's projects separately).

Has firm listed in Section 1 ever failed to complete a construction contract awarded to it?

☐YES ☒ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Has any Corporate Officer, Partner, Joint Venture participant or Proprietor ever failed to complete a construction contract awarded to them in their name or when acting as a principal of another entity?

☐ YES ☒ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Are there any judgments, claims, disputes or litigation pending or outstanding involving the firm listed in Section 1 or any of its officers (or any of its partners if a partnership or any of the individual entities if a joint venture)?

☐YES ☒ NO

If YES, attach as an Attachment details including Project Owner's contact information.

11. SAFETY PROGRAM:

Name of Contractor's Safety Officer: Casey Hansen

Include the following as attachments:

Provide as an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) OSHA No. 300- Log & Summary of Occupational Injuries & Illnesses for the past 5 years. None

Provide as an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all OSHA Citations & Notifications of Penalty (monetary or other) received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE. None

Provide as an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all safety citations or violations under any state all received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE. None

Provide the following for the firm listed in Section 1 (and for each proposed subcontractor and supplier furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) the following (attach additional sheets as necessary):

Workers' compensation Experience Modification Rate (EMR) for the last 5 years:

YEAR	2023	EMR	0.59
YEAR	2022	EMR	0.57
YEAR	2021	EMR	0.52
YEAR	2020	EMR	0.50
YEAR	2019	EMR	0.50

Total Recordable Frequency Rate (TRFR) for the last 5 years:

YEAR	2023	TRFR	0
YEAR	2022	TRFR	3.75
YEAR	2021	TRFR	1.98
YEAR	2020	TRFR	1.07
YEAR	2019	TRFR	1.76

Total number of man-hours worked for the last 5 Years:

YEAR	2023	TOTAL NUMBER OF MAN-HOURS	199,101
YEAR	2022	TOTAL NUMBER OF MAN-HOURS	159,985
YEAR	2021	TOTAL NUMBER OF MAN-HOURS	201,408
YEAR	2020	TOTAL NUMBER OF MAN-HOURS	185,422
YEAR	2019	TOTAL NUMBER OF MAN-HOURS	226,260

Provide Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) Days Away From Work, Days of Restricted Work Activity or Job Transfer (DART) incidence rate for the particular industry or type of Work to be performed by Contractor and each of Contractor's proposed subcontractors and suppliers) for the last 5 years: NONE

YEAR	N/A	DART	N/A
YEAR		DART	
YEAR		DART	
YEAR		DART	
YEAR		DART	

12. EQUIPMENT:

MAJOR EQUIPMENT:

List on **Schedule C** all pieces of major equipment available for use on project.

ATTACHED

13. ELECTRICAL EXPERIENCE:

Provide background and experience of the Master Electrician(s) licensed in state of Arkansas (issued by the Arkansas Board of Electrical Examiners) who have proper skills in supervising, performing, and maintaining the electrical work.

Provide Master Electrician(s) licenses for the qualified electrical supervisor(s) for supervising the 5 kV airfield lighting work and provide Journeyman(s) licenses for those that will assist in the work. Provide certifications and qualifications of each proposed 5 kV cable splicer, with minimum (3) years continuous experience in terminating/splicing medium voltage cables.

SEE Attached

I HEREBY CERTIFY THAT THE INFORMATION SUBMITTED HEREWITH, INCLUDING ANY ATTACHMENTS, IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME OF ORGANIZATION: APAC-Central, Inc.

BY: Doug Luetjen [redacted]

TITLE: Operations Manager

DATED: 5/30/2024

NOTARY ATTEST:

SUBSCRIBED AND SWORN TO BEFORE ME
THIS 29th DAY OF May, 2024

NOTARY PUBLIC - STATE OF Arkansas
MY COMMISSION EXPIRES: 1-18-2026

DIXIE A. SPRINGSTON
OFFICIAL SEAL - NOTARY PUBLIC
WASHINGTON COUNTY ARKANSAS
COMMISSION #12346157
MY COMMISSION EXPIRES 1-18-2026

REQUIRED ATTACHMENTS

1. Schedule A (Current Experience)*.
2. Schedule B (Previous Experience)*.
3. Schedule C (Major Equipment)*.
4. Evidence of authority for individuals listed in Section 5 to bind organization to an agreement.
5. Resumes of officers and key individuals (including Safety Officer) of firm named in Section 1.
6. Required safety program submittals listed in Section 11.
7. Resumes and licenses of key electrical individuals requested in Section 13.

*Information may be provided on form attached or bidder provided form containing similar information.

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APAC-CENTRAL, INC.

ATTACHMENT A-1

Listed below is a partial list of similar projects
completed within the last five years.

CONTRACT AMOUNT	TYPE OF WORK	WHEN COMPLETED	LOCATION CITY/COUNTY AND STATE	REFERENCE Name . Work Location (City, county or state)	PROJECT OWNER'S NAME AND ADDRESS
4,944,199	Grading, Concrete, Drainage, Aggregate, Asphalt	2015	Benton County, AR	202704. - XNA Reconstruction Runway 16	Northwest AR Reg Airport 1 Airport Blvd Bentonville AR 72712
16,410,071	Grading, Concrete. Drainage, Aggregate, Asphalt	2015	Benton County, AR	203228. - AHTD 090292 Bella Vista Bypass	AHTD PO Box 1262 Little Rock AR 72203
1,003,158	Grading, Concrete, Drainage, Aggregate, Asphalt	2015	Bentonville, Benton County, AR	203273. - NW 2nd ST & SW A to Walton Blvd	City of Bentonville 117 W Central Bentonville AR 72712
608,364	Drainage, Mill, Asphalt Overlay	2015	Bentonville, Benton County, AR	203290. - City of Bentonville Overlay	City of Bentonville 117 W Central Bentonville AR 72712
240,956	Asphalt Overlay	2015	Huntsville, Madison County, AR	203303. - AHTD C44001 Huntsville Overlay	AHTD PO Box 1262 Little Rock AR 72203
80,875	Asphalt Overlay	2015	Avoca, Benton County, AR	203305. - Town of Avoca Street Overlay	Town of Avoca PO Box 160 Avoca AR 72711-0160
153,396	Aephalt Overlay	2015	Lincoln, Washington Co. Arkansas	203322. - SA7294 Rd 11 Licoln Overlay	AHTD PO Box 1262 Little Rock AR 72203
1,519,819	Grading, Concrete, Drainage, Aggregate, Asphalt	2015	Tulea County, Oklahoma	403013. - COT PROJECT 104317	City of Tulsa 2317 South Jackson Ave. Tulsa, OK 74107
1,255,425	Grading, Structures. Pipe, Asph. Paving	2015	Tulsa County, Oklahoma	403047. - Yorktown III	Yorktown Holldings, LLC. 5711 E. 71st Street, Ste 120, Tulsa, OK 74136
1,429,486	Asphalt Paving	2015	Creek County. Oklahoma	403042. - T-MC-114 Sub To Koss	Koss Construction. 5830 SW Drury Ln, Topeka, KS 66604
2,878,011	Grading, Concrete, Drainage, Aggregate, Asphalt	2015	Tulsa County, Oklahoma	403014. - COT Proj. 104021-5 Mill/Overlay	City of Tulsa 2317 South Jackson Ave. Tulsa, OK 74107
1,879,618	Grading, Concrete, Drainage, Aggregate, Asphalt	2015	Tulsa County, Oklahoma	403027. - COT Project 104619 4th and Sheridan	City of Tulsa 2317 South Jackson Ave. Tulsa, OK 74107
4,877,847	Asphalt Paving	2015	Osage County, Oklahoma	403044. - NHPPY-257N(020) Osage Hwy - 60	Sherwood Construction, 1640 S. 101st E. Ave., Tulsa, OK 74128
3,061,913	Grading, Aggregate, Asphalt	2015	Joplin, Jaeper Co., MO	603913 - Mercy Replacement Hospital, Joplin. MO	Mercy Hospital, Joplin, MO
1,982,497	Asphalt Paving	2015	Joplin. Jasper Co., MO	603995 - Jasper County Overlay, Carthage. MO	Jasper County Comm., Jasper County Courthouse. Carthage. MO 64836
1,019,670	Grading, Aggregate, Asphalt	2015	Neosho, Newton Co., MO	604021 - Love's Truck Stop, Neosho. MO	Love's Truck Stop, Neosho, MO
1,214,562	Site Prep.. Aggregate, Milling, Asphalt	2015	Joplin, Jasper Co., MO	604023 - Joplin Airport. Joplin, Jasper Co.. MO	City of Joplin, 802 S. Main Street, Joplin, MO 64801
1,151.788	Highway Construction	2015	Rt. 65 & Battlefield, Greene Co., MO	604024 - Rt. 65 & Battlefield, Greene Co.. MO	MODOT, Jefferson City, MO
307.012	Asphalt Patching & Overlay	2015	Joplin, Jaeper Co., MO	604026 - Tamko High Street Plt., Joplin. MO	Tamko Building Products, PO Box 1404, Joplin, MO
6,498,006	Highway Construction	2015	Rt. 49, Barton, Vernon Co., MO	604036 - Rt. 49. J7P2200, Barton, Vernon Co.. MO	MODOT, Jefferson City, MO
1.895,666	Highway Construction	2015	Rt. Loop 44 & 13, Greene Co. MO	604037 - Rt. Loop 44. 13. J8P2264C. Greene. MO	MODOT, Jefferson City, MO
2,783,716	Highway Construction	2015	Rt. Bus. 60 Newton & Rt. HH Barry Co.	604038 - Rt. 60 & HH, Newton. Barry Co., MO	MODOT, Jefferson City, MO
1,466,729	Highway Construction	2015	Rt. 14, Douglas Co., MO	604039 - Rt. 14. J6S2460. Douglae Co., MO	MODOT, Jeffereon City, MD
3,445,471	Highway Construction	2015	Rt. 54 & 254, Cedar, St. Clair, Hickory Co., MO	604042 - Rt. 54 & 254. Var. Counties, MO	MODOT, Jefferson City, MO
349,622	Concrete C & G, Milling, Asphalt	2015	Nevada, Vernon Co., MO	604044 - City of Nevada, Vernon Co.. MO	City of Nevada, 110 S. Ash Street, Nevada, MO 64772
2,715,064	Highway Conetruction	2015	Rt. 60, Newton Co., MO	604047 - Rt. 60. J7O3068. Newton Co.. MO	MODOT, Jefferson City, MO
615,752	Highway Construction	2015	Rt. 160, Greene Co., MO	604048 - Rt 160, J8S0690B. Greene Co.. MO	MODOT, Jefferson City, MO
374,476	Grading, Aggregate, Asphalt	2015	Republic, Greene Co., MO	604049 - Republic Bus Bam. Republic. Greene. MO	Republic School Dist., Republic, MO
376,996	Removals, Grading, Aggr., Conc. C & G, Asphalt	2015	Springfield. Greene Co., MO	604051 - Moore Parking Lot. Springfield. MO	Jordan Valley Community Health Ctr., PO Box 5681, Springfield. MO
316,662	Grading, Aggregate, Asphalt	2015	Springfield, Greene Co., MO	604053 - Greene Co. FR 178. Springfield. MO	Greene County Highway Dept., Springfield, MO
240,577	Asphalt Paving	2015	Lamar, Barton Co., MO	604067 - City of Lamar Overlay. Barton Co.. MO	City of Lamar, 1104 Broadway Street, Lamar. MO 64759
6,690,371	Grading, Concrete, Drainage, Aggregate, Asphalt	2016	Centerton, Benton Co., AR	203248. - AHTD-090174-Hwy 102 Centerton	AHTD PO Box 1262 Little Rock AR 72203
1,701,612	Asphalt Paving	2018	Bella Vlsta, Benton Co., AR	203255. - AHTD-090293-Bella Vista Bypass (Kolb)	Kold Grading 5731 St. Charlee MO 63304
1,385,003	Asphalt Paving	2016	Fayetteville, Washington Co. Arkaneas	203259. - AHTD-040489-Hwy 112- Sub to Sweetser	Sweetser Construcion 590 W Poplar Fayetteville AR 72703
374,521	Asphalt Paving and Pavement Marking	2016	Rogers, Benton County, AR	203260. - AHTD-090383- Hwy 82 Rogere East & West Overlay	AHTD PO Box 1262 Little Rock AR 72203
1,235,976	Grading, Concrete, Drainage, Aggregate, Asphalt	2016	Johnson, Waehington County, AR	203279. - AHTD BB0412 Johnson Mill Blvd Interchng Impvts	AHTD PO Box 1282 Little Rock AR 72203
1,142,939	Grading, Concrete, Drainage, Aggregate, Asphalt	2016	Siloam Springs, Benton Co, Arkansas	203280. - AHTD 090269 Kenwood St Siloam Springe	AHTD PO Box 1262 Little Rock AR 72203
170,745	Asphalt Paving	2016	Huntsville, Madison County, AR	203304. - Harmony Road - City of Huntsville	City of Hunteville PO Box 549 Huntsville AR 72740
16,560	Asphalt Paving	2016	Greenland, Washington County, AR	203306. - City of Greenland - Additional Asphalt Pving	City of Greenland 8 E Ross St Grenland AR 72737
229,955	Asphalt Paving	2016	Bentonville, Benton County, AR	203310. - J Street Warehouee Paving - Bentonville	Croseland Construction Co 833 S East Ave Columbus KS 66725
55,031	Asphalt Paving	2016	Fayetteville, Washington Co. Arkaneae	203311. - Quarry Trace Subdivision Fayetteville	Sweetser Construcion 590 W Poplar Fayetteville AR 72703
65,419	Grading, Asphalt Paving	2016	Fayetteville, Washington Co. Arkansas	203313. - AHTD 040648 - I-49 Median Cable (Sub to Time Striping)	Time Striping Inc PO Box 1236 Van Buren AR 72957
8,690,371	Grading, Concrete, Drainage, Aggregate, Asphalt	2016	Centerton, Benton Co., AR	203246. - AHTD-090174-Hwy 102 Centerton	AHTD PO Box 1262 Little Rock AR 72203
1,701,612	Asphalt Paving	2018	Bella Vista, Benton Co., AR	203255. - AHTD-090293-Bella Vista Bypass (Kolb)	Kold Grading 5731 St. Charles MO 63304
1,385,003	Asphalt Paving	2016	Fayetteville, Washington Co. Arkansas	203259. - AHTD-040489-Hwy 112- Sub to Sweetser	Sweetser Conetrucion 590 W Poplar Fayetteville AR 72703
374,521	Asphalt Paving and Pavement Marking	2016	Rogers, Benton County, AR	203280. - AHTD-090383- Hwy 62 Rogers East & West Overlay	AHTD PO Box 1262 Little Rock AR 72203
1,235,976	Grading, Concrete, Drainage, Aggregate, Asphalt	2016	Johnson, Washington County, AR	203279. - AHTD BB0412 Johnson Mill Blvd Interchng Impvts	AHTD PO Box 1262 Little Rock AR 72203
1,142,939	Grading, Concrete, Drainage, Aggregate, Asphalt	2016	Siloam Springs, Benton Co, Arkansas	203280. - AHTD 090269 Kenwood St Siloam Springe	AHTD PO Box 1262 Little Rock AR 72203
170,745	Asphalt Paving	2016	Huntsville, Madison County, AR	203304. - Harmony Road - City of Huntsville	City of Huntsville PO Box 549 Huntsville AR 72740
16,580	Asphalt Paving	2016	Greenland, Washington County, AR	203306. - City of Greenland - Additional Asphalt Pving	City of Greenland 8 E Ross St Grenland AR 72737
229,955	Asphalt Paving	2018	Bentonville, Benton County, AR	203310. - J Street Warehouse Paving - Bentonville	Croeeland Conetruction Co 633 S East Ave Columbue KS 66725
55,031	Asphalt Pavlng	2016	Fayettevllle, Waehington Co. Arkansae	203311. - Quarry Trace Subdivieion Fayetteville	Sweetser Conetrucion 590 W Poplar Fayetteville AR 72703
65,419	Grading, Asphalt Pavlng	2016	Fayettevllle, Waehington Co. Arkansas	203313. - AHTD 040646 - I-49 Median Cable (Sub to Time Striping)	Time StripIng Inc PO Box 1236 Van Buren AR 72957
3,789,770	Grading, Curb, Sidewalk, Aggregates, Asphalt	2016	Tulsa, Oklahoma	403052. - COT Project 104020 Various Streete	City of Tulea 2317 South Jackeon Ave. Tulsa, OK 74107
1,691,105	Asphalt Paving	2016	Craig Co., OK	403054. - US-59 STPY-118S(067) Craig County	ODOT, 200 NE 21et Street, OKC, OK 73105
906,959	Gradlng, Curb, Sidewalk, Aggregates, Asphalt	2016	Tulsa, Oklahoma	403066. - COT Project 144020	CIty of Tulsa 2317 South Jackeon Ave. Tulsa, OK 74107
1,752,791	Mill & Asphalt Overlay	2018	Craig Co., OK	403073. - SH-66 SSR-218C(045)SR Craig	ODOT, 200 NE 21st Street, OKC, OK 73105
582,610	Gradlng, Aggr., Concrete C & G, Asphalt	2016	Springfield, Greene Co., MO	604045. - Crossway Baptist Church, Springfield, Greene Co., MO	Crossway Baptiet Church, Springfield, MO
1,739,318	Highway Conetruction	2016	Rt. 65 DDI Christian Co., MO	604060. - Rt. 65 DDI, Chrietian Co.. MO	MODOT, Jeffereon City, MO
2,210,892	Highway Conetruction	2016	Rt. 54 Hickory, St. Clair Co., MO	604078. - Rt. 54 Hickory, St. Clair Co., MO	MODOT, Jefferson City, MO
1,112,154	Highway Construction	2018	Rt. 65 Benton Co., MO	604079. - Rt. 65 Benton Co., MO	MODOT, Jefferson City, MO
216,719	Asphalt Paving	2016	Springfield, Greene Co., MO	604082. - Fremont Elementary School, Springfield, Greene Co., MO	Springfield School Diet., Springfield, MO
175,758	Asphalt Paving	2016	Republic, Greene Co., MO	604105. - Woodland Park Estatee, Republic. Greene Co., MO	BT & TD Inveetments, 910 E. Dade #161, Everton, MO 65646
534,065	Asphalt Overlay	2016	Bolivar, Polk Co., MO	604115. - Various Rde., Polk Co., MO	County of Polk, 102 E. Broadway Str., Bolivar, MO 65613
90,450	Asphalt Paving	2016	Clever, Christian Co., MO	606150. - Street Improvemente, Clever, Chriatian Co., MO	City of Clever, PO Box 52, Clever, MO 85831
90,337	Asphalt Overlay	2016	Neoeho, Newton Co., MO	606170. - Varloue Rds., Neoeho, Newton Co., MO	Neosho Special Rd. Dist., PO Box 51, Neosho, MO 64850
63,000	Asphalt Paving	2016	Oeceola, St. Clair Co., MO	608182. - Oeceola Firet Baptist Church, Osceola, St. Clair Co., MO	Osceola First Baptiet Church, PO Box 385, Oeceola, MO 64776
5,628,890	Grading. Concrete, Drainage, Aggregate, Asphalt	2017	Springdale, Washington Co., AR	203250. - AHTD-040490-Hwy 285 Springdale	Arkansae Department of Traneportation PO Box 1262, Little Rock, AR 72203
9,727,688	Grading, Concrete, Drainage. Aggregate, Asphalt	2017	Johneon-Springdale, Waehington Co., AR	203251. - CP-0808-Johneon Road Springdale	City of Springdale, 201 Spring St., Springdale, AR 72764

APAC-CENTRAL, INC.

ATTACHMENT A-1

Listed below is a partial list of similar projects
completed within the last five years.

CONTRACT AMOUNT	TYPE OF WORK	WHEN COMPLETED	LOCATION CITY/COUNTY AND STATE	REFERENCE Name , Work Location (City, county or state)	PROJECT OWNER'S NAME AND ADORESS
120,778	Asphalt, Drainage, Concrete	2017	Siloam Springs, Benton Co., AR	203258. - AHTD-090268-Sager Creek-Sub to Manhattan	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
5,344,701	Asphalt Paving	2017	Fayetteville, Washington Co., AR	203271. - AHTD #040605 Hwy 16W Porter Rd Pace	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
15,681,579	Grading, Concrete, Drainage, Aggregate, Asphalt	2017	Bethel Heights, Benton Co., AR	203275. - AHTD 090331 I540 at Wagon Wheel Rd	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
4,402,702	Grading, Concrete, Orainage, Aggregate, Asphalt	2017	Fayetteville, Washington Co., AR	203278. - Van Asche Dr. Gregg St Garland Ave	City of Fayetteville, 113 W. Mountain, Fayettevllle, AR 72701
384,518	Asphalt Paving	2017	Springdale, Washington Co., AR	203298. - AHTD # 040581 HWY 180 LEROY POND DR	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
1,149,112	Asphalt Overlay	2017	Springdale, Washington Co., AR	203316. - City of Springdale Street Paving 2015	City of Springdale, 201 Spring St., Springdale, AR 72764
2,773,777	Grading, Concrete, Drainage, Aggregate, Asphalt	2017	Springdale, Washington Co., AR	203320. - 040619 - Johnson Road Phase 2 CO 4	City of Springdale, 201 Spring St., Springdale, AR 72764
12,125	Concrete	2017	Johnson, Washington County, AR	203323. - City of Johnson Oitch Paving - McGuire Street	City of Johnson, 2904 Main Dr., Johnson 72737
75,392	Asphalt Paving	2017	Rogers, Benton County, AR	203330. - Grand Pointe Subdivision - Rogers	J. Johnson Construction Company, Inc., 1300 Morsani Dr., Rogers, AR 72756
1,294,277	Asphalt Overlay	2017	Madison/Washington Co. Line, AR	203334. - AHTD 090444 WASHINGTON CO LINE HWY 16E OL	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
15,811	Asphalt Overlay	2017	St. Paul, Madison Co., AR	203340. - Oak Street Add-on St. Paul	Town of Saint Paul, PO Box 19, Saint Paul, AR 72760
22,366	Concrete Paving, Asphalt Paving	2017	Fayetteville, Washington Co., AR	203341. - Or. Bryan Abernathy Oriveway - Prepaid	Bryan Abernathy, 1806 N. Crossover Rd., Suite 4, Fayetteville, AR 72701
158,559	Asphalt Paving	2017	Fayetteville, Washington Co., AR	203349. - Mountain Ranch Subdivision - Phase 3	Trulove Construction, LLC, P.O. Box 152, Berryville, AR 72616
331,681	Asphalt Overlay	2017	Siloam Springs, Benton Co. AR	203358. - AHTD 090483 - Hwy 43 OL	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
290,347	Asphalt Paving	2017	Fayetteville, Washington Co., AR	203366. - Collier's Race Track	Sweetser Construcion 590 W Poplar Fayetteville AR 72703
3,011,251	Grading, Concrete, Drainage, Aggregate, Asphalt	2017	Tulsa, Oklahoma	403038. - COT Project 104231 33rd West Ave. Tulsa, OK	City of Tulsa 2317 South Jackson Ave. Tulsa, OK 74107
3,629,266	Mill & Asphalt Overlay	2017	SH-28, Rogers County, OK	403055. - SH-28 SSR-253C(028)SR/SSR-266C(034)SR ROGERS	ODOT, 200 NE 21st Street, OKC, OK 73105
3,744,016	Mill & Asphalt Overlay	2017	Will Rogers Turnpike, Craig County, OK	403076. - WR-MC-129	Oklahoma Turnpike Authority, P.O. Box 11357, OKC, OK 73136
869,389	Mill & Asphalt Overlay	2017	Avant, Osage County, OK	403078. - CO 450 STP-257B(046) 3P OSAGE (Avant)	ODOT, 200 NE 21st Street, OKC, OK 73105
869,244	Mill & Asphalt Overlay	2017	Wyandotte, SH-10, Ottawa County, OK	403089. - SSR-258C(025)SR Ottawa SH-10 Wyandotte	ODOT, 200 NE 21st Street, OKC, OK 73105
5,035,676	Grading, Concrete, Drainage, Aggregate, Asphalt	2017	Joplin, Jasper Co., MO	603961. - Maiden Lane Widening, Joplin, MO	City of Joplin, 602 S. Main Street, Joplin, MO 64801
2,839,631	Grading, Concrete, Aggregate, Asphalt	2017	Rt. 60 Newtori Co., MO	604047. - Rt. 60 Newton Co., MO	MOOOT, Jefferson City, MO
2,756,291	Grading, Concrete, Aggregate, Asphalt	2017	Rt. 60 Barry, Lawrence Co., MO	604076. - Rt. 60 Barry, Lawrence Co., MO	MODOT, Jefferson City, MO
3,889,608	Grading, Concrete, Aggregate, Asphalt	2017	Rt. 65 Benton, Oallas, Hickory Co., MO	604077. - Rt. 65 Benton, Dallas, Hickory Co., MO	MODOT, Jefferson City, MO
142,282	Grading, Concrete, Aggregate, Asphalt	2017	Springfield, Greene Co., MO	604083. - Loren Cook Addition, Springfield, Greene Co., MO	Loren Cook, Springfield, MO
304,363	Grading, Concrete, Aggregate, Asphalt	2017	Clty of Aurora, Lawrence, Co., MO	604087. - White Park Trail, Aurora, Lawrence Co., MO	City of Aurora, PO Box 30, Aurora, MO 65605
4,444,970	Grading, Concrete, Aggregate, Asphalt	2017	Rt. 60 Wright Co., MO	604090. - Rt. 60 Wright Co., MO	MODOT, Jefferson City, MO
4,030,673	Grading, Concrete, Aggregate, Asphalt	2017	Rt. 13 Henry, St. Clair Co., MO	604094. - Rt. 13 Henry, St. Clair Co., MO	MODOT, Jefferson City, MO
730,322	Grading, Concrete, Orainage, Aggregate, Asphalt	2017	Springfield, Greene Co., MO	604097. - Packer Rd. Ext. & Cedarbrook, Springfield, Greene Co., MO	New Prime Inc., PO Box 4208, Springfield, MO 65808
452,235	Concrete C&G, Asphalt Paving	2017	Nevada, Vernon Co., MO	604100. - City Streets, Nevada, Vernon Co., MO	City of Nevada, 110 S. Ash Street, Nevada, MO 64772
845,978	Grading, Concrete, Drainage, Aggregate, Asphalt	2017	Springfield, Greene Co., MO	604106. - Pilot Flying J, Springfield, Greene Co., MO	Pilot Travel Ctrs., LLC, PO Box 10146, Knoxville, TN 37939
1,186,573	Grading, Aggregate, Asphalt	2017	Ozark, Christian Co., MO	604108. - Street Overlay, Ozark, Christian Co., MO	City of Ozark, PO Box 295, Ozark, MO 65721
380,837	Aggregate, Asphalt Paving	2017	Neosho, Newton Co., MO	604113. - Neosho Jr. High, Neosho, Newton Co., MO	Neosho R-5 School Dist., 418 Fairground Rd., Neosho, MO 64850
1,153,157	Grading, Concrete, Drainage, Aggregate, Asphalt	2017	Springfield, Greene Co., MO	604117. - Springfield-Branson Airport, Springfield, Greene Co., MO	City of Springfield, 218 E. Central, Springfield, MO 65802
214,436	Remove & Replace Concrete	2017	Hollister, Taney Co., MO	604121. - UPS, Hollister, Taney Co., MO	UPS, 5501 Fourche Dam Pike, Little Rock, AR 72206
343,247	Grading, Concrete, Aggregate, Asphalt	2017	Springfield, Greene Co., MO	604126. - Springfield Grocer, Springfield, Greene Co., MO	Springfield Grocer, Springfield, MO
109,800	Earthwork, Orainage, Asphalt Paving	2017	Mountain Grove, Wright Co., MO	604141. - Mountain Grove Campus, Mountain Grove, Wright Co., MO	Missouri State University, 901 S. National Ave,, Springfield, MO 65897
628,901	Asphalt paving	2018	Winslow, Washington, AR	203328. - AHTD #040207 Devils's Den-West (Pace)	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
1,476,112	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2018	Siloam Springs, Benton, AR	203361. - AHTD 090406 Hwy 43 KCS Railroad Overpass	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
270,035	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2018	Bella Vista, Benton, AR	203365. - AHTD C04010 Bella Vista Cedar Crest Or Surfacing	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
531,060	Millings and asphalt paving.	2018	Alma, Crawford, AR	203375. - AHTD C17006 - Alma & Kibler OL	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
143,612	Mill and asphalt with driveways	2018	Bentonville, Benton, AR	203376. - NW 3rd St Phase 3	City of Bentonville, 117 W. Central Ave., Bentonville, AR 72712
369,963	Excavation, base, drainage, concrete, signage	2018	Bella Vista, Benton, AR	203379. - Suits-Us Drive Improvements Bella Vista	City of Bella Vista, 616 W. Lancashire Blvd., Bella Vista, AR 72714
5,915,033	Concrete Patching, Asphalt Paving	2018	Tulsa, OK	403097. - NHPP-272A(126)3B/SSP-272N(203)SS/STP-272S(174)3B	ODOT, 200 NE 21st Street, OKC, OK 73105
2,280,226	Asphalt Milling and Asphalt Paving, Airport Runway	2018	Claremore, OK	403106. - Claremore Runway and Taxiway Rehab	City of Claremore, 104 South Muskogee Ave., Claremore, OK 74019
578,451	Fine Grade, Asphalt Paving, Concrete Curb & Gutter, Drainage	2018	Jenks, OK	403107. - Yorktown Phase 5	Yorktown Holdings, LLC., 5711 E. 71st St Suite 120, Tulsa, OK 74136
1,270,176	Grading, Aggregate, Asphalt Paving	2019	Springfield, Greene Co., MO	604187. - Menards East Non-Public Portion	Menards, Inc., Springfield, MO
150,013	Asphalt Paving	2019	Springfield, Greene Co., MO	604188. - Menards East Public Portion	Menards, Inc., Springfield, MO
998,245	Grading, Aggregate, Asphalt	2019	Var. Rts., Jasper Co., MO	604194. - Rt. HH, AA, VV Jasper Co. J7S3055	MODOT Southwest Oist., PO Box 868, Springfield, MO 65801
416,958	Asphalt Paving	2019	Rt. 43 Newton Co, MO	604195. - Rt. 43 Newton Co. J7S2227D	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
739,126	Asphalt Paving	2019	Rt. 66, Jasper Co., MO	604198. - Rt. 66 Jasper Co., J7S3118	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
378,352	Asphalt Paving	2019	Rt. TT, Jasper Co., MO	604197. - Rt. TT Jasper Co., J7S3162	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
129,796	Grading, Aggregate, Concrete, Asphalt	2019	Springfield, Greene Co., MO	604199. - Hickman Woods, Springfield	Hawkins & Sons, LLC, 3606 E. Gasconade, Springfield, MO 65809
103,548	Excavation, Asphalt Paving	2019	Joplin, Jasper Co., MO	604200. - Owens Corning / Joplin Mineral Wool Plant	Owens Corning Sales, LLC, PO Box 13950, Ourham, NC 27709
13,461,521	Grading, Aggregate, Asphalt	2019	Rt. 44, Jasper, Lawrence Co., MO	604203. - Rt. 44 Jasper, Lawrence J7I3073	MODOT Southwest Oist., PO Box 868, Springfield, MO 65801
3,710,311	Asphalt paving	2019	Rogers, Benton, AR	203360. - AHTD 090376 8th St Interchange	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
4,977,105	Asphalt paving	2019	Creek County, OK	403103. - T-MC-107C1 Turner Turnpike	Duit Construction, P.O. Box 3788, Edmond, OK 73083
2,376,552	Grading, Aggregate, Drainage, Concrete, Asphalt	2019	Rt. 65 Greene Co., MO	604163. - MODOT Rt. 65 Greene Co. J8P3036	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
2,122,664	Excavation, Grading, Aggregate, Drainage, Concrete, Asphalt	2019	Rt. 360 & 60 Greene Co., MO	604169. - MODOT Rt. 360 & 60 Greene Co., J8P3102	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
3,558,849	Grading, Aggregate, Asphalt	2019	Rt. 13 St. Clair Co., MO	604177. - Rt. 13 St. Clair Co., J7S2232	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
212,857	Aggregate, Asphalt	2019	Rt. 76 Taney Co., MO	604184. - Rt. 76 Taney Co., 3 Bridges Ends J7S3087, B, C	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
335,091	Grading, Aggregate, Asphalt Paving	2019	Springfield, Greene Co., MO	604190. - 3M Site Package	3M Company, PO Box 3428, St. Paul, MN 55133
6,899,199	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2020	Springdale, Washington, AR	203418. - Gene George Blvd (56th St.) - Section 1	City of Springdale, 201 Spring St., Springdale, AR 72764
1,209,148	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2020	Bentonville, Benton, AR	203420. - Hwy 102-SW "I" Street	City of Bentonville, 117 W. Central Ave., Bentonville, AR 72712
1,045,551	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2020	Centerton, Benton, AR	203412. - Hwy 102B-Seba Road	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
8,490,898	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2019	Rogers, Benton, AR	203378. - Bellview Road South Improvements	City of Rogers, 301 W. Chestnut, Rogers, AR 72756
10,243,392	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2019	Springdale, Washington, AR	203383. - ArDOT 012007 Randall Wobbe-264 Hwy 265	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
3,754,094	Milling, Asphalt Paving, Concrete	2020		203433. - ArDOT 090561 Hwy 12 - I-49 (71B OL)	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
428,784	Asphalt paving	2019	Bentonville, Benton, AR	203440. - Bentonville Street OL 2019	City of Bentonville, 117 W. Central Ave., Bentonville, AR 72712

APAC-CENTRAL, INC.

ATTACHMENT A-1

Listed below is a partial list of similar projects
completed within the last five years.

CONTRACT AMOUNT	TYPE OF WORK	WHEN COMPLETED	LOCATION CITY/COUNTY AND STATE	REFERENCE Name , Work Location (City, county or state)	PROJECT OWNER'S NAME AND ADDRESS
8,498,764	Milling, Asphalt Paving, Aggregate	2020	Waldron, Scott, AR	203445. - ArDOT A40002 Waldron - Yell Co	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
2,497,437	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2019	Ottawa County, OK	403121. - STATE LINE ROAD OTTAWA CDUNTY	Ottawa County, 102 E. Central, Miami, OK 74354
2,462,453	Milling, Asphalt Paving	2019	Tulsa County. OK	403127. - Taxiway J North Reconstruction ESS	Tulsa International Airport / Emory Sapp & Sons, 2301 I-70 Drive, Columbia, MO
7,430,589	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2020	Tulsa,Tulsa County. OK	403130. - CDT 170065 MINGO RD	City of Tulsa 2317 South Jackson Ave. Tulsa, OK 74107
7,966,930	Milling, Asphalt Paving, guardrail	2019	Springdale, Washington, AR	403134 - NHPP-0072(57) ARDDT 040774 US 412	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72203
4,935,148	Grading, Aggregate, Drainage, Concrete, Asphalt	2020	Rt. 160 Christian Co., MO	604242. - Rt. 160 & 13 Christian Stone J7S3133/MODOT S.W. Dist.	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
6,299,102	Excavation, Grading, Aggregate, Drainage, Concrete, Asphalt	2020	Rt. 160 Christian Co., MO	604257. - Rt. 160 Christian Greene J8O3141/MODOT SW Dist.	MODOT Southwest Dist., PO Box 868, Springfield, MO 65801
26,934,336	Excavation,Bridge,Drainage,Asphalt,Traffic Signalization	2020	Rogers, Benton, AR	203401. - ArDOT BB0903 - I-49/Hwy 71B Interchange	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72202
53,385,638	Milling, Asphalt Paving, Bridge deck modifications, guardrail	2020	Ft. Smith, Crawford, AR	203415. - ArDOT BB0401 - I-40/I-540	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
1,645,342	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2021	Tontitown, AR	203453 - Fletcher Avenue Improvements	City of Tontitown, Henri De Tonti Blvd, Tontitown, AR
687,387	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2021	Farmington, AR	203467 - ArDOT C72003 Farmington Double Springs Rd Imprv.	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
947,629	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2020	Fayetteville, AR	203469 - Wallin Mountain Road Rehab	Washington County Road Department, Fayetteville Arkansas 72701
214,012	Milling, Asphalt Paving	2020	Japton, AR	203471 - ArDOT SA4438, Madison County	Arkansas Department of Transportation PD Box 1262, Little Rock, AR 72204
802,269	Milling, Asphalt Paving, Aggregate	2020	Fayetteville, AR	203477 - ArDOT 7299 Co. Road 30&32	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
6,097,916	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2021	Fayetteville, AR	203478 - ArDOT 040579 College Ave - Huntsville Rd	Arkansas Department of Transportation PD Box 1262, Little Rock, AR 72204
1,487,825	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2021	Springdale, AR	203480 - ArDOT EF7211 Spring Creek Str. & Approaches	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
3,128,001	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2021	Rogers, AR	203481 - Rogers Airport Taxilane PH 2	City of Rogers, 301 W. Chestnut, Rogers, AR 72756
9,000,000	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2022	Springdale, AR	203497 - 64th Street Improvements	City of Springdale, 201 Spring St., Springdale, AR 72764
350,000	Milling, Asphalt Paving, Aggregate	2022	Fayetteville, AR	203499 - Sain Street Extension	City of Fayetteville, W Mountain Street, Fayetteville AR
3,500,000	Milling, Asphalt Paving, Aggregate	2022	Bella Vista, AR	2034500 - ArDOT A90007 - Mo St Line - Hwy 279	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
250,000	Aspalt Paving & Base Laydown	2022	Rogers, AR	2034501 - Independence Plaza Retail	PROJECT'S OWNER'S
300,000	Milling, Asphalt Paving, Aggregate	2021	Goshen, AR	203508 - C72013 - Goshen Overlay	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
1,200,000	Milling, Asphalt Paving, Aggregate	2021	Dry Fork, AR	203509 - ArDOT A90008 - Hwy 412 Overlay	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
15,000,000	Excavation/subsurface, Drainage, Aggregate, Concrete, Asphalt	2023	Fayetteville, AR	203504 - ArDOT 040847 Wedington Interchange	Arkansas Department of Transportation PO Box 1262, Little Rock, AR 72204
6,000,000	Milling, Asphalt Paving, Aggregate	2023	Bentonville, AR	203511 - Water Tower Road/8th Street Improvements	City of Bentonville

APAC-CENTRAL, INC.

ATTACHMENT A-2

Listed below is a partial list of the organization's current projects in progress and their estimated completion dates,

CONTRACT AMOUNT	REFERENCE	TYPE OF WORK	ESTIMATED COMPLETION DATE	PERCENT COMPLETE	LOCATION CITY/COUNTY STATE	PROJECT'S OWNER'S NAME AND ADDRESS
$ 7,593,824.00	203536 - N. 40th Street Improvements	Complete Corridor Reconstruction & Water/Sewer Improvement	1-Jul-2025	60.00%	Springdale, AR	City of Springdale, 269 W Randall Wobbe Ln
$ 1,304,807.00	203539 - Oak & Uptown Overpasses	ACHM Paving Courses	1-Feb-2025	75.00%	Rogers, AR	Crossland Heavy Contractors, 705 S. Lincoln St, Lowell, AR 72745
$ 5,968,727.00	203548 - 8th St West Walmart NEO Nabholz	Roadway construction; base, curb, sidewalk, concrete paving	1-Mar-2025	80.00%	Bentonville, AR	Nabholz Construction, 3301 N. 2nd St, Rogers AR 72756
$ 4,677,764.00	203553 - 8th St East Walmart NEO Nabholz	Roadway const - earthwork, storm drainage, base, asphalt paving	1-Mar-2025	70.00%	Bentonville, AR	Nabholz Construction, 3301 N. 2nd St, Rogers AR 72756
$ 1,714,504.00	203571 - Lewis Automotive	Fine grading and ACHM Paving	1-Dec-2024	85.00%	Fayetteville, AR	Nabholz Construction, 3301 N. 2nd St, Rogers AR 72756
$ 1,098,691.00	203572 - Pinnacle Hills Roundabouts	Asphalt Paving	1-Dec-2024	80.00%	Rogers, AR	Crossland Heavy Contractors, 705 S. Lincoln St, Lowell, AR 72745
$ 5,906,051.00	203574 - Water Tower Ph 2	Grading, Concrete, Base, Asphalt, Landscaping, Lighting, Electrical, S	1-Mar-2025	45.00%	Bentonville, AR	City of Bentonville, 3200 SW Municipal Dr Bentonville, AR 72712
$ 491,847.00	203581 - ArDOT 090431 Little Sugar Creek Str. & App.	Base, Paving, Milling	1-Nov-2024	80.00%	Bentonville, AR	Robertson Contractors, 1909 South Westood Blvd Poplar Bluff, MO 63901
$ 9,794,501.00	203582 - SW 28th Street. Featherston to I Street	Grading, Concrete, Base, Asphalt, Landscaping, Lighting, Electrical, S	1-Dec-2025	20.00%	Bentonville, AR	City of Bentonville, 3200 SW Municipal Dr Bentonville, AR 72712
$ 497,512.00	203591 - Hawksview Subdivision	Earthwork, base, paving, erosion control	1-Feb-2025	70.00%	Springdale, AR	Scout Enterprises, 12960 S. Zion Rd Lowell, AR 72745
$ 114,977.00	203592 - George Elementary	Base & Paving	1-Sep-2024	70.00%	Springdale, AR	Milestone Construction, 2002 S. 48th St, Springdale AR
$ 238,645.00	203595 - Markham Hill Hospitality	Paving	1-Apr-2025	20.00%	Fayetteville, AR	Nabholz Construction, 3301 N. 2nd St, Rogers AR 72756
$ 1,809,765.00	203600 - 15th St & Razorback Rd Intersection Impvmts	Grading, Drainage, Concrete, Aggregates, Asphalt, Lighting, Striping	1-Jun-2025	45.00%	Fayetteville, AR	City of Fayetteville, 125 W Mountain Fayetteville, AR 72701
$ 1,975,401.00	203601 - 2023 Springdale Street Overlay	Mill & Overlay	1-Sep-2024	90.00%	Springdale, AR	City of Springdale, 269 W Randall Wobbe Ln
$ 4,500,039.00	203603 - Midtown Multimodal Corridor	Grading, RCP & Drainage Structures	1-Apr-2025	50.00%	Fayetteville, AR	Crossland Heavy Contractors, 705 S. Lincoln St, Lowell, AR 72745
$ 184,284.00	203604 - Markham Hill Subdivision Phase 2	Base & Paving	1-May-2025	10.00%	Fayetteville, AR	Nabholz Construction, 3301 N. 2nd St, Rogers AR 72756
$ 1,100,757.00	203606 - 13th Street Bicycle Ped Impvts & Poplar & 13th Roundabout	Milling, Base Work, Paving	1-Jun-2025	25.00%	Rogers, AR	Brothers Construction, PO Box 1763, Van Buren, AR 72957
$ 412,989.00	203607 - Viney Grove Rd Phase II	Paving	1-Sep-2024	85.00%	Prairie Grove, AR	Sweetser Construction, 590 W Poplar, Fayetteville, AR 72703
$ 92,615.00	203609 - Saint Theodore Church Parking Lot	Milling, Paving, Asphalt Reseal, Concrete Pad	1-Jun-2024	99.99%	Bella Vista, AR	Saint Theodore's Episcopal Church
$ 124,908.00	203610 - Markham Hill Cabin Ridge	Paving	1-Jun-2025	15.00%	Fayetteville, AR	Nabholz Construction, 3301 N. 2nd St, Rogers AR 72756

APAC-Central, Inc.

Shaun Long
Estimator

755 Millsap Road
Fayetteville, AR 72702
Tel: 479 587-3300
Fax: 479 521-2826
Shaun.Long@apac.com

Equipment Description

Air compressor, all portable
Blaw Knox 10' Track Paver
Blaw Knox 8' Wheel Paver
Broom, 4 wheel self-propelle
Crane, Stinger Truck mounted
Concrete Curb Machine
Concrete Paver, Slipform
Crane, Linkbelt LS-118-60ton
Crane, GroveRT59S- 20 ton
Crane, Grove AT400-30-45 ton
Crawler,Track loader- Cat963
Dozer, JD 450G - Small
Dozer, D-3C & JD 550 G & H
Dozer, Kmtsu D53A -81-95 HP
Dozer, D-6H, D65 Kom.
Dozer, D-7H- 201 - 270 HP
Dozer, D-8R, D-8N- Large
Asphalt Distibutor Truck
Asp. Roller- IR DD-24 Vibr.
Asp Roller - IR DD-90 & 110
Stump Trailer w/Truck
Service Truck Conc. Flatbed
10-Wheeler Dump Truck
Tri-Axle Dump Truck
Dump Truck w/ Demo Bed
Trackhoe Kobel. SK210, small
Kobelco 220 / 250
Trackhoe w/ Hydraulic Hammer
Kobelco 290 / 300, CAT 330
Komatsu 300 w/ Hyd. Hammer
CAT 350L
Trackhoe - Hitachi 800
Forklift, Case 584 & 586E
Farm tractor, to 40 HP
Farm tractor, 41-65 HP
Hydroseeder - Finn T110
Volvo Articulating Dump 30 T
Volvo Articulating Dump 40 T
End Dump pit truck to 40 ton
Terex 45 Ton End Dump
Rubber Tire Backhoe
Message Board / Radar Trlr.
Motor Grader, CAT 12G
Motor Grader, CAT 140G/140H

Equipment Description

Boom lift, gas or diesel RT
Boom Lift Over 60'
Material Transfer Veh. - MTV
Pump, centrifugal - 6 inch &
Dirt Roller Vibr Padfoot Sm.
Dirt Roller Vibr Padfoot Lrg
Dirt Roller Vibr Padft 12 TN
Roller, Padfoot, CAT 815B
Truck, pickup 1/2 ton
Truck, pickup 3/4 ton
Wheel loader- Small- Kaw 65Z
Wheel loader- yard- Kaw 95 Z
Wheel loader-Pit - Cat 988
Asp Rbr. Tire Roller- Static
Road widener, self-propelled
Scraper 18 to 29 cy -Cat 621
Base/Dirt Roller Vibr.- Sm.
Base/Dirt Roller Vibr.- Lge.
Scraper Paddlewheel Cat 613B
Scraper Paddlewheel Cat 615
Skid steer loader, Bob Cat
Skid Steer, Cat 236 w/ Rake
Asphalt Service Truck
Box Blade Tractor Front Load
Trench Roller, Vibr Pad Foot
Low Boy Trailer w/Truck
Truck, pickup 1 ton
Ford F450/F550, GMC 5500
Water truck 1,001-2,000 gall
Water Truck 2000 - 7000 gal
Off-Rd Water Truck 7,000 gal

00 45 13 QUALIFICATIONS STATEMENT

THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT PERMITTED BY LAWS AND REGULATIONS

1. SUBMITTED BY:

Official Name of Firm: Broadway Electric Inc.

Address: P.O. Box 1403
Forrest City, AR 72335

2. SUBMITTED FOR:

Owner: **CITY OF BENTONVILLE**

Project Name: **SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)**

TYPE OF WORK: This project includes, but is not limited to, construction of approximately 600 linear feet of 35 foot wide asphalt parallel taxiway extension, including airfield signage and associated grading and drainage improvements as shown in the plans and indicated in the specifications.

3. CONTRACTOR'S CONTACT INFORMATION

Contact Person: DAnny Bartleson

Title: President

Phone: 870-261-5367

Email: dannybartleson@yahoo.com

4. AFFILIATED COMPANIES:

Name:

Address:

5. TYPE OF ORGANIZATION:

☐ SOLE PROPRIETORSHIP

Name of Owner: _____

Doing Business As: _____

Date of Organization: _____

☐ PARTNERSHIP

Date of Organization: _____

Type of Partnership: _____

Name of General Partner(s): _____

☒ CORPORATION

State of Organization: Arkansas

Date of Organization: 1982

Executive Officers:

- President: Danny Bartleson
- Vice President(s): _____
- Treasurer: _____
- Secretary: _____

☐ LIMITED LIABILITY COMPANY

State of Organization: _____

Date of Organization: _____

Members: _____

☐ JOINT VENTURE

Sate of Organization: _____

Date of Organization: _____

Form of Organization: _____

Joint Venture Managing Partner

- Name: _____
- Address: _____

Joint Venture Managing Partner

- Name: _____
- Address: _____

Joint Venture Managing Partner

- Name: _____
- Address: _____

6. LICENSING

Jurisdiction: ARKANSAS

Type of License: Contractors License

License Number: 0006091024

Jurisdiction: _____

Type of License: _____

License Number: _____

Has firm listed in Section 1 ever been fined or suspended by a Contractor's licensing board?

☐YES ☒NO

If YES, attach as an Attachment details including where and why.

7. CERTIFICATIONS

CERTIFIED BY:

Disadvantage Business Enterprise: None

Minority Business Enterprise: None

Woman Owned Enterprise: None

Small Business Enterprise: None

Other (_____): _____

8. BONDING INFORMATION

Bonding Company: _____

Address: _____

_____

Bonding Agent: _____

Address: _____

_____

_____

Contact Name: _____

Phone: _____

Aggregate Bonding Capacity: _____

Available Bonding Capacity as of date of this submittal: _____

9. FINANCIAL INFORMATION

Financial Institution: _____

Address: _____

_____

Account Manager: _____

Phone: _____

Credit available: $_____

10. CONSTRUCTION EXPERIENCE:

Current Experience:

List on **Schedule A** all uncompleted projects currently under contract (If Joint Venture list each participant's projects separately).

Previous Experience:

List on **Schedule B** all projects completed within the last 5 Years (If Joint Venture list each participant's projects separately).

Has firm listed in Section 1 ever failed to complete a construction contract awarded to it?

☐YES ☒ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Has any Corporate Officer, Partner, Joint Venture participant or Proprietor ever failed to complete a construction contract awarded to them in their name or when acting as a principal of another entity?

☐ YES ☒ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Are there any judgments, claims, disputes or litigation pending or outstanding involving the firm listed in Section 1 or any of its officers (or any of its partners if a partnership or any of the individual entities if a joint venture)?

☐YES ☒ NO

If YES, attach as an Attachment details including Project Owner's contact information.

11. SAFETY PROGRAM:

Name of Contractor's Safety Officer: Danny Barteson

Include the following as attachments:

Provide as an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) OSHA No. 300- Log & Summary of Occupational Injuries & Illnesses for the past 5 years.

Provide as an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all OSHA Citations & Notifications of Penalty (monetary or other) received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE.

Provide as an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all safety citations or violations under any state all received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE.

Provide the following for the firm listed in Section 1 (and for each proposed subcontractor and supplier furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) the following (attach additional sheets as necessary):

Workers' compensation Experience Modification Rate (EMR) for the last 5 years:

YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____

Total Recordable Frequency Rate (TRFR) for the last 5 years:

YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____

Total number of man-hours worked for the last 5 Years:

YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____

Provide Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) Days Away From Work, Days of Restricted Work Activity or Job Transfer (DART) incidence rate for the particular industry or type of Work to be performed by Contractor and each of Contractor's proposed subcontractors and suppliers) for the last 5 years:

YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____

12. EQUIPMENT:

MAJOR EQUIPMENT:

List on **Schedule C** all pieces of major equipment available for use on project.

13. ELECTRICAL EXPERIENCE:

Provide background and experience of the Master Electrician(s) licensed in state of Arkansas (issued by the Arkansas Board of Electrical Examiners) who have proper skills in supervising, performing, and maintaining the electrical work.

Provide Master Electrician(s) licenses for the qualified electrical supervisor(s) for supervising the 5 kV airfield lighting work and provide Journeyman(s) licenses for those that will assist in the work. Provide certifications and qualifications of each proposed 5 kV cable splicer, with minimum (3) years continuous experience in terminating/splicing medium voltage cables.

SEE Attached

I HEREBY CERTIFY THAT THE INFORMATION SUBMITTED HEREWITH, INCLUDING ANY ATTACHMENTS, IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME OF ORGANIZATION: Broadway Electric Inc

BY: [redacted]

TITLE: President

DATED: June 27, 2024

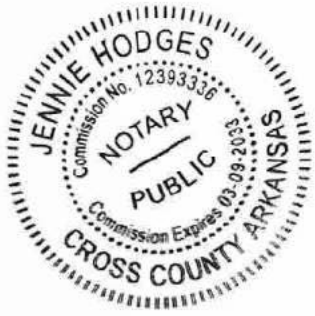
NOTARY ATTEST [redacted]

SUBSCRIBED AND SWORN TO BEFORE ME

THIS 27th DAY OF June, 2024

NOTARY PUBLIC - STATE OF AR

MY COMMISSION EXPIRES: 3-9-2033



REQUIRED ATTACHMENTS

1. Schedule A (Current Experience)*.
2. Schedule B (Previous Experience)*.
3. Schedule C (Major Equipment)*.
4. Evidence of authority for individuals listed in Section 5 to bind organization to an agreement.
5. Resumes of officers and key individuals (including Safety Officer) of firm named in Section 1.
6. Required safety program submittals listed in Section 11.
7. Resumes and licenses of key electrical individuals requested in Section 13.

*Information may be provided on form attached or bidder provided form containing similar information.

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Broadway Electric, Inc.
1924 North Falls
Wynne, AR 72396
870-633-1132 - Office
870-238-4378- Fax
870-261-5367- Mobile

Employee Experience

Danny Bartleson M1133	Master Electrician	20 years Airport Experience
Dane Bartleson M8851	Master Electrician	10 years Airport Experience
Scott Farmer M8860	Master Electrician	15 years Airport Experience
Avery Laird M-8558	Master Electrician	10 Years Airport Experience
JD Hodges M3122	Lifetime Master	25 Years Experience

Broadway Electric, Inc.
PO Box 1403
114 Oak Street
Forrest City, AR 72335
Phone: 870-633-1132
Fax: 870-238-4378
Mobile: 870-261-5367
Contractors License # 0006091023

Cable Splicers

Name	Years Experience
Danny Bartleson	21
Dane Bartleson	12
Avery Laird	10
Logan Laird	10
Scott Farmer	20
JD Hodges	10

SCHEDULE C - LIST OF MAJOR EQUIPMENT AVAILABLE

ITEM	PURCHASE DATE	CONDITION	ACQUIRED VALUE
Backhoe			
Trencher			
Vactron			
Directional Boring Machine			
Mini Excavators			
Skid Steers			

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CURRENT EXPERIENCE

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
Lighted Windcone Segmented Circle & PAPI	Name: Osceola Airport Address: Telephone:	Name: McClelland Company: Engineers Telephone:		General		197,199.50
Airfield Lighting Rehab	Name: Pocahontas Address: Airport Telephone:	Name: McClelland Company: Engineers Telephone:		General	C	521,262.00
TAXIWAY Lighting & Signage	Name: PINE Bluff Address: Regional Telephone:	Name: McClelland Company: Engineers Telephone:		General	C	262,147.75
Runway Pavement & Lighting Rehab	Name: Siloam Spring Address: Municipal Telephone:	Name: Company: Garver Telephone:		* Sub Contract		362,155.00
Runway 4L-22 Rehabilitation Phase 1 Lighting	Name: El Dorado Address: South Arkansas Telephone: Regional	Name: Company: Garver Telephone:		General	C	606,210.00
Runway Lighting (LED) & Install PAPI System	Name: Searcy. Address: Municipal Telephone:	Name: Miller Company: Telephone: Newell		General		566,907.50
	Name: Address: Telephone:	Name: Company: Telephone:				

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SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
Taxiway Lighting Rehab	Name: Siloam Springs Address: Municipal Telephone: Airport	Name: Garver Company: Telephone:	Aug 25, 2020		C	308,060.00
Taxiway Lighting Reconstruction	Name: Corning Address: Municipal Telephone: Airport	Name: McClelland Company: Engineers Telephone:	March 17 2022		C	427,723.75
Runway Lighting Rehab	Name: Corning Address: Municipal Telephone: Airport	Name: McClelland Company: Telephone: Engineers	March 31, 2021		C	243,499.00
Taxiway Lighting	Name: Batesville Address: Regional Telephone: Airport	Name: Miller- Company: Newell Telephone:	July 26 2021		C	1,004,150.00
Runway 36 PAPI & REIL Installation	Name: Pocahontas Address: Municipal Telephone:	Name: Company: McClelland Telephone:	July 2020		C	73,087.50
	Name: J Helms Address: Sevier Co Telephone: Airport	Name: Company: Grimes Telephone:				117,800.00
	Name: Clarksville Address: Airport Telephone:	Name: Company: Telephone:				350,000.00

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SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
Install 2 Box PAPI System on Both Ends Runway	Name: Frank Federer Address: Memorial Airport - Brinkley Telephone:	Name: Miller - Company: Newell Telephone:			C	253,373.50
Runway Rehab & PAPI	Name: NEWPORT Address: Municipal Telephone:	Name: Company: GARVER Telephone:			C	106,700.00
AWOS System	Name: Delta Address: Regional Telephone: Airport	Name: Company: Telephone: GARVER			C	279,992.00
AWM BEACON Replacement	Name: Address: West Memphis Telephone: Municipal	Name: Company: Garver Telephone:			C	137,680.00
Runway Rehab & MIRL System	Name: Russellville Address: Regional Telephone:	Name: Miller Company: Newell Telephone:			C	450,890.00
Runway Rehab	Name: Address: Monticello Telephone:	Name: Company: GARVER Telephone:			C	260,337.50
Taxiway Rehab	Name: Address: Monticello Telephone:	Name: Company: GARVER Telephone:			C	266,615.00

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00 45 39 DBE PARTICIPATION REPORTING

Disadvantaged Business Enterprise (DBE) Utilization

The undersigned Bidder has satisfied the requirements of the bid requirement in the following manner (please check the appropriate space):

☒ The Bidder is committed to a minimum 5.7% DBE utilization on this Project under the resulting Contract.

☐ The Bidder (if unable to meet the DBE goal of 5.7%) is committed to a minimum of ____% utilization on this Project under the resulting Contract and submits documentation demonstrating *good faith efforts*.

Nar[redacted].

By: [redacted] Operations Manager
epresentative) (Title)

Printed Name: Doug Luetjen

Note:
In accordance with CFR part 26.55, 60% of the value of materials or supplies purchased from a *DBE dealer* counts toward the DBE goal. Materials or supplies obtained from a *DBE manufacturer* count 100% of the cost of materials or supplies.

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Rev. 11-29-99
Rev. 1-14-15
Rev. 12-13-16

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION

VBT Runway SE Extension PH2 - Bentonville

NOTE: PROPOSED PARTICIPATION BY DBEs MAY BE SHOWN BELOW AND SUBMITTED WITH BIDDER'S PROPOSAL, OR THE REQUIRED INFORMATION MAY BE SUBMITTED IN KEEPING WITH THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS "GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION" AND "DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBLITIES"

As provided in the Special Provision "Goals for Disadvantaged Business Enterprise Participation", the undersigned bidder proposes to use the certified DISADVANTAGED BUSINESS ENTERPRISE (DBE) subcontractors listed below to meet the goal of **5.7%** of the total contract by DBEs. Only work or services that will actually be provided by the DBE firm(s) should be shown.

NAME & ADDRESS	ITEM DESCRIPTION	AMOUNT
Envirotrac Safety & Erosion, Inc.	(see attached)	$36,274.62
Broadway Electric *	(see attached)	$12,000.00
Couch Excavating	(see attached)	$22,800.00

* DBE Supplier

If any firm listed above is a regular dealer, but not a manufacturer, the total amount of the agreement and the amount to be credited (60%) should be recorded on this form.

Total for DBEs - $71,074.62 or 5.8 % of bid.

APAC-Central, Inc. (Contractor) By: Doug Luetjen

Title: Operations Manager

The named DBE subcontractors confirm their participation in the contract as provided in the commitment.

	DBE Firm:	DBE Owner or Authorized Representative's Signature:
2.	Envirotrac Safety & Erosion, Inc.	(see attached)
3.	Couch Excavating	(see attached)
4.	Broadway Electric * DBE Supplier	(see attached)
5.		

Complete the following for each DBE Firm to be used on the project.

Name of Bidder/Offeror's Firm:	APAC-Central, Inc.

Name of DBE Firm:	EnviroTrac Safety & Erosion, Inc.
Address:	PO Box 985
City, State, Zip:	Danville, AR 72833
Telephone(s):	479-272-4961
	Woman owner, non-minority
Description of Work to be performed by DBE firm:	Landscaping & Erosion Control Seeding, sodding, *partial topsoil, temp. erosion control

The bidder/offeror is committed to utilizing the above-named DBE firm for the work described above. The estimated dollar value of this work is $ 36,274.62 .

Affirmation:

The above-named DBE firm affirms that it will perform the portion of the contract for the estimated value as stated above.

By: [redacted] PRESIDENT
(DBE Signature) (Title)

If the bidder/offeror does not receive award of the prime contract, any and all representation in this Letter of Intent and Affirmation shall be null and void.

(Submit this page for each DBE subcontractor.)

Complete the following for each DBE Firm to be used on the project.

Name of Bidder/Offeror's Firm:	APAC-Central, Inc.

Name of DBE Firm:	Couch Excavating & Haul
Address:	13125 Farm Rd 2165
City, State, Zip:	Cassville, MO 65625
Telephone(s):	417-847-3501
Description of Work to be performed by DBE firm:	AC oil haul

The bidder/offeror is committed to utilizing the above-named DBE firm for the work described above. The estimated dollar value of this work is $ 22,800.00 .

Affirmation:

The above-named DBE firm affirms that it will perform the portion of the contract for the estimated value as stated above.

By: [redacted] PRESIDENT
(DBE Signature) (Title)

If the bidder/offeror does not receive award of the prime contract, any and all representation in this Letter of Intent and Affirmation shall be null and void.

(Submit this page for each DBE subcontractor.)

Complete the following for each DBE Firm to be used on the project.

Name of Bidder/Offeror's Firm:	APAC-Central, Inc.

Name of DBE Firm:	M&T Paving Construction, Inc.
Address:	4704 N. Washington St
City, State, Zip:	Forrest City, AR 72335
Telephone(s):	870-633-1181
Description of Work to be performed by DBE firm:	Airport lighting and signage

The bidder/offeror is committed to utilizing the above-named DBE firm for the work described above. The estimated dollar value of this work is $ 12,000.00 .

Affirmation:

The above-named DBE firm affirms that it will perform the portion of the contract for the estimated value as stated above.

By: [redacted] President
(DBE Signature) (Title)

If the bidder/offeror does not receive award of the prime contract, any and all representation in this Letter of Intent and Affirmation shall be null and void.

(Submit this page for each DBE subcontractor.)

Schedule of DBE Unavailability – NONE

Complete the following schedule if DBE goal is not met. Include DBE contractors that were contacted but unable to complete work on the Project.

_____
(Name of Contractor under Contract with Owner)

Name of DBE Subcontractor	Contact Person	Contact Number	Description of Work to be performed by DBE firm	Reason Unavailable

The undersigned certifies that the above DBE(s) was/were contacted, in good faith, and the said DBE(s) was/were unable to submit an acceptable responsive bid. Failure to fill out DBE forms is a ground for rejection of the Bid. The making of a material misrepresentation is a ground for consideration for disqualification.

By: _____ _____ _____
(Signature) (Title) (Date)

Printed Name: _____

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00 45 46 BIDDER CERTIFICATIONS

BUY AMERICAN CERTIFICATION

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

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CERTIFICATE OF BUY AMERICAN COMPLIANCE FOR MANUFACTURED PRODUCTS
(Non-building construction projects, equipment acquisition projects)

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with its proposal. The bidder or offeror must indicate how it intends to comply with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e., not both) by inserting a checkmark (✓) or the letter "X".

☒ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101, BABA and other related U.S. statutes, guidance, and policies of the FAA by:

a) Only installing iron, steel and manufactured products produced in the United States;
b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States.
c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

a) To provide to the Airport Sponsor or the FAA evidence that documents the source and origin of the iron, steel, and/or manufactured product.
b) To faithfully comply with providing U.S. domestic products.
c) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.
d) Certify that all construction materials used in the project are manufactured in the U.S.

☐ The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

a) To the submit to the Airport Sponsor or FAA within 15 calendar days of being selected as the responsive bidder, a formal waiver request and required documentation that supports the type of waiver being requested.
b) That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.
c) To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
d) To furnish U.S. domestic product for any waiver request that the FAA rejects.
e) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 2 Waiver (Nonavailability) - The iron, steel, manufactured goods or construction materials or manufactured goods are not available in sufficient quantity or quality in the United States. The required documentation for the Nonavailability waiver is

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire

b) Record of thorough market research, consideration where appropriate of qualifying alternate items, products, or materials including;
c) A description of the market research activities and methods used to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources.

Type 3 Waiver – The cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the "facility/project." The required documentation for a Type 3 waiver is:

a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;
b) Listing of all manufactured products that are not comprised of 100 percent U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
c) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.
d) Percentage of non-domestic component and subcomponent cost as compared to total "facility" component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Type 4 Waiver (Unreasonable Costs) - Applying this provision for iron, steel, manufactured goods or construction materials would increase the cost of the overall project by more than 25 percent. The required documentation for this waiver is:

a) A completed Content Percentage Worksheet and Final Assembly Questionnaire from
b) At minimum two comparable equal bids and/or offers;
c) Receipt or record that demonstrates that supplier scouting called for in Executive Order 14005, indicates that no domestic source exists for the project and/or component;
d) Completed waiver applications for each comparable bid and/or offer.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

[redacted]

5/30/2024
Date

APAC-Central, Inc.
Company Name

Operations Manager
Title

CERTIFICATION OF BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

Bidder must complete the following two certification statements. The Bidder must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. Bidder agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

1) The applicant represents that it is ( ) is not (x) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2) The applicant represents that it is ( ) is not (x) a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note:
If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the Sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

Certification - The information above is true and complete to the best of my knowledge and belief.

Doug Luetjen, Operations Manager

[redacted]e of Signer (Please Type)

5/30/2024

Date

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CERTIFICATION OF NONSEGREGATED FACILITIES

The federally-assisted construction contractor certifies that it does not maintain or provide, for its employees, any segregated facilities at any of its establishments and that it does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that it will not maintain or provide, for its employees, segregated facilities at any of its establishments and that it will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that it will retain such certifications in his files.

NOTICE TO PROSPECTIVE CONTRACTORS OF REQUIREMENTS FOR CERTIFICATION OF NONSEGREGATED FACILITIES

1. This Certification of Non-segregated Facilities shall be submitted prior to the award of the construction contract.

2. The awarded Contractor will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

Certification - The information above is true and complete to the best of my knowledge and belief.

Doug Luetjen, Operations Manager

[redacted]

Signer (Please Type)

5/30/2024

Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

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CERTIFICATION REGARDING DEBARMENT AND SUSPENSION

By submitting a Bid under this solicitation, the Bidder certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

Certification - The information above is true and complete to the best of my knowledge and belief.

Doug Luetjen, Operations Manager

Name and Title of Signer (Please Type)

[redacted]

5/30/2024

Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

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NON-COLLUSION AFFIDAVIT

BID INVALID IF THIS AFFIDAVIT IS NOT SIGNED AND NOTARIZED AND SUBMITTED WITH THE BID

State of Arkansas

County of Washington

I Doug Luetjen (Printed Name of Authorized Representative/Agent) of lawful age, being first duly sworn, on oath says that:

1.They are the duly authorized representative/agent of the Bidder and/or contractor submitting the Competitive Bid and/or procuring the contract which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among Bidders and between Bidders and City officials or employees, as well as, facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the Invitation for Bids to which this statement is attached;

2. They are fully aware of the facts and circumstances surrounding the making of the Bid and/or the procurement of the contract to which this statement is attached and have been personally and directly involved in the proceedings leading to the submission of such Bids;

3. Neither the Bidder/contractor nor anyone subject to the Bidder/contractor's direction or control has been a party;

a. to any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed rate or to refrain from submitting;

b. to any collusion with any City official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor

c. in any discussions between Bidders and any City official concerning exchange of money or other thing of value for special consideration in the letting of a contract;

d. to paying, giving, donating or agreeing to pay, give or donate to any officer or employee of the City of Bentonville, any money or other thing of value, either directly or indirectly, in procuring the contract to which their statement is attached.

To be completed by Company (Authorized Representative/Agent):

Signature of Authorized Representative/Agent: [redacted]

Title (of Authorized Representative/Agent): Operations Manager

To be completed by Notary (include Seal):

Subscribed and sworn before me this: 29th day of May, 2024

Notary Public Signature: [redacted] commission expires: 1-18-2026

Seal:

DIXIE A. SPRINGSTON
OFFICIAL SEAL - NOTARY PUBLIC
WASHINGTON COUNTY ARKANSAS
COMMISSION #12346157
MY COMMISSION EXPIRES 1-18-2026

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00 51 00 NOTICE OF AWARD

Date of Issuance:

Owner: **CITY OF BENTONVILLE**

Engineer: **GARVER** Engineer's Project No.: 23A13191

Project: Southeast Taxiway B Extension (Phase 2)

Bidder: **APAC-Central, Inc.**

Bidder's Address: **755 E. Millsap Rd., Fayetteville, AR 72703**

TO BIDDER:

You are notified that Owner has accepted your Bid dated **May 30, 2024** for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

Southeast Taxiway B Extension (Phase 2) at Bentonville Municipal Airport

The Contract price of the awarded Contract is: **$1,218,395.00** as previously negotiated and as adjusted in Change Order 01.

Two unexecuted counterparts of the Agreement accompany this Notice of Award, and two copies of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

☒ a set of the drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner one counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security *[e.g., Performance bond and Payment bond]* and insurance documentation as specified in the Instructions to Bidders, General Provisions and Special Provisions.
3. Other conditions precedent (if any): Deliver to the Owner the Executed Change Order 01.

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

After you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Section 50-05 of the General Provisions

EJCDC® C-510, Notice of Award. Prepared and published 2013 by the Engineers Joint Contract Documents Committee.

Owner: City Of Bentonville

Authorized Signature

By:

Title:

Bidder:

Authorized Signature

By:

Title:

Copy: Engineer

EJCDC® C-510, Notice of Award. Prepared and published 2013 by the Engineers Joint Contract Documents Committee.

00 52 00 CONTRACT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between **CITY OF BENTONVILLE** ("Owner") and _____ ("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: The project includes, but is not limited to, construction of approximately 600 linear feet of 35 foot wide asphalt parallel taxiway asphalt extension, including airfield signage and associated grading and drainage improvements as shown on the plans and indicated in the specifications.

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by **Garver, LLC**.

3.02 The Owner has retained **Garver, LLC** ("Engineer") to act as Owner's representative, and to have the rights, responsibilities, duties, and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Days*

A. The Work will be substantially completed within the following number of days after the date when the Contract Times commence to run as provided in Section 80-07 of the General Provisions, and completed and ready for final payment in accordance with Section 90-09 of the General Provisions within the following number of days after the date when the Contract Times commence to run.

Description	Substantial Completion
Phase 1	90 Calendar Days
Phase 2	45 Calendar Days
Phase 3	7 Days (Nighttime Closures)
Total Project	90 calendar days

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Project Completion: Contractor shall pay Owner **$1,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.

2. Phase 2: Contractor shall pay Owner **$1,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion of Phase 2 until the work is substantially complete.

3. Phase 3: Contractor shall pay Owner **$1,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion of Phase 3 until the work is substantially complete.

4.04 *Special Damages*

A. Not Used.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

B. The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. Estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer and Owner.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Applications for Payment shall be made in accordance with Section 90-06 of the General Provisions. Applications for Payment will be processed by Engineer as provided in the General Provisions.

6.02 *Progress Payments; Retainage*

A. Progress payments and retainage shall be in accordance with Section 90-06 of the General Provisions.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Section 50-15 of the General Provisions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in Section 90-09 of the General Provisions, minus any damages as described in Paragraphs 4.03 and 4.04.

ARTICLE 7 – INTEREST

7.01 Not Used.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all laws and regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings.

E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

K. The Contractor hereby represents and warrants to and for the benefit of the Owner that:

1. The Contractor has reviewed and understands the prevailing wage rate requirements and will provide any further verified information, certification or assurance of compliance as may be required by the Owner.

2. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Owner to recover as damages against the

Contractor any loss, expense or cost (including without limitation attorney's fees) incurred by the Owner resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Owner). While the Contractor has no direct contractual privity with the State, as a lender to the Owner for the funding of its Project, the Owner and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. Executed Contract
2. Addenda (if any)
3. Advertisement for Bids
4. Instructions to Bidders
5. Bid Form
6. List of Proposed Subcontractors
7. Wage Rates
8. Qualification Statement
9. General Provisions
10. Special Provisions
11. DBE Participation Reporting
12. Bidders Certifications
13. Supplemental Specifications as listed in the Table of Contents
14. Technical Specifications as listed in the Table of Contents
15. Drawings
16. Performance Bond
17. Payment Bond
18. Certificates of Insurance
19. Exhibits to this Agreement (enumerated as follows):
    a. Contractor's Bid
20. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    a. Notice to Proceed.
    b. Work Change Directives.
    c. Change Orders.
    d. Field Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Provisions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms not otherwise defined herein and used in this Agreement will have the meanings stated in the General Provisions and the Special Provisions.

10.02 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:	CONTRACTOR:
_____	_____
By: _____	By: _____
Title: _____	Title: _____ *(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*
Attest: _____	Attest: _____
Title: _____	Title: _____
Address for giving notices:	Address for giving notices:
_____	_____
_____	_____
_____	_____
	License No.: _____ *(where applicable)*

This document is a MODIFIED version of EJCDC® C-520, Agreement Between Owner and Contractor for Construction Contract (Stipulated Price). Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies and is based in part on excerpts from EJCDC documents. Those portions of the text that originated in published EJCDC documents remain subject to copyright.

00 55 00 NOTICE TO PROCEED

Owner: **CITY OF BENTONVILLE**

Contractor: Contractor's Project No.:

Engineer: **GARVER** Engineer's Project No.: 23A13191

Project: SOUTHEAST TAXIWAY B EXTENSION (PHASE 2) Effective Date of Contract:

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [_____, 20__]. *[see Section 80-02 of the General Provisions]*

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, the number of **calendar** days to achieve Substantial Completion is _____.

Before starting any Work at the Site, Contractor must comply with the following:

[Note any access limitations, security procedures, or other restrictions]

Owner**:**

_____

Authorized Signature

By:

Title:

Date Issued:

Copy: Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____

_____ this _____ day of _____, 20 _____.

_____

BY

_____

TITLE

EJCDC® C-550, Notice to Proceed. Prepared and published 2013 by the Engineers Joint Contract Documents Committee.

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00 61 13 PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:
CITY OF BENTONVILLE
1000 SW 14th Street, Bentonville, AR 72712

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ *(seal)*	_____ *(seal)*
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	**By:** _____
Signature	Signature *(attach power of attorney)*
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	**Attest:** _____
Signature	Signature
_____	_____
Title	Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

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00 61 16 PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:
CITY OF BENTONVILLE
1000 SW 14th Street, Bentonville, AR 72712

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ *(seal)*	_____ *(seal)*
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	**By:** _____
Signature	Signature *(attach power of attorney)*
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	**Attest:** _____
Signature	Signature
_____	_____
Title	Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety's obligations to a Claimant under this Bond shall arise after the following:

   5.1 Claimants who do not have a direct contract with the Contractor,

      5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

      5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).

   5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

   7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

   7.2 Pay or arrange for payment of any undisputed amounts.

   7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or

(2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. **Definitions**

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Owner Default**: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 8/23/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Liberty Mutual Insurance Co. National Insurance East 500 N 3rd St, Suite 300 Wausau, WI 54403 www.LibertyMutual.com	**CONTACT NAME:** Valerie Reece **PHONE (A/C, No, Ext):** 513-867-3822 **FAX (A/C, No):** **E-MAIL ADDRESS:** Oldcastle.certs@LibertyMutual.com
INSURED APAC-Central, Inc. (207-FAY) PO Box 9208 755 East Millsap Road Fayetteville AR 72703	**INSURER(S) AFFORDING COVERAGE** — **NAIC #** **INSURER A :** Liberty Mutual Fire Insurance Company — 23035 **INSURER B :** Liberty Insurance Corporation — 42404 **INSURER C :** **INSURER D :** **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** 81556682 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	✓ COMMERCIAL GENERAL LIABILITY	✓	✓	TB2-C81-004095-114	9/1/2024	9/1/2025	EACH OCCURRENCE	$2,000,000
	☐ CLAIMS-MADE ✓ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$300,000
	✓ Primary/Non-Contributory			XCU Coverage Included			MED EXP (Any one person)	$50,000
	✓ Separation of Insured						PERSONAL & ADV INJURY	$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$10,000,000
	☐ POLICY ✓ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$10,000,000
	☐ OTHER:							$
A	AUTOMOBILE LIABILITY	✓	✓	AS2-C81-004095-124	9/1/2024	9/1/2025	COMBINED SINGLE LIMIT (Ea accident)	$2,000,000
	✓ ANY AUTO						BODILY INJURY (Per person)	$
A	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY			AS2-C81-054502-524 Physical Damage only: Comprehensive Ded $10,000 Collision Ded $10,000	9/1/2024	9/1/2025	BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
A	☐ UMBRELLA LIAB ✓ OCCUR	✓	✓	TL2-681-054523-924	9/1/2024	9/1/2025	EACH OCCURRENCE	$5,000,000
	✓ EXCESS LIAB ☐ CLAIMS-MADE			(General Liability) Various – See Attached			AGGREGATE	$5,000,000
	☐ DED ☐ RETENTION $						Products/Completed Ops	$5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N		✓	WA7-C8D-004095-024 All except OH, ND, WA, WY	9/1/2024	9/1/2025	✓ PER STATUTE ☐ OTH-ER	
	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N	N / A					E.L. EACH ACCIDENT	$1,000,000
B	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			WC7-C81-004095-014 WI, MN	9/1/2024	9/1/2025	E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Bentonville Municipal Airport SE Taxiway B Extension (Phase 2).
City of Bentonville & Garver, LLC is listed as additional insured with regards to the general liability policy for ongoing and completed operations, and automobile liability policy, on a primary and non-contributory basis, where required by written contract. Waiver of subrogation is included in favor of the additional insured, where required by written contract, and where applicable by law. Excess liability follows form over the general and auto liability. 60-day Notice of Cancellation

CERTIFICATE HOLDER

City of Bentonville
Garver, LLC
305 SW A Street
Bentonville AR 72712

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIV [redacted]
Valerie Reece

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ADDITIONAL REMARKS SCHEDULE

AGENCY Liberty Mutual	**NAMED INSURED** APAC-Central, Inc. (207-FAY) PO Box 9208 755 East Millsap Road Fayetteville AR 72703
POLICY NUMBER	
CARRIER / **NAIC CODE**	**EFFECTIVE DATE:**

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 **FORM TITLE:** Certificate of Liability (03/16)

HOLDER: City of Bentonville Garver, LLC
ADDRESS: 305 SW A Street Bentonville AR 72712

Excess Liability Liberty Mutual Fire Insurance Company NAIC# 23035 9/1/2024-9/1/2025
TL2-681-054703-474
$5,000,000

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00 65 16 CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:	**CITY OF BENTONVILLE**	Owner's Contract No.:	
Contractor:		Contractor's Project No.:	
Engineer:	**Garver**	Engineer's Project No.:	**23A13191**
Project:	**Southeast Taxiway B Extension (Phase 2)**		

This final Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract, except as amended as follows: *[Note: Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor.]*

Amendments to Owner's responsibilities: ☐ None ☐ As follows

Amendments to Contractor's responsibilities: ☐ None ☐ As follows:

The following documents are attached to and made a part of this Certificate: *punch list; others*

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract.

EXECUTED BY ENGINEER:	RECEIVED:	RECEIVED:
By: _____ (Authorized signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

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00 72 00 FAA GENERAL PROVISIONS

SECTION 10 DEFINITION OF TERMS

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	**AASHTO**	The American Association of State Highway and Transportation Officials.
10-02	**Access Road**	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	**Advertisement**	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-03.01	***Agreement***	*The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents. See also "Contract."*
10-04	**Airport**	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	**Airport Improvement Program (AIP)**	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	**Air Operations Area (AOA)**	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	**Apron**	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	**ASTM International (ASTM)**	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	**Award**	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-09.01	***Bid***	*The written offer of the Bidder (when submitted on the approved proposal form) to perform the contemplated work*

Paragraph Number	Term	Definition
		and furnish the necessary materials in accordance with the provisions of the plans and specifications. See also "Proposal."
10-10	**Bidder**	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-10.01	***Bidding Documents***	*The Bidding Requirements, the proposed Contract Documents, and all Addenda.*
10-11	**Building Area**	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	**Calendar Day**	Every day shown on the calendar.
10-13	**Certificate of Analysis (COA)**	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	**Certificate of Compliance (COC)**	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	**Change Order**	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	**Contract**	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded Contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, Payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda. *See also "Agreement."*
10-17	**Contract Item (Pay Item)**	A specific unit of work for which a price is provided in the contract.
10-18	**Contract Time**	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

Paragraph Number	Term	Definition
10-19	**Contractor**	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	**Contractors Quality Control (QC) Facilities**	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	**Contractor Quality Control Program (CQCP)**	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	**Control Strip**	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	**Construction Safety and Phasing Plan (CSPP)**	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	**Drainage System**	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	**Engineer**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	**Equipment**	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	**Extra Work**	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	**FAA**	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	**Federal Specifications**	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices

Paragraph Number	Term	Definition
		prepared and issued by the General Services Administration.
10-30	**Force Account**	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b. Owner Force Account - Work performed for the project by the Owner's employees.
10-30.01	***Hazardous Environmental Condition***	*The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.*
10-31	**Intention of Terms**	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	**Lighting**	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	**Major and Minor Contract Items**	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	**Materials**	Any substance specified for use in the construction of the contract work.

Paragraph Number	Term	Definition
10-35	**Modification of Standards (MOS)**	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	**Notice to Proceed (NTP)**	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	**Owner**	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is City of Bentonville.
10-38	**Passenger Facility Charge (PFC)**	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	**Pavement Structure**	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	**Payment bond**	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	**Performance bond**	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	**Plans**	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the Contract, supplementary to the specifications. Plans may also be referred to as "contract drawings," or "drawings."
10-43	**Project**	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	**Proposal**	The written offer of the Bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications. *See also "*Bid."
10-45	**Proposal guaranty**	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.

Paragraph Number	Term	Definition
10-46	**Quality Assurance (QA)**	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	**Quality Control (QC)**	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	**Quality Assurance (QA) Inspector**	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	**Quality Assurance (QA) Laboratory**	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	**Resident Project Representative (RPR)**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	**Runway**	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	**Runway Safety Area (RSA)**	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	**Safety Plan Compliance Document (SPCD)**	Details how the Contractor will comply with the CSPP.
10-54	**Specifications**	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-54.01	***Site***	*Has the meaning set forth in Section 4.01 of the Instructions to Bidders.*
10-55	**Sponsor**	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.

Paragraph Number	Term	Definition
10-56	**Structures**	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	**Subgrade**	The soil that forms the pavement foundation.
10-58	**Superintendent**	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-59	**Supplemental Agreement**	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%: (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	**Surety**	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	**Taxilane**	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	**Taxiway**	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	**Taxiway/Taxilane Safety Area (TSA)**	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-63.01	***Technical Data***	*Those items expressly identified as Technical Data in the Special Provisions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test*

Paragraph Number	Term	Definition
		results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site.
10-63.02	***Underground Facilities***	*All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.*
10-64	**Work**	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	**Working day**	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.

END OF SECTION 10

SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 Advertisement (Notice to Bidders). *See Section 00 11 00*

20-02 Qualification of bidders. *See Instructions to Bidders, Article 3.* ~~Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.~~

~~Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.~~

~~Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.~~

~~Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.~~

20-03 Contents of proposal forms. The Owner's *bidding documents* ~~proposal forms~~ state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

Mobilization is limited to 10 percent of the total project cost.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.

c. Documented record of Contractor default under previous contracts with the Owner.

d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials

furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. *See Instructions to Bidders, Article 13.* ~~The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. *If so requested,* the bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.~~

~~The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.~~

20-08 Responsive and responsible bidder. *See Instructions to Bidders, Article 3.* ~~A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.~~

~~A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.~~

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

d. If the proposal contains unit prices that are obviously unbalanced.

e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. *See Instructions to Bidders, Article 8.* Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal. *See Instructions to Bidders, Article 15.* Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. *See Instructions to Bidders, Article 16.* A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner **[** in writing **] [** by fax **][** by email **]** before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. *See Instructions to Bidders, Article 17.* Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. *See Instructions to Bidders, Article 19.* A bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms,* of this section.

20-15 Discrepancies and Omissions. *See Instructions to Bidders, Article 5.* A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than **[___]** days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

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SECTION 30 AWARD AND EXECUTION OF CONTRACT

30-01 Consideration of proposals. *See Instructions to Bidders, Article 19.* ~~After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.~~

~~Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:~~

~~**a.** If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.~~

~~**b.** If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.~~

~~In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.~~

30-02 Award of contract. *See Instructions to Bidders, Article 19.* ~~The award of a contract, if it is to be awarded, shall be made within [ ] calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.~~

~~If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.~~

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of proposal guaranty. *See Instructions to Bidders, Article 18.* ~~All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals*. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.~~

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. *See Instructions to Bidders, Article 21.* ~~The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds,* of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.~~

30-07 Approval of contract. *See Instructions to Bidders, Article 21.* ~~Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract~~

~~to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.~~

30-08 Failure to execute contract. *See Instructions to Bidders, Article 8.* ~~Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract,* of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.~~

END OF SECTION 30

SECTION 40 SCOPE OF WORK

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (http://mutcd.fhwa.dot.gov/), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,

b. Remove such material from the site, upon written approval of the RPR; or

c. Use such material for the Contractor's own temporary construction on site; or,

d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

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SECTION 50 CONTROL OF WORK

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard

test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions. *See Special Provisions (Section 00 73 00)*

50-05 Cooperation of Contractor. The Contractor shall be supplied with **three** hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): **AutoCAD Civil3D Format**.)

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor’s expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor’s expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor’s Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor’s expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

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SECTION 60 CONTROL OF MATERIALS

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program* and *Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP).

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "or equal," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.

b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. *See Section C-105.* ~~[The Contractor shall provide dedicated space for the use of the engineer, RPR, and inspectors, as a field office for the duration of the project. This space shall be located conveniently near the construction and shall be separate from any space used by the Contractor. The Contractor shall furnish water, sanitary facilities, heat, air conditioning, and electricity.]~~ **[** An Engineer/RPR field office is not required. **]**

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor

shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

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SECTION 70 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

Owner	Contact	Phone Number
Bentonville Municipal Airport	Debbie Griffin	(479) 254-2028
Bentonville Public Works	Mike Bender	(479) 271-6873

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic,* and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is on sheet(s) **GC-001 TO GC-201** of the project plans.

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the “Workmen’s Compensation Act,” or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any

member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Detailed phasing information is provided in the Construction Safety and Phasing Plan.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

Owner	Contact	Phone Number
Carroll Electric	Brandon Tuttle	800-432-9720 ext. 2646

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude

or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work,* and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 Insurance Requirements. *See Special Provisions.*

END OF SECTION 70

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SECTION 80 EXECUTION AND PROGRESS

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

If requested, the Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 days of the NTP date. The Contractor shall notify the RPR at least 48 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work *and in advance of the preconstruction meeting*. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall

show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a weekly ~~monthly~~ basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) ~~and as listed below,~~ cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently ~~as follows:~~

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The number of calendar days shall be stated in the proposal *bid form)* and contract *(agreement)* and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Details of liquidated damages are included in the Contract.

Construction time shall be as included in the Contract (Agreement). ~~The maximum construction time allowed for Schedules **[ ]** will be the sum of the time allowed for individual schedules but not more than **[ ]** days.~~ Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the execution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors, or

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

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SECTION 90 MEASUREMENT AND PAYMENT

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term “lump sum” when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, “lump sum” work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

MEASUREMENT AND PAYMENT TERMS

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term “ton” will mean the short ton consisting of 2,000 pounds avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the

Term	Description
	volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton or hundredweight.
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted. In the event inspection reveals the scales have been “overweighing” (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them.

Term	Description
	Scale installations shall have available ten standard 50-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 *Payment for Extra Work*.
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the “basis of payment” subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities,* will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items,* the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR’s order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR’s order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

a. From the total of the amount determined to be payable on a partial payment, 5% percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify

the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement

and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes,* or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s).

k. Security for Construction Warranty

l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

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A-01 CIVIL RIGHTS - GENERAL

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, religion, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

A-02 CIVIL RIGHTS – TITLE VI ASSURANCE

Title VI Solicitation Notice:
The Owner, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

Compliance with Nondiscrimination Requirements:
During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the **Title VI List of Pertinent Nondiscrimination Acts and Authorities**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.

4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

    a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or

    b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities:
During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq*., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);

- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);

- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq*.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in programs or Activities Receiving Federal Financial Assistance);

- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq*.), (prohibits discrimination on the basis of age);

- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

- The Civil Rights Restoration Act of 1987, (PL 100-209), (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, *et seq.*) prohibit discrimination on the basis of disability in the operation of public entities, public and private

transportation systems, places of public accommodation, and certain testing entities as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;

- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq*).

A-03 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A-04 RIGHT TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within in the 37 CFR §401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental or research work.

A-05 SEISMIC SAFETY

The Contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

A-06 ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A-07 BUY AMERICAN PREFERENCE

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

See Section 00 45 46 "Bidder Certifications" for Contractor Buy American Certification.

A-08 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division

A-09 TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);

2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and

3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR .

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC § 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR § 30.17, no contract shall be awarded to an Offeror or subcontractor:

1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR; or

2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or

3) who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

A-10 VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC § 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

A-11 TAX DELINQUENCY AND FELONY CONVICTIONS

The Contractor shall be required to complete the certification regarding tax delinquency and felony convictions included in these contract documents.

Felony conviction: Felony conviction means a conviction within the preceding twenty four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section

of the U.S. Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 USC § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A-12 DOMESTIC PREFERENCES FOR PROCUREMENTS

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

A-13 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act [Public Law 115-232 § 889(f)(1)].

A-14 PROHIBITION OF SEGREGATED FACILITIES

(a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(b) “Segregated facilities,” as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

A-15 COPELAND “ANTI-KICKBACK” ACT

Contractor must comply with the requirements of the Copeland “Anti-Kickback” Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A-16 DAVIS-BACON REQUIREMENTS

1. Minimum Wages

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)

(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, , U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all

interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or

the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)

(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (*e.g.* , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at https://www.dol.gov/agencies/whd/government-contracts/construction/payroll-certification or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;

(2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(ii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(iii) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the sponsor, the Federal Aviation Administration, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

4. Apprentices and Trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 § CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval,

evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

   The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

   The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR §§ 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR § 5.5.

7. Contract Termination: Debarment.

   A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR § 5.12.

8. Compliance with the Davis-Bacon and Related Act Requirements

   All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards

   Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the

procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility

    (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).

    (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).

    (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18USC § . 1001.

A-17 DISTRACTED DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving" (10/1/2009) and DOT Order 3902.10 “Text Messaging While Driving” (12/30/2009), the FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all subtier contracts exceeding $10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

A-18 AFFIRMATIVE ACTION REQUIREMENT

1. The Offeror's or Bidder’s attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

   Timetables

   Goals for minority participation for each trade: 3.3%

   Goals for female participation in each trade: 6.9%

   These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **Arkansas, Benton County, Bentonville.**

A-19 EQUAL EMPLOYMENT OPPORTUNITY (E.E.O.)

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identify or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the said labor union or workers' representatives of the

contractor's commitments under this section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance*: Provided,* however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:

    a. “Covered area” means the geographical area described in the solicitation from which this contract resulted;

    b. “Director” means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

    c. “Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

    d. “Minority” includes:

        (1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);

        (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);

        (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

        (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical

area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

    a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
    b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

    c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

    d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

    e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs,

especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such a superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and

employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally, the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the

implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A-20 TERMINATION OF CONTRACT

Termination for Convenience:

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.

2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.

3. Discontinue orders for materials and services except as directed by the written notice.

4. Deliver to the owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work and as directed in the written notice.

5. Complete performance of the work not terminated by the notice.

6. Take action as directed by the owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

1. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;

2. Documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;

3. Reasonable and substantiated claims, costs and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and

4. Reasonable and substantiated expenses to the contractor directly attributable to Owner's termination action

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

Termination for Default:

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights and remedies associated with Owner termination of this contract due default of the Contractor.

A-21 PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use of products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

a) The contract requires procurement of $10,000 or more of a designated item during the fiscal year; or,

b) The contractor has procured $10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/epawaste/conserve/tools/cpg/products/. Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;

b) Fails to meet reasonable contract performance requirements; or

c) Is only available at an unreasonable price.

A-22 DEBARMENT AND SUSPENSION

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT:

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT:

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not

presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov

2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.

3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to disclose to a higher tire participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A-23 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements

   No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages

   In the event of any violation of the clause set forth in paragraph (1) of this clause, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of $29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

   The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this clause.

4. Subcontractors.

   The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier

subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

A-24 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

A-25 CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 U.S.C. §§ 740-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. §§ 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds $150,000.

A-26 BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide contractor written notice that describes the nature of the breach and corrective actions the contractor must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner’s notice will identify a specific date by which the contractor must

correct the breach. Owner may proceed with termination of the contract if the contractor fails to correct the breach by deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A-27 DISADVANTAGED BUSINESS ENTERPRISE

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

1) Withholding monthly progress payments;
2) Assessing sanctions;
3) Liquidated damages; and/or
4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (49 CFR § 26.29)
The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from the Owner. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53)
The prime contractor must not terminate a DBE subcontractor listed in bid without prior written consent of the Owner. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent from the Owner. Unless the Owner consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

The Owner may provide such written consent only if the Owner agrees, for reasons stated in the concurrence document, that the prime contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR §26.53.

Before transmitting to the Owner its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to the Owner, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise the Owner and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Owner should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the Owner may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to preaward deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

SECTION B – STATE TERMS AND CONDITIONS

B-01 GENERAL

The intent of this section is to outline the requirements set forth by the State of Arkansas; however, this section does not claim to include all State laws. All requirements set for by the State of Arkansas for bidding and construction shall be included by reference herein. If for any reason that the Federal and/or State requirements conflict with the requirements set forth in this contract, the more stringent of the requirements shall govern.

B-02 BIDDING

B-02.01 Act 150 of 1965, as amended, has been interpreted, by the State Contractor's Licensing Board, to require a contractor to have a current Arkansas contractor's license in order to submit a valid bid for work when the cost thereof is fifty thousand dollars ($50,000) or more.

B-02.02 Act 159 of 1949, as amended, requires the bidder to list his mechanical, plumbing, electrical, and roofing and sheet metal subcontractors.

B-03 BONDING

Bonding shall be executed pursuant to the terms of Arkansas Code Annotated §§ 18-44-501 et. Seq., as amended.

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SECTION C – LOCAL TERMS AND CONDITIONS

C-01 CONTRACTOR'S INSURANCE

Contractor shall obtain insurance of the types and in the amounts described below, but in no event shall such limits be less than those required by applicable law. The insurance shall be written by insurance companies and on forms acceptable to Owner.

Owner and Garver, LLC shall be included as an insured under the CGL, (using ISO Additional Insured Endorsement CG 20 10 11 85 or a substitute providing equivalent coverage), and under the commercial automobile liability (using ISO Additional Insured Endorsement CA 2048 or a substitute providing equivalent coverage), and commercial umbrella, if any. This insurance, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

C-01.1 Commercial General and Umbrella Liability Insurance: Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance, with a limit of not less than $5,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to the Project.

CGL insurance shall be written on ISO occurrence form CG 20 10 (11-85) (or a substitute combination of the following forms CG 20 10 (10-01) and CG 20 37 (10-01) providing equivalent coverage) and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury and liability assumed under an insured contract.

There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, underground property damage, or amending the contractual coverage in the ISO occurrence form.

CGL insurance shall be written with an ISO form CG 25 03 05 09 Designated Construction Project(s) General Aggregate Limit or a substitute form providing equivalent coverage.

C-01.2 Continuing CGL Coverage: Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance, with a limit of not less than $5,000,000 each occurrence for at least 3 years following substantial completion of the Work.

Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed Work equivalent to that provided under ISO form CG 00 01.

C-01.3 Owner's and Contractor's Protective Liability Insurance: Contractor shall maintain Owner's and Contractor's Protective Liability (OCP) insurance on behalf of Owner and Garver, LLC, as named insured, with a limit of $1,000,000.

Such insurance shall cover liability arising out of any auto (including owned, hired and non-owned autos).

Commercial auto coverage shall be written on ISO from CA 00 01, CA 00 05, CA 00 12, CA 00 20, or as a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

If the Contract Documents require Contractor to remove and haul hazardous waste from the Project site or if the Project involves such similar environmental exposure, pollution liability coverage equivalent to that provided under the ISO Pollution Liability-Broadened Coverage for Covered Autos Endorsement

(CA 99 48) shall be provided, and the Motor Carrier Act Endorsement (MCS 90) shall be attached.

C-01.4 Workers' Compensation Insurance: Contractor shall maintain workers' compensation and employer's liability insurance in accordance with statutory limits.

The employer's liability, and if necessary commercial umbrella, limits shall not be less than $500,000 each accident for bodily injury by accident or $500,000 each employee for bodily injury by disease.

If Contractor leases its employees, the alternate employer endorsement (WC 00 03 01 A) shall be attached showing Owner in the schedule as the alternate employer.

Where applicable, U.S. Longshore and Harborworkers Compensation Act Endorsement shall be attached to the policy.

Where applicable, Nonappropriated Fund Instrumentalities Act (NFIA) shall be attached to the policy. NFIA extends the coverage of the Longshore and Harbor Workers' Compensation Act to civilian employees working on United States military bases throughout the world who are not paid with funds appropriated by Congress. These employees, working in facilities operated for the comfort, contentment, and improvement of armed forces personnel, are instead compensated with funds generated from earnings of their facility.

Where applicable, Outer Continental Shelf Lands Act Endorsement shall be attached to the policy.

Where applicable, the Maritime Coverage Endorsement shall be attached to the policy.

If project is located in a state where workers compensation is secured via monopolistic state funds, include evidence of the "Stop Gap" endorsement to the general liability policy.

C-01.5 Property Insurance: If applicable, Contractor shall purchase and maintain property insurance for the Work. Such insurance shall be written in an amount at least equal to the initial contract sum as well as subsequent modifications of that sum. The insurance shall apply on a replacement cost basis. If the insurance obtained in compliance with this paragraph is builders risk insurance, coverage shall be written on a completed value form.

The property insurance as required above shall name as insureds the Owner, Contractor, and all subcontractors and sub-subcontractors on the Project.

C-01.6 Primary and Non-contributory: Contractor agrees that the insurance listed above, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

C-01.7 Waiver of Subrogation: Contractor waives all rights against the Owner and Garver, LLC and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the commercial general liability, commercial umbrella liability insurance, automobile liability insurance and workers compensation insurance maintained pursuant to paragraph C-01 of this agreement.

C-01.8 No Implied Waiver: Contractor shall furnish certifications matching the coverage requirements. Failure of Owner or Engineer to demand such certificate or other evidence of full compliance with these insurance requirements or failure of Owner or Engineer to identify a deficiency from evidence that is provided shall not be construed as a waiver of the contractors obligations to furnish and maintain such insurance, or as a waiver to the enforcement of any of the provisions at a later date.

Any waiver of the contractor's obligation to furnish such certificate or maintain such evidence must be by written change order and signed by a Managing Member (Officer) of the Engineer and the Owner.

C-01.9 Cancellation, Non-Renewal, and/or Impairment Notification: The Contractor shall not cause any insurance policy to be cancelled or permit it to lapse and all insurance policies shall include an endorsement to the effect that the insurance policy or certificate shall not be subject to cancellation or to a reduction in the required limits of liability or amounts of insurance until notice has been mailed to the Owner and Engineer, stating the date when such cancellation or reduction shall be effective, which date shall not be less than (60) days after such notice.

The amount shown in the bid item for the Owner's Protective Insurance shall include that amount of additional premium required for including the Owner and Garver, LLC on the Contractor's policy as additional insured. The Engineer has the right to request justification from the contractor for the full amount of the cost included under the items "Owner's Protective Insurance".

Notice shall be sent via email and regular mail to the following persons and addresses:

Owner:
Debbie Griffin
Director of Administration
City of Bentonville
305 SW A Street
Bentonville, AR 72712
DGriffin@bentonvillear.com

Garver:
Chris Maestri, PE
4300 South JB Hunt Drive
Suite 240
Rogers, AR 72758
CMMaestri@garverUSA.com

C-01.10 Sample Certificate of Liability Insurance:

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) (must be dated)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Agency contact	
Agency Name Agency Address	PHONE (A/C, No, Ext): Agency ph#	FAX (A/C, No):
	E-MAIL ADDRESS: Agency contact email address	
	INSURER(S) AFFORDING COVERAGE	NAIC #
www.stephens.com	INSURER A : Carrier Name (AM Best Rating)	
INSURED	INSURER B :	
Named Insured on the policies	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY						EACH OCCURRENCE	$ 5,000,000
	✓ COMMERCIAL GENERAL LIABILITY	X	X	XXXXXXXXXX			DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 300,000
	CLAIMS-MADE ✓ OCCUR						MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 5,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$ 5,000,000
	POLICY ✓ PRO-JECT LOC							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	✓ ANY AUTO	X	X	XXXXXXXXXXX			BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	✓ HIRED AUTOS / ✓ NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
								$
	✓ UMBRELLA LIAB ✓ OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE	X	X	XXXXXXXXXXX			AGGREGATE	$
	DED RETENTION $ XXXXX			Umbrella / Excess only if needed to meet the required underlying General Liability limit				$
								$
								$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						✓ WC STATU-TORY LIMITS / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N/A		X	XXXXXXXXXXX			E.L. EACH ACCIDENT	$ 500,000
	(Mandatory in NH)						E.L. DISEASE - EA EMPLOYEE	$ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - POLICY LIMIT	$ 500,000
				XXXXXXXXXXX				

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Owner & Garver, LLC shall be included as an Additional Insured by endorsement #CG2010(11/85) on the General Liability and #CA2048 on the Automobile and Umbrella or substitute endorsement providing equivalent coverage. Coverage shall be Primary and non-contributory with respect to any other insurance or self-insurance programs afforded to the Owner and Garver LLC. Waiver of Subrogation applies in favor of the Owner and Garver LLC on all policies. 60 day notice will be provided to the Owner and Garver LLC in the event of cancellation, non-renewal and/or impairment of the Contractor's policies .

CERTIFICATE HOLDER	CANCELLATION
Owner and Garver LLC	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE (must be signed by the Contractor's Insurance Agent)

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C-02 UTILITIES

All work in this contract shall be in accordance with the Arkansas Underground Facilities Damage Prevention Act. The Contractor shall abide by the most current edition of this Act.

Underground utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these utilities on the plans. However, all existing utilities may not be shown and the actual locations of the utilities may vary from the locations shown.

The Contractor shall be responsible for the protection of all existing utilities, structures, equipment, or improvements crossed by or adjacent to his construction operations. Where existing utilities, service lines, structures, equipment, etc. are cut, broken, or damaged, the Contractor shall replace or repair immediately these items with the same type of original material and construction or better, at his own expense to the satisfaction of the Owner and the Engineer. After damage discovery, the Contractor shall immediately coordinate with the Owner and the Engineer on the complete repair and/or replacement work required. Following written notice of work required, the Contractor shall expeditiously begin and finish this work with all labor and materials required. All repair and/or replacement work, labor, and materials shall be supplied and installed by the Contractor. If the Contractor fails to promptly perform the repair work and correct all deficiencies, the Owner shall have the option of remedying the defects and any expenses incurred by the Owner shall be withheld from the Contractor's Payments.

C-03 LEGAL HOLIDAYS

Holidays that shall be observed are the following: New Year's Day (January 1); Dr. Martin Luther King Jr.'s Birthday (3rd Monday in January); President's Day (3rd Monday in February); Memorial Day (last Monday in May); Juneteenth (June 19); Independence Day (July 4); Labor Day (1st Monday in September); Columbus Day (2nd Monday in October); Thanksgiving Day (4th Thursday in November); Day after Thanksgiving (Friday following Thanksgiving); Christmas Eve (December 24); and Christmas Day (December 25). If a holiday falls on a Saturday or Sunday, the observed day shall be the Friday preceding the Saturday or the Monday following the Sunday. No construction observation will be furnished on legal holidays or Sundays, except in an emergency. The Contractor shall observe these legal holidays and all Sundays, and no work shall be performed on these days except in an emergency. Calendar day contract time includes delays for all holidays. Refer to Section C-06 for more information.

C-04 CLEAN UP

From time to time, the Contractor shall clean up the site, including any work areas on the airport, in order that the site presents a neat appearance and the progress of the work not be impeded. One such period of clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary plant, equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

C-05 PROJECT MEETINGS AND COORDINATION

A preconstruction conference will be called by the Engineer at a time convenient to the Owner and before the issuance of the "Notice to Proceed". The Engineer and the Contractor and such subcontractors as the Contractor may desire shall attend this meeting with the Owner.

The Owner and/or Engineer will call such coordination conferences as may seem expedient to him for the purpose of assuring coordination of the work covered by this Contract. The Contractor shall attend all such conferences. This in no way relieves the Contractor of his responsibility to fully coordinate his work under this Contract.

C-06 EXTENSIONS OF TIME

Extensions of time for completion, under the condition of 3(a) next below, will be granted; extensions may be granted under other stated conditions:

1. If the satisfactory execution and completion of the Contract shall require work or material in greater amounts or quantities than those set forth in the Contract, then the Contract time shall be increased in the same proportion as the additional work bears to the original work contracted for.

2. An average or usual number of inclement weather days, when work cannot proceed, is to be anticipated during the construction period and is not to be considered as warranting extension of time. These include days with a mean temperature lower than 32° F and days with more than 0.1" of precipitation. Days with more than 0.5" of precipitation are counted as two days. The days included in the contract time for Normal Weather-Related Events and holidays are as follows:

(On A Monthly Basis)

Month	Normal Weather-Related Events	Holidays
January	13	2
February	14	1
March	13	0
April	8	0
May	14	1
June	7	1
July	7	1
August	6	0
September	6	1
October	4	1
November	7	2
December	12	2

If, however, it appears that the Contractor is delayed by conditions of weather, outside of normal weather-related events detailed in the proceeding table, extensions of time may be granted.

3. Should the work under the Contract be delayed by other causes which could not have been prevented or contemplated by the Contractor, and which are beyond the Contractor's power to prevent or remedy, an extension of time may be granted. Such causes of delay shall include but not necessarily be limited to the following:

a. Acts of God, acts of the public enemy, acts of the Owner except as provided in these Specifications, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

b. Any delays of Subcontractors or suppliers occasioned by any of the causes specified above.

The Engineer or other authorized representative of the Owner shall keep a written record sufficient for determination as to the inclusion of that day in the computation of Contract time. This record shall be available for examination by the Contractor during normal hours of work as soon as feasible after the first of each construction month. Weather reporting locations and procedures shall be discussed during the preconstruction meeting. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the Contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may recommend to the Owner that the contract time be extended as conditions justify. If the Owner extends the contract, the extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

The amount of all extensions of time for whatever reason granted shall be determined by the Owner. In general, only actual and not hypothetical days of delay will be considered. The Owner shall have authority to grant additional extensions of time as the Owner may deem justifiable.

C-07 CARE OF WORK

The Contractor shall avoid damage, as a result of his operations, to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, equipment, etc., and he shall at his own expense completely repair any damage thereto caused by his operations, to the satisfaction of the Owner and Engineer. After damage discovery, the Contractor shall immediately coordinate with the Owner and the Engineer on the complete repair and/or replacement work required. Following written notice of work required, the Contractor shall expeditiously begin and finish this work with all labor and materials required. All repair and/or replacement work, labor, and materials shall be supplied and installed by the Contractor. If the Contractor fails to promptly perform the repair work and correct all deficiencies, the Owner shall have the option of remedying the defects and any expenses incurred by the Owner shall be withheld from the Contractor’s payments.

C-08 QUALITY ASSURANCE/MATERIALS TESTING

The Owner shall be responsible for quality assurance testing as stated in these specifications; however, the Contractor shall be responsible for payment of any subsequent tests made necessary by previous unsatisfactory tests. In this event, the Owner’s quality assurance representative shall conduct the additional testing and payment for such tests shall be directly deducted from the Contractor’s payment. The Contractor shall pay for additional testing at the Owner’s contract rate.

C-09 RECORD DOCUMENTS

The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, Shop Drawings and samples at the site, in good order, and annotated to show all changes made during the construction process. In addition, the Contractor shall note any differences between locations of underground existing facilities shown in the plans and the actual location located during construction. These record documents shall be available to the Engineer for examination and shall be delivered to the Engineer upon completion of the work.

C-10 CONTRACTOR/SUBCONTRACTOR/SUPPLIER LEGAL DISPUTES

Any fees, expenses, charges, fines or other costs borne by the Owner as a result of legal disputes or lawsuits between the contractor and his subcontractors, or between the contractor and his suppliers, shall be deducted from monies due or which may thereafter become due the contractor.

C-11 GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements embraced in this contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express

warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of final acceptance of the work. The Contractor will be responsible for all costs associated with construction observation and oversight for the repair work. The Owner will give notice of defective materials and work with reasonable promptness. In the event repair work is required, the Contractor shall remedy any defects and pay for any damage to other work resulting there, which shall appear within a period of 12 months from the date of the acceptance of the repair work.

C-12 CONTRACTOR'S RELEASE AND AFFIDAVIT

At the project's completion, the Contractor shall execute the attached Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

C-13 SUBMITTALS

The Contractor shall prepare and submit information required by the individual Specification sections sufficiently in advance of the related work to allow an appropriate review time by the Engineer. The types of submittals are indicated in the individual Specification sections.

During the preconstruction conference, the Contractor shall review his submittal schedule and procedures. The Contractor shall provide one of the following submittal package types:

1. Submit electronic submittals via email as PDF electronic files directly to the Engineer's designated representative, or post these PDF electronic files directly to the Engineer's FTP site specifically established for this project. Electronic submittals shall be in Adobe Acrobat (*.PDF) format and shall be legible when printed.

Submittals shall be neat, organized, and easy to interpret. Assemble complete submittal package into a single indexed electronic file, incorporating submittal requirements of an individual Specification section, the transmittal form with unique submittal numbering system, and electronic links or tabs enabling navigation to each item. Unless approved otherwise by the Engineer, all submittals for the individual Specification section shall be submitted at one time.

Submittals must come directly from the Prime Contractor; submittals from subcontractors or suppliers will not be reviewed.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Faxed submittals or submittals with extremely small or otherwise unreadable print will not be accepted. Submittals not required by the Contract Documents will be returned by the Engineer without action.

The Contractor shall be responsible for payment of any subsequent submittal reviews beyond the second iteration of a specific item as indicated by the construction submittal log. In this event, the Owner's representative shall conduct the submittal review and payment for the submittal review shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional submittal reviews at the Owner's contract rate.

The Contractor shall retain complete copies of submittals on project site. Use only final submittals that are marked with approval notation from Engineer's submittal review stamp with comments form.

Resubmittals shall continue the unique, sequential, submittal numbering system. Resubmittals without unique numbering, example resubmittals transmitted as 005A or 005REV, are unacceptable and will be returned un-reviewed.

C-14 SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

The following report(s) of exploration and tests of subsurface conditions at or contiguous to the site used by Design Engineer in preparing the Contract Documents are available upon 48 hours' notice to Owner.

> Report dated **November 22, 2023**, prepared by **Grubbs, Hoskyn, Barton & Wyatt** entitled "**Soil and Foundation Investigation VBT East Taxiway Extension – Bentonville Municipal Airpport**".

Soil characteristics provided in any soil reports, or as shown on boring logs, are representative only at the location of the sample taken, and neither the Owner, Engineer nor Engineer's consultants will be responsible for variations in the soil characteristics at other locations. Any subsurface information, geotechnical reports, or hazardous environmental conditions made available to Contractor was obtained and intended for the Owner's design and estimating purposes only. Such reports and drawings are not Contract Documents.

The Contractor may not rely upon or make any claim against Owner, Engineer, or Engineer's Consultants with respect to (1) the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by the Contractor and safety precautions and programs incident thereto, (2) other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings, or (3) any Contractor interpretation or other conclusion drawn from any data, interpretations, opinions, or information.

If in any case, the recommendations set forth in the reports or drawings listed above conflict with the requirements set forth in these Contract Documents, the requirements in the Contract Documents shall take precedence.

END OF SPECIAL PROVISIONS

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RELEASE OF LIEN

FROM: Contractor's Name: _____

Address: _____

TO: Owner's Name: _____

Address: _____

DATE OF CONTRACT: _____

Upon receipt of the final payment and in consideration of that amount, the undersigned does hereby release the Owner and its agents from any and all claims arising under or by virtue of this Contract or modification thereof occurring from the undersigned's performance in connection with the

_____

project.

Contractor's Signature: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

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CONTRACTOR'S AFFIDAVIT

FROM: Contractor's Name: _____

Address: _____

TO: Owner's Name: _____

Address: _____

DATE OF CONTRACT: _____

I hereby certify that all claims for material, labor, and supplies entered into contingent and incident to the construction or used in the course of the performance of the work on the

_____

project have been fully satisfied.

Contractor's Signature: _____

Title: _____

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

The Surety Company consents to the release of the retained percentage on this project with the understanding that should any unforeseen contingencies arise having a right of action on the bond that the Surety Company will not waive liability through the consent to the release of the retained percentage.

Dated: _____

Surety Company: _____

By: _____
Resident Agent, State of Arkansas

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ITEM SS-100 CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

DESCRIPTION

100-1.1 This item includes notes in reference to construction safety and phasing for the project. This item shall be used in conjunction with all Construction Safety Drawings and Construction Safety and Phasing Notes in the plans.

CONSTRUCTION SAFETY AND PHASING NOTES

100-2.1 Coordination.

a. Contractor Progress Meetings - The Owner, Engineer, and Contractor will hold progress meetings on a coordinated schedule during construction. Operational safety will be a standing agenda item in such meetings.

b. Scope or Schedule Changes - The Owner and/or Engineer will call such coordination conferences as may seem expedient to him for the purpose of assuring coordination of the work covered by this contract and/or scope or schedule changes. The Contractor shall attend all such conferences. Changes in the scope or duration of the project may necessitate revisions to the CSPP and review and approval by the airport operator and the FAA.

c. FAA ATO Coordination – Not required.

100-2.2 Phasing. During performance of this project, the airport's runways, taxiways, and aircraft parking aprons shall remain in use by aircraft to the maximum extent possible. The project is phased to reduce operational impacts at the airport.

a. Phase Elements – If necessary for each phase, the construction safety drawings detail the areas closed to aircraft operations, estimated duration of closures, taxi routes, ARFF access routes, construction staging areas, construction access and haul routes, NAVAID impacts, lighting and marking changes, available runway length, declared distances, hazard marking and lighting, and required lead time for NOTAMS.

b. Construction Safety Drawings – See sheets GC-101 through GC-103 of the construction plans for construction safety drawings.

100-2.3 Areas of operations affected by construction activity.

a. Identification of Affected Areas – See the table below and the construction safety drawings for areas affected by construction for each phase.

Operational Requirement	Existing Condition	Phase 1	Phase 2	Phase 3
Runway 18-36 ARC	B-II	B-II	B-II	B-II
Runway 18 Approach Minimums	1 Mile	1 Mile	1 Mile	1 Mile
Runway 36 Approach Minimums	1 Mile	1 Mile	1 Mile	1 Mile
Runway 18 Declared Distances	TORA: 5,053	TORA: 5,053	TORA: 4,453	TORA: 5,053 Night Closure
	TODA: 5,053	TODA: 5,053	TODA: 4,453	TODA: 4,053 Night Closure

	ASDA: 5,053	ASDA: 5,053	ASDA: 4,453	ASDA: 5,053 Night Closure
	LDA: 5,053	LDA: 5,053	LDA: 4,196	LDA: 5,053 Night Closure
Runway 36 Declared Distances	TORA: 4,796	TORA: 4,796	TORA: 4,196	TORA: 4,796 Night Closure
	TODA: 4,796	TODA: 4,796	TODA: 4,196	TODA: 4,796 Night Closure
	ASDA: 4,796	ASDA: 4,796	ASDA: 4,196	ASDA: 4,796 Night Closure
	LDA: 4,796	LDA: 4,796	LDA: 4,196	LDA: 4,796 Night Closure
Runway 18 Approach Procedures	GPS, VOR/DME	GPS, VOR/DME	GPS, VOR/DME	CLOSED
Runway 36 Approach Procedures	GPS, VOR/DME	VISUAL ONLY, LESS THAN 12,500 LBS.	VISUAL ONLY, LESS THAN 12,500 LBS.	CLOSED
Runway 18 NAVAIDS	MIRLs, PAPI, REILs	MIRLs, PAPI, REILs	MIRLs, PAPI, REILs	CLOSED
Runway 36 NAVAIDS	MIRLs, PAPI, REILs	MIRLs, PAPI, REILs	MIRLs, PAPI, REILs	CLOSED
Taxiway A1 (Existing) Taxiway A2 (Ultimate)	TDG 2A / Open	TDG 2A / Open	TDG 2A / Open	CLOSED
Taxiway A2 (Existing) Taxiway A3 (Ultimate)	TDG 2A / Open	TDG 2A / Open	TDG 2A / Open	CLOSED
Taxiway A3 (Existing) Taxiway A4 (Ultimate)	TDG 2A / Open	TDG 2A / Open	TDG 2A / Open	TDG 2A / Open
East Midfield Connector Taxiway	TDG 2A / Exit Only	TDG 2A / Exit Only	TDG 2A / Exit Only	CLOSED
Taxiway B1 (Ultimate)	Does Not Exist	Does Not Exist	CLOSED	CLOSED
Taxiway B1 (Existing) Taxiway B2 (Ultimate)	TDG 2A / Open	CLOSED	CLOSED	CLOSED
Taxiway B2 (Existing) Taxiway B3 (Ultimate)	TDG 2A / Open	Open	Open	CLOSED
Taxiway B3 (Existing) Taxiway B4 (Ultimate)	TDG 2A / Open	Open	Open	Open

b. Mitigation Efforts - See the table above and the construction safety drawings for mitigation efforts of operations affected by construction.

100-2.4 Protection of navigation aids (NAVAIDs). Planned construction activities will have no negative impacts on the functionality and serviceability of the NAVAIDs.

100-2.5 Contractor access.

a. Location of Stockpiled Materials - No personal vehicles of contractor's employees will be allowed inside the secured area of the airport. All material deliveries shall be received in the staging area reserved by the contractor. No delivery trucks will be allowed access to a secured area of the airport beyond this staging area. Stockpiled materials and equipment are not permitted within the active runway safety area and obstacle free zone. The contractor shall receive approval from the Engineer and FAA air spacing office

prior to locating stockpiles or equipment within the object free area, safety area, or obstacle free zone. No stockpile shall be greater than 15-ft in height.

b. Vehicle and Pedestrian Operations - See the construction safety drawings for construction site parking, equipment storage areas, and access and haul routes. Vehicular traffic shall always yield to aircraft traffic.

When any vehicle, other than one that has prior approval from the airport operator, must travel over any portion of an aircraft movement area, it will be escorted and properly identified. To operate in those areas during daylight hours, the vehicle must have a flag or beacon attached to it. Any vehicle operating on the movement areas during hours of darkness or reduced visibility must be equipped with a flashing dome-type light, the color of which is in accordance with local or state codes.

All construction vehicles shall be clearly identified for control purposes by prominently displaying the company name on each side of the vehicle. The identification symbols should be a minimum 8-inch block-type characters of a contrasting color and easy to read. They may be applied either by using tape or a water-soluble paint to facilitate removal. Magnetic signs are also acceptable. In addition, vehicles must display identification media.

c. Two-Way Radio Communications - Vehicular traffic located in or crossing an active movement area must have a working two-way radio in contact with local air traffic or be escorted by a person in radio contact with local air traffic. The driver, through personal observation, should confirm that no aircraft is approaching the vehicle position. Construction personnel may operate in a movement area without two-way radio communication provided a NOTAM is issued closing the area and the area is properly marked to prevent incursions. Two-way radio communications are required between Contractor personnel and the Aeronautical Advisory Stations (UNICOM/CTAF Frequency 122.975). Continuous monitoring is required.

d. Control of Gates - The Contractor shall be responsible for maintaining the security of the access gates by keeping the access gate locked or guarded at all times. Should the Contractor fail, at any time, to keep the access gate locked or guarded, there shall be a fine of $200.00 assessed to the Contractor, for each occurrence that the Contractor fails to maintain the security of the access gate. All fines assessed to the Contractor shall be deducted from any monies due to him/her.

100-2.6 Wildlife management. The Contractor shall also review AC 150/5200-33, hazardous wildlife attractants on or near airports, and CertAlert 98-05, grasses attractive to hazardous wildlife (www.faa.gov). The Contractor shall carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports. The contractor shall mitigate the following items.

a. Trash - The Contractor shall perform trash clean-up on a daily basis.

b. Standing Water - The Contractor provide temporary drainage during construction to avoid standing water.

c. Tall Grass and Seeds - The Contractor shall adhere to the requirements of Section T-901, Seeding of the contract documents and specifications.

d. Poorly Maintained Fencing and Gates - The Contractor shall immediately report any damage to gates or fences. The Contractor will be responsible for repairs to any gates or fences caused by negligence by the Contractor.

e. Disruption of Existing Wildlife Habitat - The Contractor shall notify the airport immediately of any wildlife sightings.

100-2.7 Foreign object debris (FOD) management.

The Contractor shall ensure that the pavement surfaces in the active movement area are kept clean from dirt, mud, and other debris from the Contractor's equipment. Frequent clean up in the vicinity of Contractor's work areas is required.

The Contractor shall require vehicle operators to check tires prior to traversing active airfield pavement. Any material tracked onto an active airfield pavement by construction equipment shall be immediately removed. See AC 150/1510-24, foreign object debris (FOD) management (www.faa.gov) for further instruction.

100-2.8 Hazardous materials (HAZMAT) management.

If any construction vehicle or equipment is operated within airport property, the Contractor must be adequately prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks. Special care must also be taken when handling or transporting hazardous materials on airport property. The contractor shall notify the Engineer immediately after any hazardous material spill. Management of hazardous wastes must strictly follow the most current stringent Federal, State and local regulations governing treatment, storage, and disposal. See AC 150/5320-15, management of airport industrial waste (www.faa.gov), for further instruction.

100-2.9 Notification of construction activities.

a. List of Responsible Representatives - A point of contact list will be completed as part of ITEM SS-101 Safety Plan Compliance Document (SPCD) and will be delivered to all parties prior to construction.

b. Notices to Air Missions (NOTAM) - Before beginning any construction activity, the Contractor must, through the airport operator, give notice using the NOTAM system of proposed location, time, and date of commencement of construction. Upon completion of work and return of all such areas to standard conditions, the Contractor must, through the airport operator, verify the cancellation of all notices issued via the NOTAM system.

c. Emergency Notification Procedures - In the event of an emergency, the Contractor shall call 911 and immediately notify the Engineer and airport staff.

d. Coordination with ARFF personnel – Not required.

e. Notification to the FAA - The Contractor shall ensure, through the Engineer, that all construction equipment over 15-ft in height is air spaced through the appropriate FAA regional or district office prior to using such equipment on site.

100-2.10 Inspection requirements.

a. Daily Inspections – The Contractor shall perform daily safety inspections to verify all construction operations are in conformance with the CSPP.

b. Final Inspections – Prior to opening any portion of the airport to traffic, the Contractor, Engineer, and the airport operator shall perform a final safety inspection of the area to be opened to traffic to verify conformance with the CSPP, FAA standards, plans and specifications

100-2.11 Underground utilities. Underground utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these utilities on the plans. However, all existing utilities may not be shown and the actual locations of the utilities may vary from the locations shown. Prior to beginning any type of excavation, the contractor shall contact the utilities involved and make arrangements for the location of the utilities on the ground. The contractor shall maintain the utility location markings until they are no longer necessary.

Arkansas state law, the underground facilities damage prevention act, requires two working days advance notification through the one-call system center before excavating using mechanized equipment or explosives (except in the case of an emergency). The one-call system phone number is 1-800-492-8998. The contractor is advised that there is a severe penalty for not making this call. Not all utility companies are members of the Arkansas one-call system; therefore, the contractor is advised to contact all non-member utilities as well as the one-call system.

100-2.12 Penalties. Failure of the Contractor (including employees) or any of his subcontractors (including employees) to comply with airport instructions, or any of the other requirements of the airport while operating on airport property, shall be subject to the following:

a. First Offense – The Contractor shall receive a written warning.

b. Second Offense - The Contractor shall receive a fine of $1,000.00, and the vehicle operator will receive a loss of driving privileges on the airport. In addition, any fines or penalties imposed on the airport as a result of the incident will be assessed to the Contractor.

c. Third Offense - The Contractor shall receive a fine of $5,000.00 to be deducted from any monies due him, and the vehicle operator will receive a loss of driving privileges on the airport. In addition, any fine or penalties imposed on the airport as a result of the incident will be assessed to the contractor.

100-2.13 Special Conditions.

a. The contractor shall follow all provisions as noted in the Airport's Rules and Regulations.

100-2.14 Runway and taxiway visual aids.

a. General - All airport markings, lighting, signs, and visual NAVAIDs that are in operation must be clear from all obstructions. All temporary markings, signs, lights, or other visual aids must be secured in place to prevent damage or displacement by prop wash, jet blast, wing vortices, or other wind currents.

b. Markings - All temporary or permanent runway and taxiway visual aids shall conform to the requirements of the most recent edition of FAA AC 150/5340-1 (www.faa.gov). Markings for this project include the following:

i. Partially Closed Runways – The Contractor shall be responsible for furnishing, installing, and maintaining temporary marking and lighting for the partially closed runway. See details on construction safety drawings for partially closed runway detail.

ii. Temporarily Closed Taxiways – The Contractor shall be responsible for furnishing, installing, and maintaining taxiway closure markers at the entrance to the closed taxiway from the adjacent runway. The taxiway closure markers shall be installed inside the runway safety area. The contractor shall also furnish and install low profile barricades at the entrance to the closed taxiway from an adjacent taxiway. Barricades shall be installed outside all active taxiway safety areas. See details on construction safety drawings for closed taxiway marker and low-profile aircraft barricade details.

c. Lighting and Visual Aids – All temporary lighting for runway and taxiway systems shall conform to the requirements of the most recent edition of FAA AC 150/5340-30 and 150/5345-50 (www.faa.gov). The contractor shall be responsible for disconnecting isolation transformers associated with any runway or taxiway light fixtures that are being disconnected.

d. Existing Signs - Any sign that is not performing its normal function must be covered or removed to prevent misleading pilots, with the exception of runway holding position signs which shall remain operational if the area is still open to access to vehicular traffic.

100-2.15 Marking and signs for access routes. The contractor shall be responsible for supplying and installing all necessary markings and signage for all access routes to and from the site to be used by contractor personnel, subcontractor personnel, or delivery operations. All signage in the air operations area shall be frangible mounted.

100-2.16 Hazard marking and lighting.

a. Purpose - Hazard marking and lighting prevents pilots from entering areas closed to aircraft and prevents contractor personnel from entering areas open to aircraft.

b. Equipment - The contractor shall furnish, install, and maintain low-profile barricades in hazardous areas inside movement areas. Barricades shall restrict access and make hazards obvious to aircraft, personnel, and vehicles. During periods of low visibility and at night, barricades shall be equipped with red flashing or steady burning lights. The spacing of barricades shall be such that a breach is physically prevented barring a deliberate act. If barricades are intended to prevent pedestrians, then they shall be linked. See details on construction safety drawings for low-profile aircraft barricade detail.

100-2.17 Work zone lighting for nighttime construction. All work conducted at night shall be accompanied by adequate light facilities to complete the work. All light facilities shall be aimed or shielded as necessary to avoid impacting aircraft operations. The Contractor shall be required to submit a lighting plan showing the location and aiming direction of all light facilities prior to the completion of any night work.

100-2.18 Protection of safety areas, object free areas, object free zones, and approach/departure surfaces.

a. Runway Safety Areas (RSA) - No work shall be permitted within an active RSA. If required, adjustments to the RSA dimensions through restricted operations shall be coordinated with the FAA airports regional or district office prior to construction. The Contractor shall ensure adequate distance protection for blast projection, as needed. All open trenches or excavations within the limits of the RSA shall be back filled or covered prior to opening the runway to operations. In addition, erosion control measures shall be provided in the RSA to prevent ruts, humps, or depressions inside the limits of the RSA.

b. Runway object free areas (ROFA) - No material shall be stockpiled inside the limits of the active ROFA unless approved by air spacing through the appropriate FAA airports regional or district office.

c. Taxiway safety areas (TSA) - No work shall be permitted within an active TSA. All open trenches or excavations within the limits of the TSA shall be back filled or covered prior to opening the taxiway to operations, with the exception of straight segments meeting the requirements of FAA AC 150/5370-2. In addition, erosion control measures shall be provided in the TSA to prevent ruts, humps, or depressions inside the limits of the TSA.

d. Taxiway Object Free Areas (TOFA) - No construction shall be permitted inside an active TOFA unless the taxiway has been restricted to operations requiring a TOFA equal to that of the TOFA available. If required, construction may be permitted inside the TOFA if the taxiway centerline markings are offset with centerline reflectors or lighting, or appropriate NOTAMs are issued. Construction may also be permitted inside the TOFA if a five foot wing tip clearance is maintained for all construction equipment and vehicles. In this scenario, flaggers and wing walkers must be used to direct traffic through the construction site.

e. Obstacle Free Zone (OFZ) - No personnel, material, or equipment shall penetrate the OFZ while the runway is open to operations. The dimensions of the OFZ are as defined in FAA AC 150/5300-13 (www.faa.gov).

f. Approach/Departure Surfaces - All contractor personnel, materials, and equipment shall remain clear of the applicable threshold siting surfaces as defined in Chapter 3 of FAA AC 150/5300-13

(www.faa.gov). Construction activities that require penetration into the threshold siting surface shall be accomplish through displacing or partially closing the runway. Such construction activities shall require coordination with the FAA airports regional or district office.

100-2.19 Other limitations on construction.

a. Prohibitions - The use of tall equipment (i.e. cranes, concrete pumps) shall not be permitted unless approved by the engineer and proper coordination for FAA aeronautical study is completed. The submittal for this coordination shall take place at least 45 days prior to anticipated use.

Open flame welding and torch cutting operations are not permitted unless adequate fire safety precautions are provided and these operations are authorized by the airport operator and the engineer.

Electrical blasting caps shall not be permitted within 1,000-ft of the airport property. Flare pots are not permitted within the air operations area.

MEASUREMENT AND PAYMENT

100-3.1 Adherence to the requirements of the CSPP will not be measured for separate payment.

END OF ITEM SS-100

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ITEM SS-101 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

DESCRIPTION

101-1.1 The Contractor shall thoroughly review the approved Construction Safety and Phasing Plan (CSPP) and shall comply with approved CSPP. The Contractor shall certify such compliance by completing the attached SPCD and submitting to the Engineer for approval. No separate payment shall be made for completion of the SPCD.

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Contractor Safety Plan Compliance Documents

Owner Name: **CITY OF BENTONVILLE**

Airport: **Bentonville Municipal Airport**

Project Description: **Southeast Taxiway B Extension (Phase 2)**

Contractor: _____

Each item listed below corresponds to a specific section of the approved CSPP. The Contractor shall certify that he/she will comply with each section of the approved CSPP. Each certified section with a "no" response must be fully explained in an attachment to the SPCD. The document shall be signed and dated by a principal or owner in the Contractor's company. All other requested information shall be completed by the Contractor and submitted to the Engineer for approval as part of the SPCD.

1. **Section 1 - Coordination:** This project shall be completed in accordance with Section 1 "Coordination" of the approved Construction Safety and Phasing Plan.

Owner: CITY OF BENTONVILLE	
Contact:	**Phone:**
Engineer:	
Project Manager:	**Phone:**
Project Engineer:	**Phone:**
Construction Observer:	**Phone:**
Materials Testing:	**Phone:**
Contractor:	
Project Manager:	**Phone:**
Superintendent:	**Phone:**
Subcontractors:	**Phone:**

Yes_____No_____

2. **Section 2 - Phasing:** This project shall be completed in accordance with Section 2 "Phasing" of the approved Construction Safety and Phasing Plan.

Yes_____No_____

3. **Section 3 – Areas of Operations Affected by Construction Activity:** This project shall be completed in accordance with Section 3 "Areas of Operations Affected by Construction Activity" of the approved Construction Safety and Phasing Plan.

Yes_____No_____

4. **Section 4 – Protection of Navigational Aids (NAVAIDS):** This project shall be completed in accordance with Section 4 “Protection of Navigational Aids (NAVAIDS)” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

5. **Section 5 – Contractor Access:** This project shall be completed in accordance with Section 5 “Contractor Access” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

6. **Section 6 – Wildlife Management:** This project shall be completed in accordance with Section 6 “Wildlife Management” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

7. **Section 7 – Foreign Object Debris (FOD) Management:** This project shall be completed in accordance with Section 7 “Foreign Object Debris (FOD) Management” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

8. **Section 8 – Hazardous Materials (HAZMAT) Management:** This project shall be completed in accordance with Section 8 “Hazardous Materials (HAZMAT) Management” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

9. **Section 9 – Notification of Construction Activities:** This project shall be completed in accordance with Section 9 “Notification of Construction Activities” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

10. **Section 10 – Inspection Requirements:** This project shall be completed in accordance with Section 10 “Inspection Requirements” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

11. **Section 11 – Underground Utilities:** This project shall be completed in accordance with Section 11 “Underground Utilities” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

12. **Section 12 – Penalties:** This project shall be completed in accordance with Section 12 “Penalties” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

13. **Section 13 – Special Conditions:** This project shall be completed in accordance with Section 13 “Special Conditions” of the approved Construction Safety and Phasing Plan.

Yes_____No_____

14. **Section 14 – Runway and Taxiway Visual Aids:** This project shall be completed in accordance with Section 14 “Runway and Taxiway Visual Aids” of the approved Construction Safety and Phasing Plan.

Yes_____ No_____

15. **Section 15 – Marking and Signs for Access Routes:** This project shall be completed in accordance with Section 15 “Marking and Signs for Access Routes” of the approved Construction Safety and Phasing Plan.

Yes_____ No_____

16. **Section 16 – Hazard Marking and Lighting:** This project shall be completed in accordance with Section 16 “Hazard Marking and Lighting” of the approved Construction Safety and Phasing Plan.

Yes_____ No_____

17. Section 17 – Work Zone Lighting for Nighttime Construction: This project shall be completed in accordance with Section 17 “Work Zone Lighting for Nighttime Construction” of the approved Construction Safety and Phasing Plan.

Yes_____ No_____

18. **Section 18 – Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces:** This project shall be completed in accordance with Section 18 “Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces” of the approved Construction Safety and Phasing Plan.

Yes_____ No_____

19. **Section 19 – Other Limitations on Construction:** This project shall be completed in accordance with Section 19 “Other Limitations on Construction” of the approved Construction Safety and Phasing Plan.

Yes_____ No_____

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, and that I shall comply with the approved Construction Safety and Plan.

Signed: _____
Contractor's Authorized Representative

Date: _____

_____
Print Name and Title of Contractor's Representative

END OF ITEM SS-101

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ITEM SS-110 STANDARD SPECIFICATIONS

GENERAL

110-1.1 The standard specifications of the Arkansas Department of Transportation (ARDOT) are bound in a book titled Standard Specifications for Highway Construction. These specifications are referred to herein as "Standard Specifications." The latest edition shall apply. A copy of these "Standard Specifications" may be obtained from the ARDOT at their customary charge.

INCORPORATION AND MODIFICATION

110-2.1 Certain parts of the Standard Specifications are appropriate for inclusion in these Technical Specifications. Such parts are incorporated herein by reference to the proper section or paragraph number. The individual specification numbers noted herein may be different from those in the latest edition of the "Standard Specifications." The most current specification number shall apply. Each such referenced part shall be considered to be a part of these Contract Documents as though copied herein in full.

110-2.2 Certain referenced parts of the Standard Specifications are modified in the Specifications that follow. In case of conflict between the Standard Specifications and the Specifications that follow, the Specifications that follow shall govern.

110-2.3 Individual material test numbers change from time to time. Use the latest applicable test.

110-2.4 Reference in the Standard Specifications to the “Department” is herein changed to the “Owner”.

MEASUREMENT AND PAYMENT

110-3.1 Standard Specifications will not be measured for separate payment.

END OF ITEM SS-110

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ITEM SS-120 CONSTRUCTION SAFETY AND SECURITY

DESCRIPTION

120-1.1 This item covers safety and security for construction of the proposed improvements.

The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "Construction Safety and Security."

The item "Construction Safety and Security" shall include:

1. Lighted Barricades and Closed Taxiway and Runway Markers
2. Partial Runway Closure
3. Airport Security Requirements
4. Airport Safety Requirements

CONSTRUCTION METHODS

120-2.1 Lighted barricades and closed taxiway and runway markers.

a. The Contractor shall furnish, install, maintain, and remove vinyl closed taxiway markers and lighted barricades in accordance with details on the plans and as directed by the Engineer. The closed taxiway markers shall be aviation yellow, nylon-reinforced vinyl. The markers shall be secured to the pavement/ground as shown on the plans and as directed by the Engineer. The lighted barricades shall be constructed and installed as shown on the plans. All lighted barricades and closed taxiway markers and runway chevrons shall be constructed in accordance with AC 150/5370-2G Operational Safety on Airports During Construction.

b. All work involved in the furnishing, installation, maintenance, and removal of lighted barricades, barrels and closed taxiway and runway markers will not be measured for separate payment, but will be considered subsidiary to the bid item “Construction Safety and Security.”

c. The contractor shall furnish, install, maintain, and remove lighted runway closure markers in accordance with the details on the plans and as directed by the Engineer. All work involved in the installation, maintenance, and removal of the lighted runway closure markers will not be measured for separate payment, but will be considered subsidiary to the bid item, “Construction Safety and Security.”

120-2.2 Partial Runway Closure. Before commencing work within the air operations areas, the Contractor shall partially close the Runway 18-36 as shown in the Plans. The Contractor shall furnish, install, and maintain the partial runway closure chevrons and temporary airfield lighting in accordance with details on the Plans. The contractor shall accomplish the partial runway closure within one 8-hour work shift. The contractor shall remove the partial runway closure when work is complete within the safety area, and as directed by the sequence of construction in the Plans.

a. Before adjusting the runway length, the Contractor shall perform a Megger test from the regulator serving the runway in the presence of the Owner/Engineer. Data from the test shall be reported in writing to the Owner/Engineer. The Contractor shall determine the appropriate method of disabling the lights on the closed portion of the runway and shall verify the circuit prior to re-energizing. Strict adherence to OSHA Lockout/Tagout procedures is mandatory. The Contractor will be held responsible for any damage to the lighting system caused by his operations. Following restoration of the lighting system to its original/final configuration, the Megger test procedure shall be repeated by the Contractor in the presence of the Owner/Engineer, and the results of the test reported in writing to the Owner/Engineer.

b. All work involved in the furnishing, fabrication, installation, maintenance, and removal of the partial runway closure will not be measured for separate payment but will be considered subsidiary to the bid item

"Construction Safety and Security."

120-2.3 Airport security requirements. The Contractor shall abide by the Airport Security requirements that are outlined in the Construction Safety and Phasing Plan (CSPP). Any costs associated with the Airport Security requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

120-2.4 Airport safety requirements. The Contractor shall abide by the Airport Safety requirements that are outlined in the Construction Safety and Phasing Plan (CSPP). All costs associated with the Airport Safety requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety and Security."

MEASUREMENT AND PAYMENT

120-3.1 Construction safety and security will be measured as a lump sum complete item. Work completed and accepted under this item will be paid for at the contract lump sum price bid for "Construction Safety and Security", which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

Payment will be made under:

Item SS-120-3.1	Construction Safety and Security - per Lump Sum

END OF ITEM SS-120

ITEM SS-130 TRENCH AND EXCAVATION SAFETY SYSTEMS

DESCRIPTION

130-1.1 This section covers trench and excavation safety system required for constructing improvements that necessitate open excavations on the project. All work under this item shall be in accordance with the current edition of the "Occupational Safety and Health Administration Standard for Excavation and Trenches Safety System, 29 CFR 1926, Subpart "P", a copy of which may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

NOTIFICATIONS REQUIRED

130-2.1 The Contractor, prior to beginning any excavation, shall notify the State Department of Labor (Safety Division) that work is commencing on a project with excavations greater than five feet.

The Contractor shall notify all Utility Companies and Owners in accordance with OSHA Administration 29 CFR 1926.651(b)(2) for the purpose of locating utilities and underground installations.

EXISTING STRUCTURES AND UTILITIES

130-3.1 Where the trench or excavation endangers the stability of a building, wall, street, highway, utilities or other installation, the Contractor shall provide support systems such as shoring, bracing, or underpinning to ensure the stability of such structure or utility.

The Contractor may elect to remove and replace or relocate such structures or utilities with the written approval of the owner of the structure or utility and the Project Owner.

MEASUREMENT AND PAYMENT

130-4.1 The work required by this item will be paid for at the lump sum price bid for "Trench and Excavation Safety Systems", which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work. After award of the contract, the Contractor shall submit to the Engineer a breakdown of cost for work involved in the lump sum price bid for "Trench and Excavation Safety Systems" and shall, with each periodic payment request, submit a certification by the Contractor's "competent person" as defined in Subpart "P" 1926.650(b) that the Contractor has complied with the provisions of "Occupational Safety and Health Administration Standard for Excavation and Trenches Safety System", 29 CFR 1926 Subpart P for work for which payment is requested.

Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

Payment will be made under:

Item SS-130-4.1	Trench and Excavation Safety Systems - per Lump Sum

END OF ITEM SS-130

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ITEM SS-300 BASIC ELECTRICAL REQUIREMENTS

DESCRIPTION

300-1.1 This item shall consist of furnishing and installing complete electrical systems as defined in the plans and in these specifications. The work includes the installation, connection and testing of new electrical systems, equipment and all required appurtenances to construct and demonstrate proper operation of the completed electrical systems.

300-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible to make known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

300-1.3 This work shall consist of lockout/tagout and constant current regulator calibration procedures at the airport electrical vault in accordance with the design and details shown in the plans and in compliance with these specification documents.

EQUIPMENT AND MATERIALS

300-2.1 Standards.

a. Applicable National Fire Protection Association (NFPA) codes, including but not limited to:
   (1) NFPA 70 - National Electrical Code.
   (2) NFPA 70E - Standard for Electrical Safety in the Workplace.
   (3) NFPA 101 - Life Safety Code.
   (4) Internet Website: http://www.nfpa.org
b. Applicable Code of Federal Regulations (CFR) codes, including but not limited to:
   (1) 29 CFR 1910 - Occupational Safety and Health Standards (OSHA)
   (2) 29 CFR 1926 - Safety and Health Regulations for Construction.
   (3) Internet Website: http://www.gpoaccess.gov/cfr/index.html
c. ANSI/IEEE C2 - National Electrical Safety Code.
d. NECA 1 – Standard for Good Workmanship in Electrical Construction.
e. Applicable Federal, State and Local Electrical Codes.
f. Applicable Federal, State and Local Energy Codes.
g. Applicable Federal, State and Local Building Codes.
h. Applicable Federal, State and Local Fire Codes.
i. Applicable City Electrical Code.
j. Applicable City Ordinances pertaining to electrical work.
k. Applicable Federal, State and Local - Environmental, Health and Safety Laws and Regulations.

Contractor shall utilize the most current editions of standards, which are current at time of bid and as recognized by the Authority Having Jurisdiction for the respective standard.

300-2.2 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified and listed under Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, current version on the date that the submittals are received by the Engineer. When an equipment advisory circular is being updated and two equipment lists for the same specific equipment are listed in the current certified equipment AC 150/5345-53 addendum, only that equipment qualified to the latest advisory circular will be acceptable.

b. Airport lighting equipment and materials shall also meet the Buy American Preference requirements in 49 USC 50101 and the Aviation Safety and Capacity Expansion Act. The equipment shall be approved and listed on the FAA "Equipment Meeting Buy American Requirements" list located at *www.faa.gov/airports/aip/procurement/federal_contract_provisions/*, current version on the date that the submittals are received by the Engineer, or the Contractor may submit a signed formal letter from the manufacturer that clearly lists the specific equipment, model number, location where it is manufactured, and statement certifying that the equipment and/or materials meet the Buy American Preference requirements.

c. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the Engineer. All equipment and materials shall be new and meet applicable manufacturer's standards. All electrical components and products shall be tested and listed by an OSHA accepted, nationally recognized testing laboratory (NRTL) to conform to the standards indicated in these contract documents and to the industry standards required in the NEC, NEMA, IEEE, UL, and applicable FAA advisory circulars.

d. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

e. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components or electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

f. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the Contract Documents plans and specifications. The Engineer reserves the right to reject all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

g. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

(1) All LED light fixtures, except for obstruction lighting, shall be warranted by the manufacturer for a minimum of 4 years after date of installation, final acceptance testing by the Engineer, and Owner's beneficial use of the equipment, inclusive of all electronics. Refer to FAA Engineering Brief No. 67D for additional requirements.

h. After approval of submitted equipment, the Contractor shall supply the following Operation and Maintenance Manual documentation to the Owner. Two (2) complete sets of documentation shall be supplied for each model of equipment. The documentation shall be securely bound in heavy-duty 3-ring binders. The information for each piece of equipment shall be indexed using typewritten label tabs. The spine of each binder shall have a typewritten label, which indicates the included equipment types. The documentation shall include:

(1) Approved Submittals and Shop Drawings
(2) Cable Splicer Qualifications, Type and Voltage
(3) State Contractors License with Electrical Classification
(4) Master, Journeyman and Apprentice Electrician Licenses and Certifications
(5) Lockout/Tagout Program
(6) Installation Manuals
(7) Operation Manuals
(8) Maintenance Manuals
(9) Parts Lists, including recommended spare parts. Recommended spare parts shall be furnished with the respective equipment.
(10) Ground Rod Impedance Test Reports
(11) Cable Pulling Tension Value Logs
(12) Insulation Resistance Test Reports
(13) Regulator Load and Calibration Reports for testing, checking and adjusting all regulators in the electrical vault

i. After approval of the O&M Manuals, the Contractor shall provide three (3) complete electronic copies of all documentation in Adobe PDF file format. The electronic files shall contain searchable text and include a hyperlink index for ease in locating information with the PDF file.

j. All requirements herein Item SS-300 shall be applicable to all referenced sections in these contract documents and applicable to all sections, which reference Item SS-300.

k. The Contractor is the single source of responsibility for the installation and integration of the airport's lighting, power, and control systems. New airport lighting equipment and materials shall be fully compatible with all other new and existing airport lighting equipment and systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

300-2.3 Operation and maintenance data.

Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment. Provide bound hard copies and electronic copies as noted in section 300-2.2.

a. Certificate of Substantial Completion, Release and Contractor's Affidavit, executed copies.

b. Final approved equipment submittals, including product data sheets and shop drawings, clearly labeled.

c. Installation manuals: Description of function, installation and calibration manuals, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.

d. Operations manuals: Manufacturer's printed operating instructions and procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; summer and winter operating instructions; and all programming and equipment settings.

e. Maintenance manuals: Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.

f. Service manuals: Servicing instructions and lubrication charts and schedules, including the names and telephone numbers of personnel to contact for both routine periodic and warranty service for equipment and materials provided under this Specification.

g. Final test reports, clearly labeled, including but not limited to, insulation resistance test reports, ground rod impedance test reports, cable pulling tension values logs, and equipment certification tests.

h. Final certified calibration sheets for all equipment and instruments.

i. Preventive maintenance programs for the visual aid facilities and equipment installed in this project, including the applicable equipment sections within Chapter 5 “Preventive Maintenance” from AC 150/5340-26 (latest edition) “Maintenance of Airport Visual Aid Facilities”.

300-2.4 Wire.

Unless otherwise indicated, conductors No. 10 AWG and smaller shall be solid, and conductors No. 8 AWG and larger shall be stranded.

For electrical work of 600 volts or less, all conductors, terminations, terminal blocks, lugs, connectors, devices and equipment shall be listed, marked, and rated 75 degrees C minimum unless otherwise noted.

Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cables or raceway. Pull ropes and pull wires shall have sufficient tensile strength for the cable(s) to be pulled and installed. Damaged cable or raceway shall be replaced at no additional cost to the Owner. Calculate and do not exceed the maximum allowable pulling tension or maximum allowable sidewall bearing pressure for all conductors and cables.

Install pull wires in empty raceways. Use a polypropylene plastic line with not less than 200-pound tensile strength. Secure and leave at least 12 inches of slack at each end of pull wire to prevent it from slipping back into the conduit. Cap spare raceways with removable tapered plugs, designed for this purpose.

300-2.5 Concrete. Concrete shall conform to Item P-610, Concrete for Miscellaneous Structures, with a minimum 28-day compressive strength of 4000 PSI (unless otherwise noted) using 1-inch (25-mm) maximum size coarse aggregate, as determined by test cylinders made in accordance with ASTM C 31 and tested in accordance with ASTM C 39.

Reinforcing: All reinforcing steel bars shall conform to ASTM A615, Grade 60.

CONSTRUCTION METHODS

300-3.1 Lockout/tagout program. The Contractor shall provide a complete copy of an electrical energy source Lockout/Tagout Program to the Owner, with copy to the Engineer. The document shall clearly identify the on-site master electricians and their contact information, including office and mobile telephone numbers.

The Lockout/Tagout Program shall comply with Part 1910 – Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, and meet the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335.

Implementation of the Lockout/Tagout Program and all other related safety requirements are the sole responsibility of the Contractor.

300-3.2 Safety program. The Contractor shall implement an electrical safety program that complies with NFPA 70E and 29 CFR 1926.

Implementation of the Electrical Safety Program, determining and providing proper Personal Protective Equipment (PPE), training and enforcing personnel to wear the prescribed PPE, conducting work area safety inspections (including correcting deficiencies), and all other related safety requirements are the sole responsibility of the Contractor.

All work involved in the preparation and implementation of the safety program will not be measured for separate payment but will be considered subsidiary to the lockout/tagout bid item.

300-3.3 Preconstruction meeting.

A preconstruction meeting will be held with the Airport, FAA, Engineer and Contractor, prior to any work. Complete submittals and shop drawings will be submitted at this time for review. An equipment procurement schedule will be provided by the Contractor with an anticipated field construction start date. The progress construction schedule will be submitted for review each week and shall outline all installation, testing and demolition work.

300-3.4 General.

The Contractor shall be responsible for coordinating all electrical work with the Utility. The Contractor shall provide temporary service conductors and raceway system. The Contractor shall then provide and connect permanent service conductors and raceway system after the completion.

In general, the various electrical equipment and material to be installed by the various trades under this specification shall be run as indicated, as specified herein, as required by particular conditions at the site, and as required to conform to the generally accepted standards to complete the work in a neat and satisfactory manner. The following is a general outline concerning the running of various systems and is to be expected where the drawings or conditions at the buildings necessitate deviating from these standards.

The drawings and specifications are complementary; any work required by one, but not by the other, shall be performed as though required by both.

The Contractor shall maintain copies of all equipment installation manuals on site during construction.

All conduits shall be run exposed in the equipment rooms or run concealed as indicated.

The electrical plans do not give exact locations, etc., and do not show all the offsets, control lines, junction boxes, and other installation details. Each Contractor shall carefully lay out his work at the site to conform to the job conditions, to conform to details of installation supplied by the manufacturers of the equipment to be installed, and thereby to provide complete operating systems.

The electrical plans show diagrammatically the locations of the various electrical outlets and apparatus and the method of circulating and controlling them. Exact locations of these outlets and apparatus shall be determined by reference to the general plans and to all detail drawings, etc., by measurements at the buildings, and in cooperation with other crafts, and in all cases shall be subject to the approval of the Engineer. The Engineer reserves the right to make any reasonable change in location of any outlet or apparatus before installation, without additional cost to the Owner.

Should the particular equipment which any bidder proposes to install require other space conditions than those indicated on the Drawings, he shall arrange for such space with the Engineer before submitting his bid. Should changes become necessary because of failure to comply with this clause, the Contractor shall make such changes at the Contractor's expense.

Should the particular equipment which any bidder proposes to install require other installation methods, such as larger light base junction structures, etc., he shall include all such equipment and appurtenances in his bid. Should changes become necessary because of failure to coordinate equipment requirements and comply with this clause, the Contractor shall make such changes at the Contractor's expense.

The Contractor shall be responsible to see that each party furnishes electrical equipment which meets the electrical requirements specified herein and that all systems work together to produce the specified operation.

Where two or more units of the same kind or class of equipment are required, these shall be products of a single manufacturer; however, the component parts need not be the products of one manufacturer.

Each Contractor shall submit working scale drawings of all his apparatus and equipment which in any way varies from these Specifications and Plans, which shall be checked by the Engineer and approved before the work is started, and interferences with the structural conditions shall be corrected by the Contractor before the work proceeds.

Electrical equipment, such as switchgear, switchboards, panelboards, load centers and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

All electrical equipment shall be securely mounted as indicated in the plans, as required by the contract specifications, as required by guidelines and codes, and as required by the manufacturer using hardware compliant with the environmental conditions.

Interior components of electrical enclosures shall be securely mounted using appropriate hardware within the enclosure. Adhesives or adhesive tapes/strips are not allowed and are prohibited.

Electrical components, including but not limited to, relays, circuit boards, electronics, etc., shall be installed within approved enclosures.

The Contractor shall keep ends of conduits, including those extending through roofs, equipment and fixtures covered or closed with caps or plugs to prevent foreign material from entering during construction.

Where portions of raceways are known to be subjected to different temperatures, where condensation is a problem, and where passing from interior to exterior of a building, the portion of raceway or sleeve shall be filled with an approved material to prevent the circulation of air, prevent condensation, and prevent moisture entry. Sealing of raceways shall not occur until after the conductors and cables have been installed, tested and accepted by the Engineer.

The Contractor shall install any temporary lines and connections required to maintain electric services and safely remove and dispose of them when complete.

All temporary wiring shall conform to OSHA standards. Remove temporary services when work is complete. Any damage to electrical equipment caused by the Contractor shall be repaired at no cost to the Owner.

All non-current carrying parts and neutrals shall be grounded as indicated on the Drawings or as required by the Codes.

White and/or gray outer finish conductors may only be used as grounded conductors or neutral conductors in accordance with NEC.

Install insulated green equipment grounding conductors with all feeder and branch circuits.

Provide separate insulated equipment grounding conductors from grounding system to each electrical equipment, telecommunication equipment, other special electrical system equipment, and appurtenance item location in accordance with NFPA 70 and other applicable standard requirements.

The bidder shall inspect the site, thoroughly acquaint himself with conditions to be met and work to be accomplished. Failure to comply with this shall not constitute grounds for any additional payments.

Where electrical equipment is installed that causes electrical noise interference with other systems either existing or installed under this contract, the offending equipment shall be equipped with isolating transformers, filters, reactors, shielding, or any other means as required for the satisfactory suppression of the interferences, as determined by the Engineer.

All junction boxes, expansion joints, flexible connections, instruments and similar items requiring servicing or repairs shall be installed in an accessible location.

All salvage and equipment removed by the work shall remain the property of the Owner. Material removed from the project shall be stored on the project site where and as directed. Debris shall be removed from the job site and disposed of by the Contractor.

The Contractor shall maintain his work area clean and orderly at all times. Debris shall be removed promptly. The electrical system shall be thoroughly cleaned inside and outside of all enclosures to remove all metal shavings or other work debris, dust, concrete splatter, plaster, paint and lint.

The Contractor shall do all excavating and backfilling made necessary by electrical work and shall remove all surplus or supply any earth required to establish the proper finished grade.

All steel conduits, supports, channels, fittings, nuts, bolts, etc. shall be galvanized, corrosion-resistant type unless otherwise noted.

An approved anti-seize compound shall be used on all threads to prevent equipment and thread damage.

Equipment shall be installed in accordance with manufacturer's recommendation. Make all final electrical connections and coordinate all items with other trades.

Correct unnecessary damage caused due to installation of work, brought about through carelessness or lack of coordination. All openings, sleeves, and holes to be properly sealed, fire proofed and waterproofed. Any water leaks arising from project construction will be immediately corrected to the satisfaction of the Owner and the Engineer.

300-3.5 Power supply equipment. Electrical equipment, such as switchgear, switchboards, panelboards, load centers, and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

If shown in the plans, the power supply equipment shall be set on concrete housekeeping pads to provide a minimum space of 3-1/2 inches between the equipment and the floor. All equipment shall be secured to the floor or wall in accordance with the manufacturer's recommendations and these contract document requirements.

300-3.6 Duct and conduit. Conduits shall be galvanized rigid steel unless otherwise indicated or specified. Refer to one-line diagram conduit notes for specific requirements.

Conduit runs shall be one trade size continuously with no reducers allowed. Changing of conduit size is only permitted at manholes, handholes, and boxes and conduit bodies used as outlet, device, junction, or pull boxes, including approved, listed fittings with removable covers.

Use an approved, listed adapter/coupling to convert to other types of conduit. Reducer couplings are not allowed.

For underground service entrance, feeder and branch circuit raceways, offsets and bends over 30 degrees and elbows in Schedule 40 PVC conduit runs shall be Schedule 80 PVC conduit. Underground service entrance PVC conduits shall be concrete encased unless otherwise noted. Underground PVC conduits shall be concrete encased under driveways, roadways, parking lots and other paved areas.

Non-encased conduits shall convert to concrete encased ducts under all paved areas and shall extend at least 3 feet beyond the edges of the pavement unless otherwise noted.

The Contractor shall provide a staked centerline or offset for the duct and manhole system - utilizing the drawings and a site inspection of the existing grounds, grades and utility crossings. The Owner and Engineer shall approve the staking plan that shall be indicated on a drawing submitted for approval before starting any excavation for the ducts. The staking plan shall indicate the proposed location, elevation and dimensions of manholes and handholes. The Engineer reserves the right to adjust duct, manhole and handhole locations and elevations before installation at no additional cost to the Owner.

The bottom surface of trenches shall be essentially smooth and free from coarse aggregate.

Install grounding-and-bonding type bushings and bonding jumpers on all service entrance conduits and on all feeder and branch circuit conduits.

Use conduit bushings at each conduit termination. Where No. 4 AWG or larger ungrounded wire is installed, use insulated bushings.

When EMT is allowed, utilize only steel compression fittings. Die-cast and set-screw fittings shall not be used.

Use double lock nuts at each conduit termination. Use weather tight hubs in damp and wet locations. Sealing lock nuts shall not be used.

Grounding continuity to rigid metal conduit shall be accomplished by grounding bushings/adapters with lugs for connection to grounding counterpoise and/or grounding electrode conductor as defined by NEC.

All exposed wiring shall be run in not less than 1/2 inch (12 mm) galvanized rigid steel conduit. All conduits shall be installed to provide for drainage. Conduit shall be attached to wooden structures with galvanized pipe straps and fastened with galvanized wood screws not less than No. 8 nor less than 1-1/4 inches (31 mm) long. There shall be at least two fastenings for each 10-foot (3 m) length.

Existing ducts may require clearing before use. It is the responsibility of the Contractor to locate the existing ducts, identify empty or partially empty conduits and clear the conduits as required. Where new cable is to be installed in existing duct, the full length of the duct shall be cleared of debris by mechanical means before the installation of the new cable. Acceptable methods of clearing existing ducts include "hydro-jetting" and "roto-rooting." All existing cables in each re-used duct shall be replaced for the length of the duct and properly spliced in a method approved by the Engineer. Clearing of existing duct banks or conduits is incidental to the cable pay item.

Dedicated ground rods shall be installed and exothermically welded to the counterpoise wire at each end of a duct bank crossing under pavement.

For concrete markers, the impression of letters shall be done in a manner, approved by the Engineer, to affect a neat, professional appearance. The letters shall be stenciled neatly. After placement, all markers shall be given one coat of high-visibility aviation orange paint, as approved by the Engineer.

300-3.7 Junction boxes.

Junction cans shall have both internal and external ground lugs. Size (diameter) and depth shall be as specified in the plans.

300-3.8 Backfill, compaction, and restoration. Refer to the backfill, compaction and restoration requirements within Item P-152 where other compaction requirements are specified (under pavements, embankments, etc.)

Trenches shall be backfilled and compacted in 6" layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Backfilling from two directions will not be allowed. No backfilling will be accomplished without the approval of the Engineer or Construction Observer. The Contractor shall ensure all trenches are inspected prior to being covered and prior to encasement. Any uninspected trenches which are prematurely covered shall be exposed for inspection at the Engineer and Owner's convenience at no additional cost to the Owner. The Construction Observer will coordinate with the Contractor for advance scheduling of trench inspection.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD) and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

300-3.9 Cable and utility coordination. The existing and the proposed locations of lighting cable are approximate. The Contractor shall be responsible for field locating and identifying the existing lighting circuits to determine their exact routing. The Contractor shall also be responsible for maintaining the lighting systems in a working condition until the new lighting circuits have been installed and tested. The Contractor shall proactively and expeditiously accomplish this cable identification work prior to performing any modifications to the lighting circuits. Coordinate identification work with the Owner and Engineer and make all corrections, additions, etc. on the as-built drawings.

Underground cable and utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these cables and utilities on the Plans. All existing cable and utilities may not be shown on the Plans and the location of the cables and utilities shown may vary from the location shown on the Plans. Prior to beginning of any type of excavation, the Contractor shall contact the utilities, the airport maintenance staff, FAA field personnel and other organizations as required and make arrangements for the location of the utilities on the ground. The Contractor shall maintain the cable and utility location markings until they are no longer required.

The Contractor shall replace or repair any underground cable or utility that has been damaged by the Contractor during excavation to the satisfaction of the owner of the cable or utility at no additional cost to the Owner.

The Contractor shall be responsible for all coordination work associated with existing and new utilities, their marking, their identification, proposed outages/shutoffs, connections, cutovers, etc.

300-3.10 Wiring. The Contractor shall furnish all labor and materials and shall make complete electrical connections in accordance with the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code.

Provide color-coding for phase identification.

Colors for 240/120V Circuits:

a. Phase A: Black
b. Phase B: Red
c. Neutral: White

All new electrical cable shall be marked using color-coded plastic electrical tape, which is specifically designed for application on polyethylene-jacketed cable. The tape shall be applied as detailed on the Plans. Marking tape shall be Scotch 35 Vinyl Plastic tape or approved equal.

300-3.11 Marking and labeling. Properly identify all electrical equipment.

Wire/Cable Designation Tape Markers:

a. Indoor Dry Locations: UL Recognized Materials, vinyl or vinyl-cloth, self-adhesive, wraparound, self-laminating, cable/conductor markers with computer printer-generated numbers and letters, minimum 1" width. Provide Brady B-427 with thermal transfer print type or approved equal.

b. Outdoor Locations and Indoor Wet and Damp Locations: White polyolefin, non-adhesive, full circle, heat-shrinkable sleeve, cable/conductor markers with computer printer-generated numbers and letters, minimum 1" width. Provide Brady B-342 with thermal transfer print type or approved equal.

Properly identify all electrical equipment, including but not limited to the following:

a. Switchgear, switchboards, and control panels.
b. Main distribution panel and individual devices within it.
c. Panelboards and individual devices within it.
d. Safety switches and disconnects.
e. Contactors and lighting control center, including all branch circuits.
f. Individually mounted circuit breakers.
g. Starters and relays.
h. Transformers.
i. Generators and automatic transfer switches.

Use permanently attached black phenolic plates with 3/8" white engraved lettering on the face of each, attached with minimum two sheet metal screws. Starters and relays connected under this Specification shall be identified whether furnished under this Specification or under other Specifications of this contract. Plates shall be indoor or outdoor rated as required by installation location.

Panelboard identification plates shall indicate panel by identification name, voltage system, ampacity rating and type, AIC rating, and feeder source description.

Identify each receptacle, light switch, junction box, etc. with panelboard identification and circuit number. For all wiring device covers, use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

Identify fire alarm junction boxes with red covers and mechanical control junction boxes with blue covers.

Install all identification as required by current adopted editions of the NFPA 70 - National Electrical Code and NFPA 70E - Standard for Electrical Safety in the Workplace.

300-3.12 Removal and relocation of existing equipment. The Contractor shall carefully remove all salvageable equipment as indicated on the Plans. Any equipment which is damaged during the removal operation shall be subject to a reduction in payment for removal of the equipment. All equipment which is

removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the Engineer.

The Contractor shall carefully relocate existing equipment as indicated in the Plans. Any equipment that is damaged during the relocation operation shall be replaced at no additional cost to the Owner.

Any existing electrical equipment, conduit, cables, etc. that is damaged during construction shall be replaced at no additional cost to the Owner to the satisfaction of the Owner and the Engineer.

300-3.13 5 kv and under 600v cable connections.

Cable splicing/terminating personnel shall be licensed electricians who have the minimum continuous experience in terminating/splicing medium voltage cable as listed in Item L-108. The qualifications for these airfield lighting cable splicers shall be submitted for review and approval by the Engineer prior to any work. The Engineer may request sample splices be performed in his presence by the proposed personnel to clearly demonstrate that they have the skill and experience to perform this work. Connector kits and cables shall be provided in sufficient quantity by the Contractor in demonstrating these qualifications at no additional cost to the Owner.

Field-attached plug-in splices using FAA certified L-823 plug and receptacle connector kits, properly sized to the cable being used, shall be installed as shown in the plans. This work shall include the taping and heat shrinking. Refer to Item L-108 for additional requirements.

As an option, the Contractor may utilize enhanced FAA certified L-823 connector kits, such as the Amerace 54Super Kit. These kits do not require taping or heat shrinking. These kits shall be installed in accordance with the manufacturer's installation requirements. Note that the mixing of connector kits is unacceptable. The Contractor shall clearly list and submit the connector kits he proposes to utilize on the project for approval prior to any field construction work, and he shall only install that type during construction unless otherwise noted by the Engineer.

For under 600V cable connections of voltage powered circuits, splices whether direct buried or within an underground enclosure shall only utilize approved cast splices, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M Company, or an approved equivalent.

300-3.14 Certification and performance. Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and Engineer, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

300-3.15 As-built drawings. The Contractor shall keep one (1) full-sized set of prints for As-Built Drawings at the site, in good order, and annotated to show all changes made during the construction process.

The Contractor shall locate all underground and concealed work, identifying all equipment, conduit, circuit

numbers, motors, feeders, breakers, switches, and starters. The Contractor will certify accuracy by endorsement. As-Built drawings shall be correct in every detail, so Owner can properly operate, maintain, and repair exposed and concealed work.

The As-Built drawings shall indicate all control system labeling and marking.

The Contractor shall store the As-Built drawings on the site. Drawings shall not be rolled. Make corrections, additions, etc., with pencil, with date and authorization of change.

As-Built drawings must be submitted to Engineer before project will be accepted.

Minor deviations from the Plans and Specifications shall be as approved by the Engineer.

Upon completion of the installation, the Contractor shall adjust the systems to the satisfaction of the Engineer.

300-3.16 Testing.

General Electrical Testing: Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification and certify compliance with test parameters. Tests shall be conducted in the presence of the Engineer and shall be to his/her satisfaction. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest. Perform infrared scan tests and inspections of service and power distribution equipment at the respective buildings and provide reports. Electrical equipment will be considered defective if it does not pass tests and inspections. Reports shall include notations of deficiencies, remedial action taken and observations after remedial action.

System and Equipment Testing: All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

Test equipment and instruments utilized by the Contractor shall have been calibrated following the manufacturer's recommended schedule to verify their accuracy prior to performing the testing work. The Contractor shall provide instrument calibration certificates on test equipment when requested by the Engineer. Retesting work due to inaccurate or defective instruments shall be performed by the Contractor to the satisfaction of the Engineer at no additional cost to the Owner.

a. Regulator Calibration:

   The Contractor shall check and calibrate both new and existing regulators utilizing the enclosed "Constant Current Regulator Calibration Report". Refer to the material section on constant current regulators for additional requirements.

   New regulators are calibrated at the factory prior to shipping, while existing regulators typically need checks and calibrations on a routine basis so that they do not get out of tolerance. The intent is to check and/or calibrate these regulators using a high accuracy meter prior to energizing and placing the airfield lighting system in service.

   Utilize a high accuracy true RMS ammeter with high accuracy clamp-on current probe when making these measurements (use round type probes, accuracy + or – 2% required, sized per the cable diameter and circuit ampacity to achieve the best accuracy). Adjust regulators per manufacturer's instructions to meet the output currents on each brightness step as listed in Tables 5-2 and 5-3 in AC 150/5340-26.

b. Megger Testing:

The Contractor shall perform megger testing on each existing regulator circuit prior to any work on the electrical system. This information shall be recorded and documented by the Contractor and submitted to the Engineer. The Contractor shall perform megger tests on each regulator circuit after the acceptance test period. This acceptance test information shall be recorded and documented by the Contractor and submitted to the Engineer. Megger test shall be performed in accordance with the requirements of Item L-108.

The Contractor shall submit his initial megger test reports on the enclosed "Insulation-Resistance Test Report" form prior to any work on the electrical system. This report shall be submitted to the Engineer and approved by the Owner prior to Contractor proceeding with his work.

After final acceptance testing has been completed, the Contractor shall complete and submit his final megger test reports to the Engineer and insert copies of the initial and final megger test reports in the Operation and Maintenance Manuals.

Megger testing shall be performed using an insulation meter, such as a Fluke 1507 Insulation Resistance Multimeter, Ideal 61-797 Digital Insulation Meter, or approved equal having an insulation test range up to 10 Gigohms or greater.

Insulation resistance testers for 5kV series circuits shall utilize the 1000V DC source output for testing. The test equipment shall be submitted for review and approval by the Engineer prior to performing the tests.

The Contractor shall be responsible to maintain an insulation resistance equal to minimum 80% of the initial testing value through the end of the contract warranty period. This requirement is based on AC 150/5340-26C which states that resistance values inevitably decline over the service life of the circuit and that a 10-20 percent decline per year is considered normal. Note that AC 150/5340-26C cancels AC 150/5340-26B; thus, refer to the current edition of the maintenance AC for requirements in this project.

For existing circuit insulation resistance requirements, refer to "Existing Circuits" section of Item L-108.

The insulation resistance to ground for 600V rated cables shall be not less than 100 Megohms when measured per NETA standards.

The installations shall be tested in operation as a completed unit prior to acceptance. Tests shall include taking megger and voltage readings in accordance with manufacturer's requirements. Testing equipment shall be furnished by the Contractor.

c. Ground Rod Impedance Testing:

The enclosed "Ground Rod Impedance Test Report" form shall be used, and testing shall be performed in the presence of the Engineer.

As-Built drawings shall indicate the location of all installed ground rods. Each ground rod shall have a unique identifier that corresponds with its submitted ground impedance test report.

Three-pole fall-of-potential testers that can measure the ground resistance of a ground rod using auxiliary electrodes (staked testing), such as a Fluke 1621 Earth Ground Tester, shall be used for testing individual dedicated equipment ground rods at fixtures and equipment, or for testing isolated counterpoise ground rods not yet connected to the counterpoise wire.

Clamp-on testers that can measure the ground resistance of a ground rod without using auxiliary ground rods (stakeless testing), such as a Fluke 1630 Earth Ground Clamp Meter or approved equal, shall be used for testing counterpoise ground rods which have already been connected to the counterpoise wire, or ground ring ground rods which have already been connected to the established ground ring system.

Ground impedance test equipment shall be submitted for review and approval by the Engineer prior to performing the tests.

If the ground rod's impedance exceeds 25 ohms, an additional rod shall be driven in a location suitable and approved by the Engineer. However, the additional rod must satisfy the requirements of NEC 250.53 and not be less than 6 feet away from any other ground rod electrode. Additional ground rods shall not be measured for separate payment but shall be considered subsidiary to the counterpoise or respective equipment pay item.

The Contractor shall perform additional tests if required and requested by the Engineer at no additional cost.

The Contractor shall coordinate with the resident Engineer to approve tests daily before proceeding. The Contractor shall fill out a separate test report for each date. Test reports shall be submitted weekly to the Engineer.

Airport lighting equipment and special systems shall be tested in accordance with applicable FAA Advisory Circular requirements and the manufacturer's installation instructions. These tests shall also include those system requirements listed within AC 150/5340-26 Maintenance of Airport Visual Aid Facilities.

300-3.17 Inspection fees and permits. The Contractor shall obtain and pay for all necessary construction permits, licenses, government charges, and inspection fees necessary for prosecution of the Work. Unless otherwise noted, the Contractor shall pay all charges of utility owners for connections for providing permanent service to the Work, ready for subsequent utility account transfer to the Owner after final acceptance.

300-3.18 Work supervision.

State of Arkansas: The electrical contractor (whether the general contractor or a subcontractor) shall be a licensed contractor in the state of Arkansas having an electrical classification suitable for performing the work required in these contract documents.

The Contractor shall designate in writing the qualified electrical supervisor who shall provide supervision to all electrical work on this project. The minimum qualifications for the electrical supervisor shall be a master electrician as defined by Arkansas Board of Electrical Examiners. The supervisor or his appointed alternate possessing at least a journeyman electrician license shall be on site whenever electrical work is being performed. The qualifications of the electrical supervisor shall be subject to approval of the Owner and the Engineer.

All master and journeyman electricians shall be licensed in accordance with Arkansas Code Title 17 Chapter 28 - Electricians. The website located at http://www.arkleg.state.ar.us publishes the text of this statutory requirement. No unlicensed electrical workers shall perform electrical work on this project. Apprentice electricians in a ratio of not more than one apprentice per journeyman electrician will be allowed if the apprentices are licensed and actively participating in an apprenticeship program recognized and approved by the Arkansas Board of Electrical Examiners.

300-3.19 Training. The training classes shall be coordinated with the Owner and Engineer in advance of the final acceptance testing. Comprehensive operational and maintenance training materials shall be

provided by the equipment manufacturer and the Contractor (see section 2.3 OPERATION AND MAINTENANCE DATA).

Schedule the training with the Owner at least 10 days in advance and notify the Engineer.

Provide hands-on demonstrations and training of equipment components and functions, including adjusting, operating and maintaining the lighting equipment and systems. Coordinate the training schedule with the Owner in advance, so that the Owner may record the training if desired. Provide 4 hours training for the operational personnel and 4-hours training for the maintenance personnel.

METHOD OF MEASUREMENT

300-4.1 The quantity of lockout/tagout and constant current regulator calibration procedures to be paid for shall consist of all lockout/tagout procedure work and all constant current regulator calibration work completed in place, accepted and ready for operation. This item does not include measurement for constant current regulator equipment.

BASIS OF PAYMENT

300-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

Payment will be made under:

Item SS-300-5.1	Lockout/Tagout and Constant Current Regulator Calibration Procedures – per Lump Sum

MATERIAL REQUIREMENTS

Commercial Item Description A-A-59544	Cable and Wire, Electrical (Power, Fixed Installation)
Fed. Spec. W-C-1094	Conduit and Conduit Fittings; Plastic, Rigid
Fed. Spec. W-P-115	Panel, Power Distribution
Fed. Std. 595	Colors
Underwriters Laboratories Standard 6	Rigid Metal Conduit
Underwriters Laboratories Standard 514	Fittings for Conduit and Outlet Boxes
Underwriters Laboratories Laboratories Standard 651	Schedule 40 and 80 Rigid PVC Conduit (for Direct Burial)

Underwriters Laboratories Standard 1242	Intermediate Metal Conduit
CFR 1910	Occupational Safety and Health Regulations
CFR 1926	Safety and Health Regulations for Construction
ANSI/IEEE C2	National Electrical Safety Code
NFPA 70	National Electrical Code (NEC)
NFPA 70E	Standard for Electrical Safety in the Workplace
NFPA 101	Life Safety Code
NFPA 780	Standard for the Installation of Lightning Protection Systems
29 CFR 1910	Occupational Safety and Health Standards (OSHA)
29 CFR 1926	Safety and Health Regulations for Construction
Jaquith Industries, Inc.	The Design, Installation, and Maintenance of In-Pavement Airport Lighting

FAA ADVISORY CIRCULARS

AC 150/5300-13	Airport Design
AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-3	Specification for L-821 Panels for Control of Airport Lighting
AC 150/5345-5	Specifications for Airport Lighting Circuit Selector Switch
AC 150/5345-7	Specification for L-824 for Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-10	Specification for Constant Current Regulators and Regulator Monitors
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Standard for Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853 Runway and Taxiway

	Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Base and Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Taxiway and Runway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Isolation Transformers for Airport Lighting Systems
AC 150/5346-49	Specification L-854, Radio Control Equipment
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program
AC 150/5345-56	Specification for L-890 Airport Lighting Control and Monitoring System (ALCMS)

END OF ITEM SS-300

CONSTANT CURRENT REGULATOR CALIBRATION REPORT

Standard Requirements: FAA AC 150/5340-26 (latest edition) Maintenance of Airport Visual Aid Facilities

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport:_____ Contractor: _____

Project Title: _____ Garver Project Number:_____

Vault ID / Location: _____ Date: _____

Weather / Site Conditions: _____ Last Two Weeks of Rain: _____inches

Constant Current Regulator #: _____ Serves: _____

	Completed	Comments
1. Check all control equipment for proper operation.	☐	_____
2. Perform short-circuit test. Record results and recalibrate if necessary.	☐	_____
3. Perform open-circuit test on regulators with open circuit protection. Open circuit protective device should de-energize the regulator. Record results.	☐	_____
4. Check and record regulator input voltage and current. Input Voltage: _____ Input Current: _____	☐	_____
5. Check and record regulator output load. (ONLY if regulator has monitoring package) Volt-Amperes: _____	☐	_____
6. Check and record output current on each brightness step. If output current is outside of the allowable range, adjust the regulator's on-board potentiometer to re-calibrate the output current within the allowable range. Re-record the new output current on this form.	☐	_____

3-Step CCR			5-Step CCR				
B10: _____	B30: _____	B100: _____	1: _____	2: _____	3: _____	4: _____	5: _____
Nominal: 4.8A	5.5A	6.6A	2.8A	3.4A	4.1A	5.2A	6.6A

Tested By: _____ (Signature and Date)

Test Equipment: _____ (Manufacturer and Model No.)

Engineer Witness: _____ (Signature and Date)

Owner / Sponsor Witness: _____ (Signature and Date)

INSULATION RESISTANCE TEST REPORT

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Vault ID / Location: _____ Date Initial / Final Tests: _____

Weather / Site Conditions (Initial Test): _____ Last Two Weeks of Rain: _____ inches

Weather / Site Conditions (Final Test): _____ Last Two Weeks of Rain: _____ inches

		Initial Test Results		Final Test Results	
	Circuit Designation and Color Code	Regulator Size (kW)	Megger Reading Before Field Work (Megohms)	Regulator Size (kW)	Megger Reading After Field Work (Megohms)
1					
2					
3					
4					
5					
6					
Tested By:					
Test Equipment:					
Engineer Witness:					
Owner/Sponsor Witness:					

Provide signature/date and manufacturer/model no. as required in the fields above.

Initial Test Record – Owner Disposition

Owner / Sponsor: _____ (Signature and Date)

Check one only: ☐ Proceed with Installation ☐ Hold

GROUND ROD IMPEDANCE TEST REPORT

Owner / Sponsor: _____ Engineer: Garver, LLC

Airport: _____ Contractor: _____

Project Title: _____ Garver Project Number: _____

Date: _____ Weather / Site Conditions: _____

Fall-of-Potential Style Tester (F):
Manufacturer: _____ Model #: _____

Clamp-On Style Tester (C):
Manufacturer: _____ Model #: _____

Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)	Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)

Tested By:	
Engineer Witness:	

Provide signature/date in the fields above.

Page _____ of _____

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ITEM SS-301 ELECTRICAL DEMOLITION AND RELOCATION WORK

DESCRIPTION

301-1.1 This item shall consist of the removal and satisfactory disposal of existing guidance signs, markers, manholes, handholes, junction structures, pads, equipment, and other incidentals, all of which are not designated or permitted to remain, in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. This work shall include the removal of indicated equipment, materials, and incidentals necessary for a complete item removal, including all restoration work, as a completed unit to the satisfaction of the Engineer.

301-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible for making known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

MATERIALS

301-2.1 All backfill and repair materials used in electrical demolition, repair and restoration work shall comply with the referenced specifications and be approved by the Engineer.

Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300 and Item L-125.

CONSTRUCTION METHODS

301-3.1 General. No demolition shall be started until the removal and/or relocation work has been laid out and approved by the Engineer. All material shall be disposed of off-site. All hauling and disposal will be considered a necessary and incidental part of the work. Hauling cost shall be considered by the Contractor and included in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

Equipment removal shall typically include removing the equipment and its accessories, removing foundations/pads, removing existing conduits, conductors and appurtenances, removal of conduit to below grade, and removal of existing circuits back to source. The work shall include restoring the area to match existing, including filling and tamping all holes with earth, and clearing and leveling the site.

The Contractor shall remove all existing underground cable, which is unused or rendered unusable by this project, when such is exposed or made accessible during this work. All such wiring removed shall become property of the Contractor and shall be immediately removed from the project. Wiring in conduit shall be removed as indicated or if new wiring is shown to be installed in its place. Existing wiring shall not be reused or reinstalled.

Wiring not exposed shall be abandoned in place, if a reasonable effort will not remove it. No measurement or payment will be made for this cable removal work. Damage to turf or other systems will not be permitted to salvage or retrieve existing cable.

Any damage to electrical equipment, systems, structures, conduits, cables, and accessories or other utilities, designated to remain in place, shall be repaired or replaced expeditiously at no additional cost to the Owner and to the satisfaction of the Owner and Engineer.

Holes, ditches, or other abrupt changes in elevation caused by the removal operations that could obstruct drainage or be considered hazardous or unsightly shall be backfilled, compacted, and left in a workmanlike condition.

Trenches or voids resulting from the removal or demolition of existing electrical equipment or other structures shall be filled with approved material placed in layers in accordance with Item P-152.

Concrete foundations and pads to be removed shall be obliterated full depth.

301-3.2 Removal and/or relocation of light fixtures and equipment. Light fixtures and other equipment which are to be removed shall be carefully excavated. All concrete bases and concrete anchors shall be removed by the Contractor. The removed lights, guidance signs, isolation transformers and wiring harnesses shall then be given to the Owner, or properly disposed of if so directed by the Owner. The ground around the removed lighting equipment shall be backfilled and properly compacted. Light fixtures and equipment which are to be relocated shall be stored on site and reinstalled with new lamps, new transformers, and all other new required accessories as indicated in the plans.

301-3.3 Removal of existing equipment. The Contractor shall carefully remove all salvageable equipment as indicated in the plans. Any equipment that is damaged during the removal and/or relocation operation shall be subject to a reduction in payment for removal and/or relocation of the equipment. All equipment that is removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the Engineer.

301-3.4 Relocation of existing equipment. Existing equipment that is to be relocated shall be carefully disconnected from the existing electrical system. The equipment shall be stored on site in an enclosed area protected from the weather as directed by the Owner and Engineer. The Contractor shall remove existing concrete bases and shall backfill and compact these areas to match existing. The electrical power circuit shall be field located and extended to the new installation location unless otherwise noted in the Plans. Coordinate the extension of the electrical service with the extension of the electrical duct serving the equipment and install duct, splice and cable markers to mark the new complete route.

Refer to the plans for additional installation requirements concerning the relocation of existing lights, signs, systems and incidentals.

Any equipment that is damaged during the relocation operation shall be repaired or replaced by the Contractor at his expense to the satisfaction of the Owner and Engineer.

301-3.5 Clearing of existing duct banks or conduits. Where new cable is to be installed in an existing duct bank or conduit, the full length of the duct bank or conduit shall be cleared of debris by mechanical means before installation of the new cable. Acceptable means of clearing existing duct banks or conduits may include using a mandrel, “hydro-jetting” method, or “roto-rooting” method as approved by the Engineer.

Where existing cables are being removed from an existing duct bank or conduit and replaced with new cables, the Contractor shall use the existing cable to clear the conduit and to pull in the new cable. No separate payment will be made for clearing these duct banks or conduits or for the existing cable removal. Clearing of these existing duct banks or conduits is incidental to the cable pay item unless otherwise noted.

METHOD OF MEASUREMENT

301-4.1 The quantity of existing duct bank or conduit, removed, to be measured under this item, shall be the linear foot of duct bank or conduit removed. Separate payment will not be made for existing cable removal.

301-4.2 The quantity of existing lights, junction structures, or guidance signs, removed, to be measured under this item shall be the number of each complete unit removed, and accepted by the Engineer.

This item shall include removing and storing the existing equipment as directed by the Engineer.

Where the light base and concrete structure are indicated to be removed or demolished, the item shall include

restoring the area to match existing, including removing the complete concrete item, filling and tamping all holes with earth, and clearing and leveling the site.

Where the light base and concrete structure are to remain, a new blank cover shall be installed for protecting the light base during the construction work. Blank covers shall be removed when the existing equipment is reinstalled and given to the Owner after completion of construction work in the respective area.

BASIS OF PAYMENT

301-5.1 Payment will be made at the contract unit price for each complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

Payment will be made under:

Item SS-301-5.1	Existing Concrete Encased Electrical Duct Bank, Removed – per Linear Foot
Item SS-301-5.2	Existing Concrete Encased, Electrical Junction Structure, Removed –per Each
Item SS-301-5.3	Existing Base Mounted Guidance Sign, Removed and Stored, Foundation Demolished -- per Each

END OF ITEM SS-301

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ITEM SS-302 UTILITY ALLOWANCES

DESCRIPTION

302-1.1 To provide adequate budget and bonding to cover items not precisely determined by the Owner prior to bidding, allow within the proposed Contract Sum, the amounts described in this Section.

302-1.2 Related work:

a. Documents affecting work of this Section include, but are not necessarily limited to, General Provisions, Special Provisions, and other Sections of these Specifications.

b. Other provisions concerning Utility Allowances may be stated in other Sections of these Specifications.

SPECIFIC UTILITY ALLOWANCES

302-2.1 The following utility allowances are included within this Contract:

a. Power Utility Allowance: The power utility, Carroll Electric, will summarize their incurred costs for all their work associated with this project. This allowance item shall match the utility reimbursement amount. The Contractor shall not add additional administration or overhead charges to this allowance; those administration and overhead costs shall be considered subsidiary to the applicable work pay items within the unit price schedule.

BASIS OF PAYMENT

302-3.1 Allowance Payments:

Payment will be made under:

Item SS-302-3.1 Power Utility Allowance -- per Allowance

END OF ITEM SS-302

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ITEM SS-310 AIRPORT LIGHTING SYSTEMS

DESCRIPTION

310-1.1 This item shall consist of furnishing and installing guidance signs in accordance with this specification, the referenced specifications and drawings, and applicable advisory circulars. The system shall be installed at the locations and in accordance with the dimensions, design and details shown on the plans. This work shall include the furnishing of all equipment, materials, services and incidentals necessary to place it in operating condition as a completed unit to the satisfaction of the Engineer.

310-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible for making known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

EQUIPMENT AND MATERIALS

310-2.1 General.

a. Airport lighting equipment and materials shall meet the requirements outlined in Item SS-300 and the applicable Item L Series Specifications.

310-2.2 Light fixtures. Airfield lights shall be supplied with all features and accessories including isolation transformers, light bases, base covers, safety ground rods, concrete pads and incidentals required for a complete installation as defined in these Specifications and as shown on the plans.

310-2.3 Lamps. Lamps for elevated edge lights shall be LED type as specified.

310-2.4 Spare equipment including fixtures and spare sign replacement components. . Provide 10 percent (rounded up to the next whole number) spare sign replacement components of each type installed for signs.. Spare fixtures and spare sign replacement components shall not be measured for separate payment but shall be considered subsidiary to the respective light fixture or sign pay items.

a. A spare sign replacement component unit shall include the LED light tube assembly and LED power supply assembly.

Spare fixtures and sign replacement components shall be on-site and available for use by the Contractor prior to the final acceptance testing. Any fixtures or sign components installed new in this project and replaced as part of the final acceptance testing shall be shipped back to the manufacturer for repair or replacement, and then delivered back to the Owner at no additional cost.

The spare fixtures and spare sign replacement components shall be delivered and stored as directed by the Owner, with transmittal receipt signed by Owner's representative. A signed copy shall be forwarded to the Engineer with an additional signed copy placed in the O&M manuals.

310-2.5 Guidance signs. Guidance signs shall be L-858(L), meeting the criteria set forth in AC 150/5345-44, Specification for Taxiway and Runway Signs, and suitable for base mounting. Each unit shall be furnished with the required panels, mounting assemblies, frangible couplings, transformer, intensity control, identification tag, metal tethers, fasteners and safety ground rods.

Style 2 and Style 3 signs shall meet the luminance requirements in AC 150/5345-44 throughout the current ranges of the associated series circuit.

Guidance signs shall have an integral on/off switch for airport maintenance use.

Signs shall be furnished with permanent type nameplates that are both weather and sunlight resistant. Nameplates which are completed with ink markers or similar methods will not be accepted.

Refer to the guidance sign index in the Plans for information on each sign's size, style, class and mode.

The complete sign installation shall be designed to withstand a 200-mph wind load.

310-2.6 Isolation transformers. New isolation transformers shall be Type L-830 and have a wattage rating suitable for the wattage of the fixture and sign lamps. The transformer shall be listed in FAA Circular AC 150/5345-47.

Provide 10 percent spare isolation transformers of each type installed for lights, signs and other equipment. Spare transformers shall not be measured for separate payment but shall be considered subsidiary to the respective light fixture or sign pay items.

CONSTRUCTION METHODS

310-3.1 General. The installation and testing details for the lighting system shall be as specified in the applicable advisory circulars.

The Contractor is responsible for all surveying and measurement which is required to accurately position and aim airfield lighting systems and equipment.

Airfield lighting systems and equipment that are improperly installed shall be removed and re-installed correctly as directed by the Engineer. No payment will be made for the removal and reinstallation of airfield lighting systems and equipment improperly installed. All remedial work shall be to the satisfaction of the Engineer.

310-3.2 **Placing the equipment.** The equipment shall be mounted on concrete pads as shown in the plans. Secure the equipment and make all final connections.

310-3.3 Placing signs. All signs shall be installed at the approximate location indicated in the plans. The specific requirements for sign location are specified in AC 150/5340-18, Standards for Airport Sign Systems. Specific requirements of this AC are also shown on the Plans. Signs shall be located within 1 inch +/- longitudinally or 0.5 inches +/- transversely of the required location unless deviation is approved by the Engineer. The locations for the signs shall be staked by the Contractor and approved by the Engineer before installation begins.

Provide single module signs with one tether. Provide multiple module signs with a tether at both ends.

310-3.4 Transformer installation. The transformer for base mounted fixtures shall be placed inside the base. The transformer for stake mounted fixtures shall be located uniformly as shown on the plans. The primary cable connections shall be made with L-823 connectors as described in Item L-108 and have 3 feet of slack cable. The secondary leads connected to the lamp leads by means of a disconnecting plug and receptacle provided with the unit, and this joint shall not be taped. The secondary joint shall be fastened with a holding ring provided for this purpose.

310-3.5 Unit assembly. All electrical equipment, including edge lights, guidance signs and other visual aid units shall be assembled in accordance with the manufacturer's installation procedures. Anti-seize compound shall be used on all screws, nuts, and threads, including frangible coupling threads. If coated bolts are used (ceramic metallic/fluoropolymer coating), then do not apply anti-seize compound.

310-3.6 Identification numbers. An identifying number shall be assigned to eachsign in accordance with the plans or as approved by the Engineer and Owner. This number shall be imprinted with reflective black

with 1/2" letters on a non-corrosive metal disc 2" minimum diameter and attached to the pavement side of the fixture with a metal screw.

310-3.7 Testing. The installation shall be tested in operation as a completed unit prior to acceptance. Tests shall include taking megger and voltage readings as outlined in Item SS-300 and Item L-108. Testing equipment shall be furnished by the Contractor. Refer to Item L-108 for additional test requirements.

Tests shall be conducted in the presence of the Engineer and shall be to his/her satisfaction.

All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers, and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and Engineer, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

METHOD OF MEASUREMENT

310-4.1 Airport Lighting Systems shall not be paid for under this section but shall be paid for under item L-125 "Installation of Airport Lighting Systems."

310-4.2 Temporary airfield lighting shall be measured as a lump sum complete item including all work completed in place and ready for operation, and including the installation, protection, and removal of all temporary cables, conduits, lighting, grounding, marking, and associated items and appurtenances, as indicated in the Drawings and as directed by the Engineer. This item includes measurement for temporary threshold lighting.

BASIS OF PAYMENT

310-5.1 Payment will be made at the contract lump sum price for each complete item, measured as provided above, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item to the satisfaction of the Engineer.

Payment will be made under:

Item SS-310-5.1 Temporary Airfield Lighting -- per Lump Sum

END OF ITEM SS-310

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ITEM SS-407 ASPHALT CONCRETE HOT MIX SURFACE COURSE (ARDOT)

DESCRIPTION

407-1.1 This section covers construction of the Asphalt Concrete Hot Mix Surface Course, in accordance with the lines, grades, thicknesses, and typical sections shown in the Plans, or as directed by the Engineer. All references herein to Standard Specifications shall refer to ARDOT Standard Specifications for Highway Construction, 2014 Edition.

STANDARDS

407-2.1 Materials, equipment, and construction methods for asphalt concrete hot mix surface course shall be in accordance with the following sections of the Standard Specifications, except as modified or augmented herein.

1. Section 404 – Design and Quality Control of Asphalt Mixtures
2. Section 407 – Asphalt Concrete Hot Mix Surface Course
3. Section 409 – Materials and Equipment for Asphalt Concrete Plant Mix Courses
4. Section 410 – Construction Requirements and Acceptance of Asphalt Concrete Plant Mix Courses

MATERIALS

407-3.1 Course and Fine Aggregate. Course and Fine Aggregates shall comply with the requirements set forth in Section 409 of the Standard Specifications.

407-3.2 Mineral Filler. If filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements set forth in Section 409 of the Standard Specifications.

407-3.3 Asphalt Binder. The asphalt binder shall be PG 76-22 and shall meet the requirements of Section 404 of the Standard Specifications.

COMPOSITION

407-4.1 Composition of the Mixture. The HMA plant mix must be composed of a mixture of well-graded aggregate, filler, asphalt binder, and anti-strip agent (if required). The several aggregate fractions must be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF) as specified in the Standard Specifications, except as modified herein.

The JMF shall meet the requirements of Table 407-1 of Section 407 of the Standards Specifications, and shall have a design gyration value of at least 75. The JMF must be an approved ARDOT mix.

407-4.2 Control Strip. Full production shall not begin until an acceptable control strip has been constructed and accepted in writing by the RPR. The Contractor shall prepare and place a quantity of asphalt according to the JMF. The underlying grade or pavement structure upon which the control strip is to be constructed shall be the same as the remainder of the course represented by the control strip.

The Contractor will not be allowed to place the control strip until the Contractor quality control program (CQCP), showing conformance with the requirements of paragraph 407-6.1, has been accepted, in writing, by the RPR.

The control strip will consist of at least 250 tons or 1/2 sublot, whichever is greater. The control strip shall be placed in two lanes of the same width and depth to be used in production with a longitudinal cold joint. The cold joint must be cut back in accordance with paragraph 407-5.2 using the same procedure that will be used during production. The cold joint for the control strip will be an exposed construction joint at least

four (4) hours old or when the mat has cooled to less than 160°F. The equipment used in construction of the control strip shall be the same type, configuration and weight to be used on the project.

The control strip will be considered acceptable by the RPR in accordance with the acceptance criteria in Section 410 of the Standard Specifications, as modified herein. The test section shall be considered acceptable if asphalt binder content, air voids, voids in mineral aggregate, and mat density are within the requirements of Table 410-1 of the Standard Specifications, as modified herein, joint density and thickness are within the requirements of 407-7.1 of this specification, and gradation is within the tolerances of Section 404 of the Standard Specifications.

If the control strip is unacceptable, necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made and another control strip shall be placed. Unacceptable control strips shall be removed at the Contractor's expense.

The control strip will be considered one lot for payment based upon the average of a minimum of 3 samples (no sublots required for control strip). Payment will only be made for an acceptable control strip in accordance with paragraph 407-7.1.

CONSTRUCTION METHODS

407-5.1 Construction Methods for asphalt concrete hot mix surface course shall be in accordance with SECTION 410 of the Standard Specifications, except as modified herein.

407-5.2 Standard Specification Modifications and Augmentations:

1. SECTION 410.04. Immediately before placing the HMA, the underlying course shall be cleaned of all dust and debris. A prime coat or and tack coat shall be applied in accordance with Item P-602 and P-603, if shown on the plans.

When paving is proposed adjacent to existing pavement, the Contractor shall saw cut a clean vertical edge in the existing pavement prior to placing the proposed pavement.

2. SECTION 410.8. Longitudinal joints which have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°; or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a pavement saw a maximum of 3 inches to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. Asphalt tack coat in accordance with P-603 shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

CONTRACTOR QUALITY CONTROL

407-6.1 General. The Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.

407-6.2 Contractor Quality Control (QC) Facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

407-6.3 Contractor QC Testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved

CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP. Test methods below may be substituted with those found in Section 404 of the Standard Specifications.

a. **Asphalt content**. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per day in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content shall be determined once per day in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per day, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

g. Smoothness for Contractor Quality Control. The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12 foot straightedge, a rolling inclinometer meeting the requirements of ASTM E2133, or rolling external reference device that can simulate a 12 foot straightedge, approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using either the FAA profile program, ProFAA, or FHWA ProVal, using the 12 foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet; and at the third points of paving lanes when widths of paving lanes are 20 ft or greater.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch shall be corrected with diamond grinding per Section 410 of the Standard Specifications or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 407-7.1. Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608, or other material approved by the Engineer. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to and after the placement of the first lift and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch vertically. The documentation will be provided by the Contractor to the RPR by the end of the following working day.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch less than the thickness specified on the plans. Grinding shall be in accordance with Section 410 of the Standard Specifications.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus ½ inch and replacing with new material. Skin patching is not allowed.

407-6.4 Corrective Action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain rules to gauge when a process is out of control and detail what action will be taken to bring the process into control.

407-6.5 QC Reports. The Contractor shall maintain records and shall submit reports of QC activities daily, in accordance with Item C-100.

MATERIAL ACCEPTANCE

407-7.1 Material Acceptance for asphalt concrete hot mix surface course shall be in accordance with SECTION 410 of the Standard Specifications, except as modified herein.

1. SECTION 410.01. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Engineer at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

2. SECTION 410.09(a) General. Samples for all properties except density, thickness, and the investigation of segregation shall be obtained from trucks at the plant. The testing agency shall clearly mark the load ticket of each sampled truck to indicate that the load has been sampled.

   A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

   Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

   The Engineer shall obtain and test one sample taken at random for each sublot.

   For Joint Density, the lot size shall be the total length of longitudinal joints constructed by a lot of ACHM as defined above. The lot shall be divided into four equal sublots. One core of finished, compacted ACHM shall be taken by the Contractor from each sublot. Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D3665. All cores for joint density shall be taken centered on the joint. The minimum core diameter for joint density determination shall be 5 inches.

3. SECTION 410.09(b) Acceptance of Pavement. Acceptance of ACHM courses will be based on the following criteria:

   - The results of tests for properties listed in Table 410-1
   - Joint Density
   - Thickness
   - Grade
   - Pavement Smoothness, and
   - Segregation

   Acceptance with respect to the properties listed in Table 410-1 will be by the lot, Acceptance of a standard lot will be based on the average of the four (4) tests performed by that lot.

4. SECTION 410.09(b)(2) Pavement Smoothness: The Contractor shall provide the straight-edge.

5. SECTION 410.09(b)(5) Joint Density. Acceptance of each lot of plant produced ACHM for joint density shall be based on the average of all of the joint densities taken from the sublots. If the average joint density of the lot so established equals or exceeds 92%, the lot shall be acceptable. If the average joint density of the lot is less than 92%, the Contractor shall stop production and evaluate the method of compacting joints. Production may resume once the reason for poor compaction has been determined and appropriate measures have been taken to ensure proper compaction. The bulk specific gravity used to determine the joint density at joints formed between different lots shall be the lowest of the bulk specific gravity values from the two different lots.

6. SECTION 410.09(b)(6) Thickness. Thickness of each lift of surface course shall be evaluated by the Engineer for compliance to the requirements shown on the plans. Measurements of thickness shall be made by the Engineer using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point shall not be more than 1/4 inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, shall not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the Engineer to circumscribe the deficient area. Thickness measurements that consistently exceed the plan thickness, as determined by the Engineer, may be subject to payment calculated

based on plan thickness. Plan quantities are based on a unit weight of 110 lbs/SY/in of thickness plus a 5% contingency for cutback area.

7. SECTION 410.09(b)(7) Grade. The final finished surface of the pavement of the completed project shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch vertically.

   Cross-sections of the pavement shall be taken at a minimum 50-foot longitudinal spacing and at all longitudinal grade breaks. Minimum cross-section grade points shall include grade at centerline, ± 37 feet of centerline, and edge of runway or taxiway pavement.

   The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the sublot shall not be more than 95%.

8. SECTION 410.10 Incentives: Delete entirely.

METHOD OF MEASUREMENT

407-8.1 Asphalt Concrete Hot Mix Surface Courses will be measured by the ton (2,000 pounds) used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage. Load tickets shall be provided as directed by the Engineer. Measurements shall include only the actual amounts placed within the lines shown on the Plans, or as directed by the Engineer.

BASIS OF PAYMENT

407-9.1 Asphalt Concrete Hot Mix Surface Courses, acceptably completed, and measured as provided above, will be paid for at the contract unit prices per ton bid for “ACHM SURFACE COURSE (1/2”) (PG 76-22)”, which prices shall be full compensation for furnishing, placing and compacting all materials; and for all equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Item SS-407-9.1	ARDOT ACHM Surface Course (1/2”) (PG 76-22) – per ton

END OF ITEM SS-407

ITEM C-100 CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

a. Provide qualified personnel to develop and implement the CQCP.

b. Provide for the production of acceptable quality materials.

c. Provide sufficient information to assure that the specification requirements can be met.

d. Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the *Engineer.* ~~Resident Project Representative (RPR).~~ No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction, *and may be held prior to but separate from the preconstruction meeting*. The QC/QA workshop will be facilitated by the *Engineer.* ~~Contractor.~~ The Contractor shall coordinate with the Airport and the *Engineer* ~~RPR~~ on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

a. Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.

b. Discussion of the QA program.

c. Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.

d. Establish regular meetings to discuss control of materials, methods and testing.

e. Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the *Engineer* ~~RPR~~ prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10 calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the *Engineer* ~~RPR~~ prior to the *start of work items included in the CQCP (earthwork, base, stabilized base, paving, etc.).* ~~Notice to Proceed (NTP).~~

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff

2. Project progress schedule

3. Submittals schedule

4. Inspection requirements

5. QC testing plan

6. Documentation of QC activities and distribution of QC reports

7. Requirements for corrective action when QC and/or QA acceptance criteria are not met

8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that are necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

(1) Professional Engineer with one (1) year of airport paving experience.

(2) Engineer-in-training with two (2) years of airport paving experience.

(3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.

(4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.

(2) Performance of all QC tests as required by the technical specifications and paragraph100-8.

(3) Performance of tests for the *Engineer and* RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

a. Specification item number

b. Item description

c. Description of submittal

d. Specification paragraph requiring submittal

e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401)

b. Item description (e.g., Hot Mix Asphalt Pavements)

c. Test type (e.g., gradation, grade, asphalt content)

d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)

f. Responsibility (e.g., plant technician)

g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The *Engineer and* RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the *Engineer and* RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description
(2) Compliance with approved submittals
(3) Proper storage of materials and equipment
(4) Proper operation of all equipment
(5) Adherence to plans and technical specifications
(6) Summary of any necessary corrective actions
(7) Safety inspection.

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The *Engineer and* RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

(1) Technical specification item number and description
(2) Test designation
(3) Location
(4) Date of test
(5) Control requirements
(6) Test results
(7) Causes for rejection
(8) Recommended remedial actions

(9) Retests

Test results from each day's work period shall be submitted to the *Engineer and* RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the *Engineer and* RPR. All items of material and equipment are subject to inspection and/or observation by the *Engineer and* RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the *Engineer and* RPR at the site for the same purpose.

Inspection and/or observations by the *Engineer and* RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The *Engineer* ~~Resident Project Representative (RPR)~~ will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the *Engineer* ~~RPR~~ will recommend the Owner take the following actions:

(1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. *No separate payment will be made for the CQCP.*

BASIS OF PAYMENT

~~**100-14** Payment will be made under:~~

~~Item C-100-14.1 Contractor Quality Control Program (CQCP) Lump Sum~~

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

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ITEM C-102 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

DESCRIPTION

102-1.1 This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

102-1.2 *This item covers the application of Temporary Erosion Control items at locations shown on the Plans, as directed by the Engineer, and as required for permit compliance, and the requirement of the Contractor to produce, execute, and maintain a specific Storm Water Pollution Prevention Plan (SWPPP) for the project. The Contractor will also be required to request and obtain all necessary federal, state, and local permits. The temporary erosion control measures shown in the Plans do not represent the extent of work and coordination required by the Contractor under this item.*

MATERIALS

102-2.1 Grass. Grass that will not compete with the grasses ~~sown later~~ for permanent cover per Item T-901 shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

102-2.2 Mulches. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials per ~~Item T-908~~. Mulches shall not create a wildlife attractant.

102-2.3 Fertilizer. Fertilizer shall be a standard commercial grade and shall conform to all federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

102-2.4 Slope drains. Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.

102-2.5 Silt fence. Silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project. *In addition, all other materials shall meet commercial grade standards and be in accordance with SECTION 621 - TEMPORARY EROSION CONTROL ITEMS AND DEVICES of the Standard Specifications, except as modified or augmented herein. Heavy Duty silt fencing (with welded wire in the fabric) may be required on steep slopes if the Engineer determines that the silt fence used by the Contractor is not performing satisfactory.*

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The ~~*RPR*~~ *Contractor* shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

102-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the RPR.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance and removal of silt fence. Silt fences shall extend a minimum of 16 inches and a maximum of 34 inches above the ground surface. Posts shall be set no more than 10 feet on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch

overlap and securely sealed. A trench shall be excavated approximately 4 inches deep by 4 inches wide on the upslope side of the silt fence. The trench shall be backfilled and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of silt that accumulates during construction and prior to establishment of permanent erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the RPR.

102-3.5 Construction Methods. *Providing the temporary erosion control items and devices shown on the Plans is intended to minimize the erosion of soils during construction. However, the items and devices shown are not intended to represent all of the necessary items or procedures required to be implemented by the Contractor. The plans and specifications show the Engineer's estimate of a minimum effort needed to maintain proper erosion control during construction. Additional effort and materials may be required by the Contractor to minimize the erosion of soils during construction. It shall be the Contractor's responsibility to install and maintain all the items shown in the Plans and to coordinate, submit, obtain, and comply with all necessary Federal, State, and local permits. The coordination with governing agencies shall include, but not limited to the following:*

- *Maintaining an approved Storm Water Pollution Prevention Plan,*
- *Coordinating and obtaining all local permits regarding grading operations for the proposed improvements, Contractor's staging area, spoil placement and any other grading operations related to the project as directed by the local governing agency.*

METHOD OF MEASUREMENT

102-4.1 Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR. Completed and accepted work will be measured ~~as follows:~~ *as one complete item. This work includes obtaining all necessary federal, state, and local permits required to complete this project.*

~~**a.** Temporary seeding and mulching will be measured by the square yard.~~

~~**b.** Temporary slope drains will be measured by the linear foot.~~

~~**c.** Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed as directed by the RPR.~~

~~**d.** All fertilizing will be measured by the ton (kg).~~

~~**e.** Installation and removal of silt fence will be measured by the [linear foot] [Lump sum].~~

102-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

102-5.1 *Temporary erosion control acceptably completed will be paid for at the contract lump sum price bid for "TEMPORARY EROSION CONTROL," which shall be full compensation for furnishing all materials, tools, equipment, labor, and incidentals necessary to complete the work. Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer. Payment for "TEMPORARY EROSION CONTROL" will also include obtaining and compliance with the SWPPP, which shall include compensation for drainage-way inspections, report preparation, housekeeping practices, cleaning and maintenance, and other actions outlined in the SWPPP prepared by the Contractor necessary to execute the Plan. This item consists of all erosion control items not listed as a separate pay item in the Unit Price Schedule. Any fines issued to the Owner as a result of the Contractor's insufficient execution of the SWPPP will be assessed to the Contractor. Such deductions shall not be limited to the lump sum price of this item. Payment will be made under:*

Item C-102-5.1 Temporary Erosion Control—per Lump Sum

~~**102-5.1** Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1 will be paid for under:~~

~~Item C-102-5.1a Temporary seeding and mulching - per square yard~~

~~Item C-102-5.1b Temporary slope drains - per linear foot~~

~~Item C-102-5.1c Temporary benches, dikes, dams and sediment basins - per cubic yard~~

~~Item C-102-5.1d Fertilizing - per ton~~

~~Item C-102-5.1e Installation and removal of silt fence [- per linear feet (meter)] [- lump sum -]~~

~~Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.~~

~~Temporary control features not covered by contract items that are ordered by the RPR will be paid for in accordance with Section 90, paragraph 90-05 Payment for Extra Work.~~

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33 *Hazardous Wildlife Attractants on or Near Airports*

AC 150/5370-2 *Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

ITEM C-105 MOBILIZATION

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-2 Mobilization limit. Mobilization shall be limited to 10 percent of the total project cost.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster “Equal Employment Opportunity is the Law” in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL “Notice to All Employees” Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4.1 Engineer/RPR field office. An Engineer/RPR field office is not required.

105-4.2 Contractor’s access / haul routes. *The Contractor shall layout, construct, maintain, and repair all access/haul roads needed to construct the work. The existing access roads shown on the plans shall be repaired, as determined necessary by the Engineer, at the close of the project. All such work, including all materials and labor, involved in the layout, construction, maintenance, and repair of the Contractor's access/haul roads will not be measured for separate payment but will be considered subsidiary to the bid item "Mobilization." Temporary pipe culverts shall be installed and maintained as required and shall be of the size as directed by the Engineer. The type of pipe used for temporary pipe shall be at the option of the Contractor. Temporary pipe culverts will not be measured for separate payment, but will be considered subsidiary to the access/haul road. All temporary pipe culverts shall be removed by the Contractor and shall remain his property at the close of the project.*

105-4.3 Contractor’s Staging Area. *The areas designated in the plans or by the Engineer as the Contractor's staging area shall be cleared and graded by the Contractor as needed for use by the Contractor in constructing the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned, regraded, and seeded, as directed by the Engineer, prior to the final acceptance of the project by the Airport. All work involved in the preparation and restoration of areas used or occupied by the Contractor, including clearing, grubbing, regrading, seeding, and installing and removing fence, will not be measured for separate payment but will be considered subsidiary to the bid item “Mobilization.”*

105-4.4 Instrument Control. *The Contractor will be furnished survey baselines and benchmarks to control the work as shown on the Plans. The Contractor shall be responsible for the additional instrument control necessary to layout and construct the work. The Contractor shall provide the instrument control as provided for in Section 50 of the General Provisions. The Contractor's instrument control of the work shall not be measured for separate payment, but will be considered subsidiary to the bid item "Mobilization".*

105-4.5 Location of Underground Utilities. *Prior to performing excavations, the Contactor shall be responsible for performing such spot digging or “potholing” as necessary to verify the location and depth of existing underground utilities. This work shall be in addition to requirements included the General Provisions and plan notes. Spot digging or “potholing” will not be paid separately, but shall be considered subsidiary to the bid item “Mobilization.”*

105-4.6 Clean-Up. *From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.*

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

METHOD OF MEASUREMENT

105-5 Basis of measurement and payment. Based upon the contract lump sum price for "Mobilization" partial payments will be allowed as follows:

a. With first pay request, 25%.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 40%.

d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, Contractor Final Project Documentation, the final 10%.

BASIS OF PAYMENT

105-6 Payment will be made under:

Item C-105-6.1 Mobilization (Maximum 10% of Total Bid) – per Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

ITEM C-110 METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

110-1 General. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (X) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index, Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

It is the intent of this section to inform the Contractor that, in order to consistently offset the Contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the responsibility of the Contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.

110-2 Method for computing PWL. The computational sequence for computing PWL is as follows:

a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.

b. Locate the random sampling position within the sublot in accordance with the requirements of the specification.

c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.

d. Find the sample average (X) for all sublot test values within the lot by using the following formula:

$$X = (x_1 + x_2 + x_3 + \ldots x_n) / n$$

Where: X = Sample average of all sublot test values within a lot

$x_1, x_2, \ldots x_n$ = Individual sublot test values

n = Number of sublot test values

e. Find the sample standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \ldots d_n^2)/(n-1)]^{1/2}$$

Where: S_n = Sample standard deviation of the number of sublot test values in the set

$d_1, d_2, \ldots d_n$ = Deviations of the individual sublot test values $x_1, x_2, \ldots$ from the average value X

that is: $d_1 = (x_1 - X)$, $d_2 = (x_2 - X) \ldots d_n = (x_n - X)$

n = Number of sublot test values

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$\mathbf{Q_L = (X - L) / S_n}$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L, using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e., L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$\mathbf{Q_L = (X - L) / S_n}$$
and
$$\mathbf{Q_U = (U - X) / S_n}$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U, using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U. Determine the PWL by use of the following formula:

$$\mathbf{PWL = (P_U + P_L) - 100}$$

Where: P_L = percent within lower specification limit
P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project

Test Item: Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 = 96.60
A-2 = 97.55
A-3 = 99.30
A-4 = 98.35
n = 4

2. Calculate average density for the lot.

$X = (x_1 + x_2 + x_3 + . . . x_n) / n$
X = (96.60 + 97.55 + 99.30 + 98.35) / 4
X = 97.95% density

3. Calculate the standard deviation for the lot.

$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2)) / (4 - 1)]^{1/2}$
$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$
$S_n = 1.15$

4. Calculate the Lower Quality Index Q_L for the lot. (L=96.3)

$Q_L = (X - L) / S_n$
$Q_L = (97.95 - 96.30) / 1.15$
$Q_L = 1.4348$

5. Determine PWL by entering Table 1 with Q_L= 1.44 and n= 4.

PWL = 98

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

A-1 = 5.00
A-2 = 3.74
A-3 = 2.30
A-4 = 3.25

2. Calculate the average air voids for the lot.

$X = (x_1 + x_2 + x_3 . . . n) / n$
X = (5.00 + 3.74 + 2.30 + 3.25) / 4
X = 3.57%

3. Calculate the standard deviation S_n for the lot.

$S_n = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$
$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$

S_n = 1.12

4. Calculate the Lower Quality Index Q_L for the lot. (L= 2.0)

$Q_L = (X - L) / S_n$
$Q_L = (3.57 - 2.00) / 1.12$
$Q_L = 1.3992$

5. Determine P_L by entering Table 1 with Q_L = 1.41 and n = 4.

P_L = 97

6. Calculate the Upper Quality Index Q_U for the lot. (U= 5.0)

$Q_U = (U - X) / S_n$
$Q_U = (5.00 - 3.57) / 1.12$
$Q_U = 1.2702$

7. Determine P_U by entering Table 1 with Q_U = 1.29 and n = 4.

P_U = 93

8. Calculate Air Voids PWL

$PWL = (P_L + P_U) - 100$

PWL = (97 + 93) - 100 = 90

EXAMPLE OF OUTLIER CALCULATION (REFERENCE ASTM E178)

Project: Example Project

Test Item: Item P-401, Lot A.

A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A arranged in descending order.

A-3 = 99.30
A-4 = 98.35
A-2 = 97.55
A-1 = 96.60

2. From ASTM E178, Table 1, for n=4 an upper 5% significance level, the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

a. For measurements greater than the average:

If (measurement - average)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-3, check if (99.30 - 97.95) / 1.15 is greater than 1.463.

Since 1.174 is less than 1.463, the value is not an outlier.

b. For measurements less than the average:

If (average - measurement)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-1, check if (97.95 - 96.60) / 1.15 is greater than 1.463.

Since 1.435 is less than 1.463, the value is not an outlier.

Note: In this example, a measurement would be considered an outlier if the density were:

Greater than (97.95 + 1.463 × 1.15) = 99.63%

OR

less than (97.95 - 1.463 × 1.15) = 96.27%.

Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Percent Within Limits (P_L and P_U)	Negative Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM E178	Standard Practice for Dealing with Outlying Observations

END OF ITEM C-110

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ITEM P-101 PREPARATION/REMOVAL OF EXISTING PAVEMENTS

DESCRIPTION

101-1.1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

101-1.2 *Limits of pavement removal, pavement repair, joint and crack repair, paint and rubber removal, and cold milling are estimated in the plans. Actual limits of these items shall be coordinated with the Engineer prior to construction.*

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

~~**a. Concrete pavement removal.** Full depth saw cuts shall be made perpendicular to the slab surface. The Contractor shall saw through the full depth of the slab including any dowels at the joint, removing the pavement and installing new dowels as shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the full depth of the pavement. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. If the material is to be wasted on the airport site, it shall be reduced to a maximum size of **[ ]**. Concrete slabs that are damaged by under breaking shall be repaired or removed and replaced as directed by the RPR.~~

~~The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlaying material that is to remain in place, shall be recompacted and/or replaced as shown on the plans. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor's expense.~~

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed. ~~If the material is to be wasted on the airport site, it shall be broken to a maximum size of 3 inches.~~

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

d. Disposal. *All existing pavement removed shall be disposed of off-site. All hauling will be considered a necessary and incidental part of the work. Its costs shall be considered by the Contractor and included in the contract unit price for the pay items of work involved. No payment will be made separately or directly for hauling on any part of the work.*

~~**101-3.2 Preparation of joints and cracks prior to overlay/surface treatment.** Remove all vegetation and debris from cracks to a minimum depth of 1 inch. If extensive vegetation exists, treat the specific area with a concentrated solution of a water based herbicide approved by the RPR. Fill all cracks greater than 1/4 inch wide with a crack sealant **[** per ASTM D6690 **]**. The crack sealant, preparation, and application~~

~~shall be compatible with the surface treatment/overlay to be used. To minimize contamination of the asphalt with the crack sealant, underfill the crack sealant a minimum of 1/8 inch, not to exceed ¼ inch. Any excess joint or crack sealer shall be removed from the pavement surface.~~

101-3.3 Removal of Foreign Substances/contaminates prior to remarking. Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

Chemicals, high-pressure water, heater scarifier (asphaltic concrete only), cold milling, rotary grinding, or sandblasting may be used. If chemicals are used, they shall comply with the state's environmental protection regulations. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair.

~~**a. Repair of concrete spalls in areas to be overlaid with asphalt.** The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw cut a minimum of 2 inches outside the affected area and 2 inches deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphalt mixture with aggregate sized appropriately for the depth of the patch. The material shall be compacted with equipment approved by the RPR until the material is dense and no movement or marks are visible. The material shall not be placed in lifts over 4 inches in depth. This method of repair applies only to pavement to be overlaid.~~

b. Asphalt pavement repair. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.

~~**101-3.5 Cold milling.** Milling shall be performed with a power operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlaying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed off Airport property. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense.~~

~~**a. Patching.** The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. The RPR *Contractor* shall layout the area to be milled with a straightedge in increments of 1 foot widths. *The Contractor's layout shall be approved by the RPR prior to beginning milling operations*. The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.~~

~~**b. Profiling, grade correction, or surface correction.** The milling machine shall have a minimum width of **[7]** feet and it shall be equipped with electronic grade control devices that will cut the surface to the grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch of the specified~~

~~grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to **[** windrow the millings or cuttings **] [** remove the millings or cuttings from the pavement and load them into a truck **]**. All millings shall be removed and disposed of **[** off the airport **] [** in areas designated on the plans **]**.~~

~~**c. Clean-up.** The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed **[** off Airport property **] [** in areas designated on the plans **]**.~~

~~**101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment.** Existing asphalt pavements to be treated with a surface treatment shall be prepared as follows:~~

~~**a.** Patch asphalt pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new asphalt pavement similar to that of the existing pavement in accordance with paragraph 101-3.4b.~~

~~**b.** Repair joints and cracks in accordance with paragraph 101-3.2.~~

~~**c.** Remove oil or grease that has not penetrated the asphalt pavement by scrubbing with a detergent and washing thoroughly with clean water. After cleaning, treat these areas with an oil spot primer. **[ ]**~~

~~**d.** Clean pavement surface immediately prior to placing the surface treatment so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.~~

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

~~**101-3.8 Preparation of Joints in Rigid Pavement prior to resealing.** Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the joint and does not damage the joint.~~

~~**101-3.8.1 Removal of Existing Joint Sealant**. All existing joint sealants will be removed by plowing or use of hand tools. Any remaining sealant and or debris will be removed by use of wire brushes or other tools as necessary. Resaw joints removing no more than 1/16 inch from each joint face. Immediately after sawing, flush out joint with water and other tools as necessary to completely remove the slurry.~~

~~**101-3.8.2 Cleaning prior to sealing**. Immediately before sealing, joints shall be cleaned by removing any remaining laitance and other foreign material. Allow sufficient time to dry out joints prior to sealing. Joint surfaces will be surface dry prior to installation of sealant.~~

~~**101-3.8.3 Joint sealant.** Joint material and installation will be in accordance with **[** Item P-605 **] [** Item P-604 **]**.~~

~~**101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing.** Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, the method used cleans the cracks and does not damage the pavement.~~

~~**101-3.9.1 Preparation of Crack**. Widen crack with **[** router **] [** random crack saw **]** by removing a minimum of 1/16 inch from each side of crack. Immediately before sealing, cracks will be blown out with a hot air lance combined with oil and water free compressed air.~~

~~**101-3.9.2 Removal of Existing Crack Sealant**. Existing sealants will be removed by **[** routing **]** **[** random crack saw **]**. Following **[** routing **]** **[** sawing **]** any remaining debris will be removed by use of a hot lance combined with oil and water free compressed air.~~

~~**101-3.9.3 Crack Sealant.** Crack sealant material and installation will be in accordance with **[** Item P-605 **]**.~~

101-3.10 Removal of Pipe and other Buried Structures.

~~**a. Removal of Existing Pipe Material. [** Remove the types of pipe as indicated on the plans. The pipe material shall be legally disposed of off site in a timely manner following removal. Trenches shall be backfilled with material equal to or better in quality than adjacent embankment. Trenches under paved areas must be compacted to **[** 95% **]** of ASTM **[** D1557 **]** **[** D698 **]**. **[** Not used. **]** **]**~~

~~**b. Removal of Inlets/Manholes. [** Where indicated on the plans or as directed by the RPR, inlets and/or manholes shall be removed and legally disposed of off site in a timely fashion after removal. Excavations after removal shall be backfilled with material equal or better in quality than adjacent embankment. When under paved areas must be compacted to **[** 95% **]** of ASTM **[** D1557 **]** **[** D698 **]**, when outside of paved areas must be compacted to **[** 95% **]** of ASTM D698. **[** Not used. **]** **]**~~

~~**c.** Removal of **[** ___ **]**.~~

METHOD OF MEASUREMENT

101-4.1 Pavement removal. The unit of measurement for pavement removal shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal. Dowel bar installation shall be incidental to pavement removal.

~~**101-4.2 Joint and crack repair**. The unit of measurement for joint and crack repair shall be the linear foot of joint.~~

101-4.3 Removal of Foreign Substances/contaminates *(Pavement Marking Removal)*. The unit of measurement for foreign Substances/contaminates removal shall be the square foot.

~~**101-4.4 Spalled and failed asphalt pavement repair.** The unit of measure for failed asphalt pavement repair shall be square foot.~~

~~**101-4.5 Concrete Spall Repair.** The unit of measure for concrete spall repair shall be the number of square feet. The location and average depth of the patch shall be determined and agreed upon by the RPR and the Contractor.~~

~~**101-4.6 Cold milling.** The unit of measure for cold milling shall be **[** ___ **]** inches of milling per square yard. The location and average depth of the cold milling shall be as shown on the plans. If the initial cut does not correct the condition, the Contractor shall re-mill the area and will be paid for the total depth of milling. **]**~~

101-4.7 Removal of Pipe and other Buried Structures. Not required.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P-101-5.1	Pavement Removal - per square yard
Item P-101-5.3	Pavement Markings Removal – per square foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements.

ASTM International (ASTM)

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

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ITEM P-152 EXCAVATION, SUBGRADE, AND EMBANKMENT

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature which is not otherwise classified and paid for under one of the following items.

~~**[b. Rock excavation.** Rock excavation shall include all solid rock in ledges, in bedded deposits, in unstratified masses, and conglomerate deposits which are so firmly cemented they cannot be removed without blasting or using rippers. All boulders containing a volume of more than 1/2 cubic yard will be classified as "rock excavation." **]**~~

~~**[c. Muck excavation.** Muck excavation shall consist of the removal and disposal of deposits or mixtures of soils and organic matter not suitable for foundation material. Muck shall include materials that will decay or produce subsidence in the embankment. It may consist of decaying stumps, roots, logs, humus, or other material not satisfactory for incorporation in the embankment. **]**~~

~~**[d. Drainage excavation.** Drainage excavation shall consist of all excavation made for the primary purpose of drainage and includes drainage ditches, such as intercepting, inlet or outlet ditches; temporary levee construction; or any other type as shown on the plans. **]**~~

e. Borrow excavation. Borrow excavation shall consist of approved material required for the construction of embankments or for other portions of the work in excess of the quantity of usable material available from required excavations. ~~Borrow material shall be obtained from areas designated by the Resident Project Representative (RPR) within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport boundaries.~~

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste areas *off site or as directed by the RPR*. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR. *Material not considered by the RPR to be suitable for use on the embankment slope shall be disposed of off-site or as directed by the RPR. Undercutting of material unsatisfactory for subgrade foundation, roads, shoulders, or areas intended for turfing shall be considered unsuitable excavation and shall be excavated to the depth specified by the Engineer below the subgrade.*

Imported Stone Backfill material shall be used for backfill. Backfill material shall meet the requirements of ARDOT for Stone Backfill. Additional payment will not be made for stone backfill used for the Contractor's convenience. At no point shall Stone Backfill be placed within the top 20 inches of the pavement section.

Imported Stone Backfill shall be hard, durable crushed stone aggregate, as manufactured by local quarries, ranging in size from 1 ½ " minimum to 6" maximum. It shall not contain more than 5% by weight of shale, slate, or other deleterious matter. The stone shall be uniformly graded and the amount passing the 1 ½" (37.5 mm) sieve shall not be more than 10% by weight. When backfilling the Stone Backfill to subgrade elevation, or to an elevation below subgrade when directed by the RPR, a cap of 4" of material shall be placed in addition to the stone backfill. This material shall comply with P-209 Aggregate Base Course or ARDOT Class 7 Aggregate Base.

CONSTRUCTION METHODS

152-2.1 General. ~~Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.~~

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of off-site, or as directed by the RPR ~~in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.~~

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches, to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches in their greatest dimension will not be permitted in the top 6 inches of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

Volumetric quantities were calculated using design cross sections which were created for this project using the DTM files of the applicable design surfaces and generating End Area Volume Reports. Paper copies of design cross sections and a paper copy of the original topographic map will be issued to the successful bidder.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor *may* verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot of the stated elevations for ground surfaces, or within 0.04 foot for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes as shown on the plans. All unsuitable material shall be disposed of *as described in paragraph 152-1.3* ~~shown on the plans~~.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When *the quality of material varies significantly* ~~selective grading is indicated on the plans~~, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of as directed in paragraph 152-1.3. This excavated material shall be paid for at the contract unit price per cubic yard for Unsuitable Excavation. The excavated area shall be backfilled with suitable material *as directed in paragraph 152-1.3* ~~obtained from the grading operations or borrow areas and compacted to specified densities~~. The necessary backfill will constitute a *necessary part of Unsuitable Excavation* ~~part of the embankment~~. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will be paid as Unsuitable Excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as “Unclassified Excavation.”

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work ~~will~~ *may* be accomplished by someone other than the Contractor. All existing foundations shall be excavated at least 2 feet below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans. *All work associated with the excavation, removal, backfill, disposal, and/or stockpiling of existing structures and culverts will not be measured for separate payment but will be considered subsidiary to “Unclassified Excavation”.*

152-2.3 Borrow excavation. There are no borrow sources within the boundaries of the airport property. The Contractor shall locate and obtain borrow sources, subject to the approval of the RPR. The Contractor shall notify the RPR at least 15 days prior to beginning the excavation so necessary measurements and tests can be made by the RPR. All borrow pits shall be opened to expose the various strata of acceptable material to allow obtaining a uniform product. Borrow areas shall be drained and left in a neat, presentable condition with all slopes dressed uniformly. Borrow areas shall not create a hazardous wildlife attractant.

Imported Stone Backfill material shall be used for Borrow Excavation. Borrow Excavation material shall meet the requirements of ARDOT for Stone Backfill. Additional Payment will not be made for stone backfill

used for the contractor's convenience. At no point shall stone Backfill be placed within the top 20 inches of the pavement section.

Imported Stone Backfill shall be hard, durable crushed stone aggregate, as manufactured by local quarries, ranging in size from 1 ½" minimum to 6" maximum. It shall not contain more than 5% by weight of shale, slate, or other deleterious matter. The stone shall be uniformly graded and the amount passing the 1 ½" (37.5 mm) sieve shall not be more than 10% by weight. When backfilling the Stone Backfill to subgrade elevation, or to an elevation below subgrade when directed by the RPR, a cap of 4" of material shall be placed in addition to the stone backfill. This material shall comply with P-209 Aggregate Base Course or ARDOT Class 7 Aggregate Base.

~~**152-2.4 Drainage excavation.** Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross section. The Contractor shall maintain ditches constructed on the project to the required cross section and shall keep them free of debris or obstructions until the project is accepted.~~

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 12 inches of subgrade shall be compacted to not less than 100 % of maximum density for non-cohesive soils, and 98% of maximum density for cohesive soils as determined by ASTM D698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within ±2% of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The Contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D698**.** A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the RPR for every 3,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. Under all areas to be paved, the embankments shall be compacted to a depth of 12 inches and to a density of not less than 98% of the maximum density as determined by ASTM D698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches which shall be prepared for a seedbed in accordance with Item T-901.

The in-place field density shall be determined in accordance with ASTM 6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The RPR shall perform all density tests. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches in their greatest dimensions will not be allowed in the top 12 inches of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock,

cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. Before start of embankment, and after compaction is completed, the subgrade area shall be proof rolled with a 20 ton Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 100 psi in the presence of the RPR. Apply a minimum of 50% coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch or show permanent deformation greater than 1 inch shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 12 inches and to a density of not less than 98% of the maximum dry density as determined by ASTM D698. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches and to a density of not less than 95**%** of the maximum density as determined by ASTM D698.

The material to be compacted shall be within ±2% of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the ¾ inch (19.0 mm) sieve, follow the methods in ASTM D698. Tests for moisture content and compaction will be taken at a minimum of 3,000 S.Y. of subgrade. All quality assurance testing shall be done by the RPR.

The in-place field density shall be determined in accordance with ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than +/- ½ inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles *shall not be placed within 200 feet of runway pavement or 70 feet of taxiway pavement open to aircraft* ~~shall be located as shown on the plans and the approved CSPP~~, and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard shall be computed by the average end areas of design cross sections for computation of neat line design quantities. The end area is that bound by the original ground line established by *the design survey* ~~field cross sections~~ and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

In cut sections, the additional cut required to construct the topsoil layer to the plan grade has not been measured and will not be measured for separate payment but will be subsidiary to "Unclassified Excavation". In fill sections, the additional fill required to replace the stripped material has not been measured and will not be measured for payment but will be subsidiary to "Unclassified Excavation".

No allowance has been made in the measurement for shrink/swell. The Contractor shall make his own determination as to the amount of shrink/swell involved in the construction of the embankment.

The Contractor shall make his/her own determination as to the suitability of the excavated material to be placed in embankments and the resulting additional off-site material required for the construction of the embankment. Additional off-site material required for the formation of embankment shall not be measured for separate payment but shall be considered subsidiary to "Unclassified Excavation".

*Measurement of unclassified excavation shall be based on **plan quantities**. These quantities are believed to be correct and shall be utilized for final payment not withstanding any adjustments to the project by written direction of the Engineer. Prior to disturbance of the existing ground the contractor shall provide the Engineer a topographic survey of the existing ground performed by a surveyor licensed in the State of Arkansas. The Contractor shall also submit a letter to the Engineer that states they agree to the plan quantities. Should the contractor find discrepancies and/or errors, he/she shall bring the discrepancy and/or error to the attention of the Engineer immediately and corrections shall be made to the quantity of excavation to be paid for by change order. It is expressly understood by the contractor that upon disturbance of the existing ground and no notification to the Engineer of possible errors, that the contractor accepts as final payment the quantities of excavation as detailed on the plans and laid out in the bid form.*

152-3.1 The quantity of unclassified excavation to be paid for shall be the number of cubic yards measured in its original position. Measurement will include the excavation required to place the minimum 24" Stone Backfill under pavement but shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

152-3.2 The quantity of borrow excavation (stone backfill) shall be the number of cubic yards measured in its final position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

~~**[152-3.3 [** Stockpiled material shall be paid for on the basis of the number of cubic yards measured in the stockpiled position. **] [** Stockpiled material shall not be measured for payment in the stockpiled position. **]]**~~

***152-3.4** Unsuitable excavation shall be measured from the surface of the ground, after stripping has been accomplished, or from the bottom of the planned excavation, to the depth of the excavation as directed by the Engineer. Measurements will be taken by the Engineer, and the volume of excavation will be calculated by the average end area method. The necessary refilling of unsuitable areas with stone backfill will not be measured for separate payment but will be subsidiary to "Unsuitable Excavation". Only that amount of excavation directed by the Engineer will be measured for payment.*

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

152-4.2 Borrow Excavation (Stone Backfill) payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

~~**[152-4.3** Stockpiled material shall be paid for on the basis of the number of cubic yards measured in the stockpiled position. **]**~~

152-4.4 *Unsuitable excavation (Stone Backfill) shall be paid for at the contract unit price bid per cubic yard for "Unsuitable Excavation", which price shall be full compensation for all excavation; for disposal or placement of unsuitable material (in accordance with section 152-1.3), including loading, hauling, spreading, and compaction; for compaction and preparation of subgrade; for the refilling, rolling, and compaction of all undercut areas; and for all equipment, tools, labor, and incidentals necessary to complete the work.*

Payment will be made under:

Item P-152-4.1	Unclassified Excavation - per cubic yard
Item P-152-4.2	Borrow Excavation *(Stone Backfill)* - per cubic yard
Item P-152-4.3	*Unsuitable Excavation (Stone Backfill) - per cubic yard*

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

ITEM P-153 CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

DESCRIPTION

153-1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

153-2.1 Materials.

a. Cement. Cement shall conform to the requirements of ASTM C150, Types I, II, or V; ASTM C595, Types IS, IP, IL, or IT.

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch (19.0 mm)	100
No. 200 (75 µm)	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

MIX DESIGN

153-3.1 Proportions. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

153-4.1 Placement.

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is

consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F and rising. Mixing and placement shall stop when the air temperature is 40°F and falling or when the anticipated air or ground temperature will be 35°F or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F.

153-4.2 Curing and protection

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F, the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

153-4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

153-5.1 Measurement. No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

BASIS OF PAYMENT

153-6.1 Payment. No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

END OF ITEM P-153

ITEM P-209 CRUSHED AGGREGATE BASE COURSE

DESCRIPTION

209-1.1 This item consists of a base course composed of crushed aggregate base constructed on a prepared course in accordance with these specifications and in conformity to the dimensions and typical cross-sections shown on the plans.

MATERIALS

209-2.1 Crushed aggregate base. Crushed aggregate shall consist of clean, sound, durable particles of crushed stone, crushed gravel, and shall be free from coatings of clay, silt, organic material, clay lumps or balls or other deleterious materials or coatings. The method used to produce the crushed gravel shall result in the fractured particles in the finished product as consistent and uniform as practicable. Fine aggregate portion, defined as the portion passing the No. 4 (4.75 mm) sieve shall consist of fines from the coarse aggregate crushing operation. The fine aggregate shall be produced by crushing stone or gravel that meets the coarse aggregate requirements for wear and soundness. Aggregate base material requirements are listed in the following table.

CRUSHED AGGREGATE BASE MATERIAL REQUIREMENTS

Material Test	Requirement	Standard
Coarse Aggregate		
Resistance to Degradation	Loss: 45% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Percentage of Fractured Particles	Minimum 90% by weight of particles with at least two fractured faces and 98% with at least one fractured face[1]	ASTM D5821
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles [2]	ASTM D4791
Clay lumps and friable particles	Less than or equal to 3 percent	ASTM C142
Fine Aggregate		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than five (5)	ASTM D4318

[1] The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

[2] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

209-2.2 Gradation requirements. The gradation of the aggregate base material shall meet the requirements of the gradation given in the following table when tested per ASTM C117 and ASTM C136. The gradation shall be well graded from coarse to fine and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa.

GRADATION OF AGGREGATE BASE

Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances[1] (Percent)
2 inch (50 mm)	100		0
1-1/2 inch (37.5 mm)	95-100		±5
1 inch (25.0 mm)	70-95		±8
3/4 inch (19.0 mm)	55-85		±8
No. 4 (4.75 mm)	30-60		±8
No. 40[2] (425 µm)	10-30		±5
No. 200[2] (75 µm)	0-8		±3

[1] The "Job Control Grading Band Tolerances for Contractor's Final Gradation" in the table shall be applied to "Contractor's Final Gradation" to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

[2] The fraction of material passing the No 200 (75 µm) sieve shall not exceed two-thirds the fraction passing the No 40 (425 µm) sieve.

209-2.3 Sampling and Testing.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraph 209-2.1. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 209-2.2. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

209-2.4 Separation Geotextile. Separation geotextile shall be Class 2, 0.02 sec^{-1} permittivity per ASTM D4491, Apparent opening size per ASTM D4751 with 0.60 mm maximum average roll value.

CONSTRUCTION METHODS

209-3.1 Control strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been

accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved by the RPR.

209-3.2 Preparing underlying subgrade and/or subbase. The underlying subgrade and/or subbase shall be checked and accepted by the RPR before base course placing and spreading operations begin. Re-proof rolling of the subgrade or proof rolling of the subbase in accordance with Item P-152, at the Contractor's expense, may be required by the RPR if the Contractor fails to ensure proper drainage or protect the subgrade and/or subbase. Any ruts or soft, yielding areas due to improper drainage conditions, hauling, or any other cause, shall be corrected before the base course is placed. To ensure proper drainage, the spreading of the base shall begin along the centerline of the pavement on a crowned section or on the high side of the pavement with a one-way slope.

209-3.3 Production. The aggregate shall be uniformly blended and, when at a satisfactory moisture content per paragraph 209-3.5, the approved material may be transported directly to the placement.

209-3.4 Placement. The aggregate shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The aggregate shall meet gradation and moisture requirements prior to compaction. The base course shall be constructed in lifts as established in the control strip, but not less than 4 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications at the Contractor's expense.

209-3.5 Compaction. Immediately after completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade.

The field density of each compacted lift of material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the base material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D1557. The moisture content of the material during placing operations shall be within ±2 percentage points of the optimum moisture content as determined by ASTM D1557. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

209-3.6 Weather limitations. Material shall not be placed unless the ambient air temperature is at least 40°F and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

209-3.7 Maintenance. The base course shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at the Contractor's expense.

209-3.8 Surface tolerances. After the course has been compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped and recompacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation

in surface tolerances shall be corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8-inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +0 and -1/2 inch of the specified grade.

209-3.9 Acceptance sampling and testing. Crushed aggregate base course shall be accepted for density and thickness on an area basis. Two tests shall be made for density and thickness for each 1200 square yards. Sampling locations will be determined on a random basis per ASTM D3665

a. Density. The RPR shall perform all density tests.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM 1557. The in-place field density shall be determined per ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. Depth tests shall be made by test holes at least 3 inches in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches, adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

209-4.1 The quantity of crushed aggregate base course will be determined by measurement of the number of square yards of material actually constructed and accepted by the RPR as complying with the plans and specifications. Base materials shall not be included in any other excavation quantities.

209-4.2 Separation geotextile shall be measured by the number of square yards of materials placed and accepted by the RPR as complying with the plans and specifications excluding seam overlaps and edge anchoring.

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit price per square yard for crushed aggregate base course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

209-5.2 Payment shall be made at the contract unit price per square yard for separation geotextile. The price shall be full compensation for furnishing all labor, equipment, material, anchors, and incidentals necessary.

Payment will be made under:

Item P-209-5.1	Crushed Aggregate Base Course (13" Thickness) – per square yard
Item P-209-5.2	Separation Geotextile - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4643	Standard Test Method for Determination of Water Content of Soil and Rock by Microwave Oven Heating
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D7928	Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

American Association of State Highway and Transportation Officials (AASHTO)

M288	Standard Specification for Geosynthetic Specification for Highway Applications

END OF ITEM P-209

ITEM P-401 ASPHALT MIX PAVEMENT

DESCRIPTION

401-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared base or stabilized course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

401-2.1 Aggregate. Aggregates shall consist of crushed stone, crushed gravel, crushed slag, screenings, natural sand, and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve. ***Crushed Slag shall not be used in this project.***

a. Coarse aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Percentage of Fractured Particles	~~For pavements designed for aircraft gross weights of 60,000 pounds or more:~~ ~~Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face~~[1]	ASTM D5821
	For pavements designed for aircraft gross weights less than 60,000 pounds: Minimum 50% by weight of particles with at least two fractured faces and 65% with at least one fractured face[1]	
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 [2]	ASTM D4791
~~Bulk density of slag~~ [3]	~~Weigh not less than 70 pounds per cubic foot~~	~~ASTM C29.~~

[1] The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

[2] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

[3] ~~Only required if slag is specified.~~

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, ~~slag,~~ or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the fine aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Fine Aggregate Material Requirements

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Sand equivalent	45 minimum	ASTM D2419
Natural Sand	0% to 15% maximum by weight of total aggregate	ASTM D1073

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate.

401-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral Filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

401-2.3 Asphalt binder. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) **76-22**.

~~**Asphalt Binder PG Plus Test Requirements**~~

~~Material Test~~	~~Requirement~~	~~Standard~~
~~Elastic Recovery~~	~~**[** 75% **]** minimum~~	~~ASTM D6084[1]~~

~~[1] Follow procedure B on RTFO aged binder. **]**~~

401-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

401-3.1 Composition of mixture(s). The asphalt mix shall be composed of a mixture of aggregates, filler and anti-strip agent if required, and asphalt binder. The aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

401-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF; and be listed on the accrediting authority's website. A copy of the

laboratory's current accreditation and accredited test methods shall be submitted to the Resident Project Representative (RPR) prior to start of construction.

401-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 401-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition**.** Samples shall be prepared and compacted using a Marshall compactor in accordance with ASTM D6926.

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

The JMF shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 401-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 401-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 401-2.1.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each coarse and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of blows or gyrations
- Laboratory mixing and compaction temperatures.

- Supplier-recommended field mixing and compaction temperatures.
- Plot of the combined gradation on a 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).
- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of blows or gyrations	50	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
Tensile Strength Ratio (TSR)[1]	not less than 80 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer (APA)[2,3]	Less than 10 mm @ 4000 passes	AASHTO T340 at 250 psi hose pressure at 64°C test temperature

[1] Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867

[2] AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

[3] Where APA is not available, use Hamburg wheel test (AASHTO T324) 10mm @ 20,000 passes at 64°C

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply; be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Table 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve
1 inch (25.0 mm)	**--**
3/4 inch (19.0 mm)	**100**
1/2 inch (12.5 mm)	**90-100**
3/8 inch (9.5 mm)	**72-88**
No. 4 (4.75 mm)	**53-73**
No. 8 (2.36 mm)	**38-60**
No. 16 (1.18 mm)	**26-48**
No. 30 (600 µm)	**18-38**
No. 50 (300 µm)	**11-27**
No. 100 (150 µm)	**6-18**
No. 200 (75 µm)	**3-6**
Minimum Voids in Mineral Aggregate (VMA)[1]	**15.0**
Asphalt Percent:	
Stone or gravel	**5.0-7.5**
Slag	**6.5-9.5**
Recommended Minimum Construction Lift Thickness	**2 inch**

[1]To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

401-3.4 Reclaimed asphalt pavement (RAP). RAP shall not be used.

401-3.5 Control Strip. A control strip is not required.

CONSTRUCTION METHODS

401-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 4. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)
	°F
3 inches or greater	40
Greater than 2 inches but less than 3 inches	45

401-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items.

a. Inspection of plant. The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation, or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

401-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the asphalt batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

401-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

401-4.4.1 Material transfer vehicle (MTV). Material transfer vehicles used to transfer the material from the hauling equipment to the paver, shall use a self-propelled, material transfer vehicle with a swing conveyor that can deliver material to the paver without making contact with the paver. The MTV shall be able to move back and forth between the hauling equipment and the paver providing material transfer to the paver, while allowing the paver to operate at a constant speed. The Material Transfer Vehicle will have remixing and storage capability to prevent physical and thermal segregation. *The use of an MTV is optional.*

401-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.12.

401-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, clean, and capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.

401-4.7 Density device. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall supply a

qualified technician during all paving operations to calibrate the gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.8 Preparation of asphalt binder. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt binder to the mixer at a uniform temperature. The temperature of unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F when added to the aggregate.

401-4.9 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

401-4.10 Preparation of Asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and mixed in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

401-4.11 Application of Prime and Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A prime coat in accordance with Item P-602 shall be applied to aggregate base prior to placing the asphalt mixture.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

401-4.12 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2d before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of **12** feet except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one foot; however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet. On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet long.

401-4.13 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross-section, and the required field density is obtained. To prevent adhesion of the asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

401-4.14 Joints. The formation of all joints shall be made to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid asphalt except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°; or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a pavement saw a maximum of 3 inches to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. Asphalt tack coat in accordance with P-603 shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

401-4.15 Saw-cut grooving. ~~Saw cut grooves shall be provided as specified in Item P-621~~. Saw-cut grooving is not required.

401-4.16 Diamond grinding. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet wide. The saw blades shall be 1/8-inch wide with a sufficient number of blades to create grooves between 0.090 and 0.130 inches wide; and peaks and ridges approximately 1/32 inch higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that cause ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

401-4.17 Nighttime paving requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

401-5.1 General. The Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.

401-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

401-5.3 Contractor QC testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP.

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per day in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content shall be determined once per day in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per day, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot straightedge, a rolling inclinometer meeting the requirements of ASTM E2133, or rolling external reference device that can simulate a 12-foot straightedge, approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using either the FAA profile program, ProFAA, or FHWA ProVal, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet; and at the third points of paving lanes when widths of paving lanes are 20 ft or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch shall be corrected with diamond grinding per paragraph 401-4.16 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3). Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective

actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to and after the placement of the first lift and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch vertically. The documentation will be provided by the Contractor to the RPR within 24 hours.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 401-4.16.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus ½ inch and replacing with new material. Skin patching is not allowed.

401-5.4 Sampling. When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

401-5.5 Control charts. The Contractor shall maintain linear control charts for both individual measurements and range (i.e. difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day will be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the RPR may suspend production or acceptance of the material.

a. Individual measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

Control Chart Limits for Individual Measurements

Sieve	Action Limit	Suspension Limit
3/4 inch (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 µm)	±3%	±4.5%
No. 200 (75 µm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

b. Range. Control charts shall be established to control gradation process variability. The range shall be plotted as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Control Chart Limits Based on Range

Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 µm)	6%
No. 200 (75 µm)	3.5%
Asphalt Content	0.8%

c. Corrective Action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

(1) One point falls outside the Suspension Limit line for individual measurements or range; or

(2) Two points in a row fall outside the Action Limit line for individual measurements.

401-5.6 QC reports. The Contractor shall maintain records and shall submit reports of QC activities daily in accordance with Item C-100.

MATERIAL ACCEPTANCE

401-6.1 Acceptance sampling and testing. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a sublot basis.

(1) Sampling. Material from each sublot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.

(**2) Testing.** Air voids will be determined for each sublot in accordance with ASTM D3203 for a set of three compacted specimens prepared in accordance with ASTM D6926.

d. In-place asphalt mat and joint density. Each sublot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

(1) Sampling. The Contractor will cut minimum 5 inch diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

(4) Mat density. One core shall be taken from each sublot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each sublot sample by the TMD for that sublot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each sublot that has a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

401-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, grade and Profilograph roughness**.**

b. Air Voids and Mat density. Acceptance of each lot of plant produced material for mat density and air voids will be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment will be determined in accordance with paragraph 401-8.1.

c. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the PWL. If the PWL of the lot is equal to or exceeds 90%, the lot will be considered acceptable. If the PWL is less than 90%, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80%, the Contractor shall cease operations and until the reason for poor compaction has been determined. If the PWL is less than 71%, the pay factor for the lot used to complete the joint will be reduced by five (5) percentage points. This lot pay factor reduction will be incorporated and evaluated in accordance with paragraph 401-8.1.

d. Grade. The final finished surface of the pavement shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch vertically**.** *The survey shall be provided by the contractor.*

Cross-sections of the pavement shall be taken at a minimum 50-foot longitudinal spacing, at all longitudinal grade breaks, and at start and end of each lane placed. Minimum cross-section grade points shall include grade at centerline, ± 10 feet of centerline**,** and edge of taxiway pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the sublot shall not be more than 95%.

e. Profilograph roughness for QA Acceptance. The final profilograph shall be the full length of the project to facilitate testing of roughness between lots. The Contractor, in the presence of the RPR shall perform a profilograph roughness test on the completed project with a profilograph meeting the requirements of ASTM E1274 or a Class I inertial profiler meeting ASTM E950. Data and results shall be provided within 48 hrs of profilograph roughness tests.

The pavement shall have an average profile index less than 15 inches per mile per 1/10 mile. The equipment shall utilize electronic recording and automatic computerized reduction of data to indicate “must grind” bumps and the Profile Index for the pavement using a 0.2-inch blanking band. The bump template must span one inch with an offset of 0.4 inches. The profilograph must be calibrated prior to use and operated by a factory or State DOT approved, trained operator. Profilograms shall be recorded on a longitudinal scale of one inch equals 25 feet and a vertical scale of one inch equals one inch. Profilograph shall be performed one foot right and left of project centerline and 15 feet right and left of project centerline. Any areas that indicate “must grind” shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. as directed by the RPR. Where corrections are necessary, a second profilograph run shall be performed to verify that the corrections produced an average profile index of 15 inches per mile per 1/10 mile or less.

401-6.3 Percentage of material within specification limits (PWL). The PWL will be determined in accordance with procedures specified in Item C-110. The specification tolerance limits (L) for lower and (U) for upper are contained in Table 5.

Table 5. Acceptance Limits for Air Voids and Density

Test Property	Pavements Specification Tolerance Limits	
	L	U
Air Voids Total Mix (%)	2.0	5.0
Surface Course Mat Density (%)	92.8	-
Base Course Mat Density (%)	92.0	-
Joint density (%)	90.5	--

a. Outliers. All individual tests for mat density and air voids will be checked for outliers (test criterion) in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded, and the PWL will be determined using the remaining test values. The criteria in Table 5 is based on production processes which have a variability with the following standard deviations: Surface Course Mat Density (%), 1.30; Base Course Mat Density (%), 1.55; Joint Density (%), 1.55.

The Contractor should note that (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 94.5% with 1.30% or less variability, (2) 90 PWL is achieved when consistently producing a base course with an average mat density of at least 94.0% with 1.55% or less variability, and (3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 92.5% with 1.55% or less variability.

401-6.4 Resampling pavement for mat density.

a. General. Resampling of a lot of pavement will only be allowed for mat density, and then, only if the Contractor requests same, in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 401-6.1d and 401-6.2b. Only one resampling per lot will be permitted.

(1) A redefined PWL will be calculated for the resampled lot. The number of tests used to calculate the redefined PWL will include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for resampled lots. The redefined PWL for a resampled lot will be used to calculate the payment for that lot in accordance with Table 6.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%.

METHOD OF MEASUREMENT

401-7.1 Measurement. Asphalt shall be measured by the number of tons of asphalt used in the accepted work. Batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

401-8.1 Payment. Payment for a lot of asphalt meeting all acceptance criteria as specified in paragraph 401-6.2 shall be made based on results of tests for mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1c for mat density and air voids; and paragraph 401-6.2c for joint density, subject to the limitation that:

a. The total project payment for plant mix asphalt pavement shall not exceed **100** percent of the product of the contract unit price and the total number of tons of asphalt used in the accepted work.

b. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

c. Basis of adjusted payment. The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100% or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and air voids are less than 100%. If PWL for joint density is less than 71% then the lot pay factor shall be reduced by 5% but be no higher than 95%.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1a. Payment in excess of 100% for accepted lots of asphalt shall be used to offset payment for accepted lots of asphalt pavement that achieve a lot pay factor less than 100%.

Payment for sublots which do not meet grade in accordance with paragraph 401-6.2d after correction for over 25% of the sublot shall be reduced by 5%.

Table 6. Price adjustment schedule[1]

Percentage of material within specification limits (PWL)	Lot pay factor (percent of contract unit price)
96 – 100	106
90 – 95	PWL + 10
75 – 89	0.5 PWL + 55
55 – 74	1.4 PWL – 12
Below 55	Reject [2]

[1] Although it is theoretically possible to achieve a pay factor of 106% for each lot, actual payment above 100% shall be subject to the total project payment limitation specified in paragraph 401-8.1a.

[2] The lot shall be removed and replaced. However, the RPR may decide to allow the rejected lot to remain. In that case, if the RPR and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50% of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.

d. Profilograph Roughness. The Contractor will receive full payment when the profilograph average profile index is in accordance with paragraph 401-6.2e. When the final average profile index for the entire length of pavement does not exceed 15 inches per mile per 1/10 mile, payment will be made at the contract unit price for the completed pavement.

401-8.1 Payment.

Payment will be made under:

Item P-401-8.1 Asphalt Surface Course - per ton

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Asphalt Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Asphalt Paving Mixtures
ASTM D1188	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Asphalt Paving Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Asphalt Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures

ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5361	Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6084	Standard Test Method for Elastic Recovery of Bituminous Materials by Ductilometer
ASTM D6307	Standard Test Method for Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyratory Compactor.
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations

ASTM E1274	Standard Test Method for Measuring Pavement Roughness Using a Profilograph
ASTM E950	Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T324	Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

Asphalt Institute Handbook MS-26, Asphalt Binder

Asphalt Institute MS-2 Mix Design Manual, 7th Edition

AI State Binder Specification Database

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder Program

Advisory Circulars (AC)

AC 150/5320-6	Airport Pavement Design and Evaluation

FAA Orders

5300.1	Modifications to Agency Airport Design, Construction, and Equipment Standards

Software

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ITEM P-602 EMULSIFIED ASPHALT PRIME COAT

DESCRIPTION

602-1.1 This item shall consist of an application of emulsified asphalt material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

602-2.1 Emulsified Asphalt material. The emulsified asphalt material shall be as specified in ASTM D3628 for use as a prime coat appropriate to local conditions. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt material. The COA shall be provided to and approved by the Resident Project Representative (RPR) before the emulsified asphalt material is applied. The furnishing of the COA for the emulsified asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

602-3.1 Weather limitations. The emulsified asphalt prime coat shall be applied only when the existing surface is dry; the atmospheric temperature is 50°F or above, and the temperature has not been below 35°F for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

602-3.2 Equipment. The equipment shall include a self-powered pressure asphalt material distributor and equipment for heating asphalt material.

Provide a distributor with pneumatic tires of such size and number that the load produced on the base surface does not exceed 65.0 psi of tire width to prevent rutting, shoving or otherwise damaging the base, surface or other layers in the pavement structure. Design and equip the distributor to spray the asphalt material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 1.0 gallons per square yard, with a pressure range of 25 to 75 psi and with an allowable variation from the specified rate of not more than ±5%, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying asphalt material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the asphalt material during the heating process. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

A power broom and power blower suitable for cleaning the surfaces to which the asphalt coat is to be applied shall be provided.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

602-3.3 Application of emulsified asphalt material. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The asphalt emulsion material shall be uniformly applied with an asphalt distributor at the rate of 0.15 to 0.30 gallons per square yard depending on the base course surface texture. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Following application of the emulsified asphalt material and prior to application of the succeeding layer of pavement, allow the asphalt coat to cure and to obtain evaporation of any volatiles or moisture. Maintain the coated surface until the succeeding layer of pavement is placed, by protecting the surface against

damage and by repairing and recoating deficient areas. Allow the prime coat to cure without being disturbed for a period of at least 48 hours or longer, as may be necessary to attain penetration into the treated course. Furnish and spread sand to effectively blot up and cure excess asphalt material. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner. Keep traffic off surfaces freshly treated with asphalt material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

602-3.4 Trial application rates. The Contractor shall apply a minimum of three lengths of at least 100 feet for the full width of the distributor bar to evaluate the amount of emulsified asphalt material that can be satisfactorily applied with the equipment. Apply three different application rates of emulsified asphalt materials within the application range specified in paragraph 602-3.3. Other trial applications can be made using various amounts of material as directed by the RPR. The trial application is to demonstrate the equipment can uniformly apply the emulsified asphalt material within the rates specified and determine the application rate for the project.

602-3.5 Freight and waybills. The Contractor shall submit waybills and delivery tickets during the progress of the work. Before the final estimate is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

~~**602-4.1** The emulsified asphalt material for prime coat shall be measured by the **[** gallon**] [** ton **]**. Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM D4311. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.~~

602-4.1 *The bituminous material for prime coat shall not be measured for separate payment.*

BASIS OF PAYMENT

~~**602-5.1** Payment shall be made at the contract unit price per **[** gallon **] [** ton **]** for emulsified asphalt prime coat. This price shall be full compensation for furnishing all materials and for all preparation, delivering, and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.~~

~~Payment will be made under:~~

~~Item P-602-5.1 Emulsified Asphalt Prime Coat per **[** gallon**] [** ton **]**~~

602-5.1 *The bituminous material for prime coat shall not be paid for separately but shall be considered subsidiary to asphalt paving items.*

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END OF ITEM P-602

ITEM P-603 EMULSIFIED ASPHALT TACK COAT

DESCRIPTION

603-1.1 This item shall consist of preparing and treating an asphalt or concrete surface with asphalt material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 Asphalt materials. The asphalt material shall be an emulsified asphalt as specified in ASTM D3628 as an asphalt application for tack coat appropriate to local conditions. The emulsified asphalt shall not be diluted. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the asphalt material to the Resident Project Representative (RPR) before the asphalt material is applied for review and acceptance. The furnishing of COA for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

603-3.1 Weather limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F or above; the temperature has not been below 35°F for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

603-3.2 Equipment. The Contractor shall provide equipment for heating and applying the emulsified asphalt material. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour or seven hundred (700) feet per minute.

The equipment will be tested under pressure for leaks and to ensure proper set-up before use to verify truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application, spray-bar height and pressure and pump speed, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a minimum 12-foot spreader spray bar with individual nozzle control with computer-controlled application rates. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

The distributor truck shall be equipped to effectively heat and mix the material to the required temperature prior to application as required. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Do not overheat or over mix the material.

The distributor shall be equipped with a hand sprayer.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

A power broom and/or power blower suitable for cleaning the surfaces to which the asphalt tack coat is to be applied shall be provided.

603-3.3 Application of emulsified asphalt material. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

The emulsified asphalt material shall be uniformly applied with an asphalt distributor at the rates appropriate for the conditions and surface specified in the table below. The type of asphalt material and application rate shall be approved by the RPR prior to application.

EMULSIFIED ASPHALT

Surface Type	Residual Rate, gal/SY	Emulsion Application Bar Rate, gal/SY
New asphalt	0.02-0.05	0.03-0.07
Existing asphalt	0.04-0.07	0.06-0.11
Milled Surface	0.04-0.08	0.06-0.12
Concrete	0.03-0.05	0.05-0.08

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor's expense.

603-3.4 Freight and waybills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

~~**603-4.1** The emulsified asphalt material for tack coat shall be measured by the **[** gallon **] [** ton **]**. Volume shall be corrected to the volume at 60°F in accordance with ASTM D1250. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.~~

603-4.1 *The bituminous material for tack coat shall not be measured for separate payment.*

BASIS OF PAYMENT

~~**603.5-1** Payment shall be made at the contract unit price per **[** gallon **] [** ton **]** of emulsified asphalt material. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

~~Payment will be made under:~~

~~Item P-603-5.1 Emulsified Asphalt Tack Coat per **[** gallon **] [** ton **]**~~

603-4.1 *The bituminous material for tack coat shall not be paid for separately but shall be considered subsidiary to asphalt paving items.*

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END ITEM P-603

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ITEM P-610 CONCRETE FOR MISCELLANEOUS STRUCTURES

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

~~**a. Reactivity.** Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.~~

~~If the expansion is greater than 0.20% the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized. If expansion of either the coarse or fine aggregate exceeds 0.08% at 14 days, limit the alkali of the concrete to be less than or equal to 3.0 lb per cubic yard, calculated in accordance with EB 106.~~

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 ½ inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
¾ inch (19 mm)	67
½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150, Types I or II; ASTM C 595 Type IL.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751 or ASTM D1752.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of reinforcing steel conforming to the requirements of A615.

610-2.11 Materials for curing concrete. Curing materials shall conform to ASTM C309 (White-pigmented liquid membrane-form compound, Type 2, Class B).

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4,000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard. The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F nor more than 100°F. The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been ~~approved~~ *reviewed* by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been

added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet. Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F, follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85ºF, follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

610-6.1 Concrete shall be considered incidental and no separate payment shall be made~~. Payment shall be made at the contract price **[** by the number of cubic yards based on batch tickets of material **] [** by the number of square yards **] [** lump sum **] [** Concrete shall be considered incidental and no separate payment shall be made. **]** This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

~~Payment will be made under:~~

~~Item P-610-6.1~~	~~Concrete, **[** per cubic yards (cubic meters) **] [** per square yards (square meters) **] [** lump sum **] [** incidental to other work items **]~~

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

ITEM P-620 RUNWAY AND TAXIWAY MARKING

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer’s certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer’s surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Table 1. Marking Materials

Paint[1]				Glass Beads[2]	
Type	**Color**	**Fed Std. 595 Number**	**Application Rate Maximum**	**Type**	**Application Rate Minimum**
Waterborne Type I or II	White	37925	115 ft^2/gal	Type I, Gradation A	7 lb/gal
Waterborne Type I or II	Yellow	33538 or 33655	115 ft^2/gal	Type I, Gradation A	7 lb/gal
Waterborne Type I or II	Black	37038	115 ft^2/gal	N/A	N/A

[1] See paragraph 620-2.2a

[2] See paragraph 620-2.2b

a. Paint. Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type I or Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type I, Gradation A .

~~Glass beads for red and pink paint shall meet the requirements for~~ **[** ~~Type I, Gradation A~~ **]** **[** ~~Type IV, Gradation A~~ **]**~~.~~

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black ~~and green~~ paint.

~~Type III glass beads shall not be used in red and pink paint.~~

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminates that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufacturer's application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. A period of 30 days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch in 50 feet, and marking dimensions and spacing shall be within the following tolerances:

Marking Dimensions and Spacing Tolerance

Dimension and Spacing	Tolerance
36 inch or less	±1/2 inch
greater than 36 inch to 6 feet	±1 inch
greater than 6 feet to 60 feet	±2 inch
greater than 60 feet	±3 inch

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings. Preformed thermoplastic pavement markings not used.

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. Reflectance shall be measured with a portable retro-reflectometer meeting ASTM E1710 (or equivalent). *Readings shall be taken as specified in the table below. The average of the test values for each marking type shall meet the minimum retro-reflectance values specified. The RPR shall determine the location of testing and may approve modifications to the table below.* ~~A total of 6 reading shall be taken over a 6 square foot area with 3 readings taken from each direction.~~ The average shall be equal to or above the minimum levels of all readings which are within 30% of each other. *Retroreflectivity testing shall be performed by the contractor. Test results shall be provided to the RPR in the form of a table indicating the location of each test, type of marking, color, result, and minimum requirement.*

Retroreflectivity Testing Frequencies

Marking Type	***Testing Interval***
Arrow Marking	*1 tests per line* *1 test per arrowhead*
Holding Position Marking (Pattern A)	*4 tests per marking* *Repeat test every 100 linear feet*
Taxiway Centerline Marking	*1 test per 400 linear feet*
Enhanced Taxiway Centerline Marking	*3 tests per marking*

Minimum Retro-Reflectance Values

Material	**Retro-reflectance mcd/m^2/lux**		
	White	**Yellow**	**Red**
Initial Type I	300	175	35
~~Initial Type III~~	~~600~~	~~300~~	~~35~~
All materials, remark when less than[1]	100	75	10

[1] Prior to remarking determine if removal of contaminants on markings will restore retro-reflectance

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1 *The quantity of surface preparation shall not be measured separately, but shall be considered subsidiary to other marking pay items.*

620-4.2 The quantity of markings shall be paid for shall be measured by the number of square feet of painting**.**

~~**620-4.3** The quantity of reflective media shall be paid for by **[** the number of pounds **] [** lump sum **]** of reflective media.~~

~~**620-4.4 [** The quantity of temporary markings to be paid for shall be **[** the number of square feet of painting **] [** lump sum price **]** performed in accordance with the specifications and accepted by the RPR. Temporary marking includes surface preparation, application and complete removal of the temporary marking. **] [** Temporary markings not required. **]**~~

~~**[620-4.5** The quantity of preformed markings to be paid for shall be **[** the number of square feet of preformed markings **] [** lump sum **]]**.~~

620-4.6 *Retroreflectivity testing of markings shall be subsidiary to other marking pay items.*

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.1 *Payment for surface preparation shall not be made separately, but shall be considered subsidiary to other marking pay items.*

620-5.2 Payment for markings shall be made at the contract price for the number of square feet of painting.

~~**620-5.3** Payment for reflective media shall be made at the contract unit price for **[** the number of pounds of reflective media **] [** lump sum **]**.~~

~~**620-5.4** Payment for temporary markings shall be made at the contract price for **[** the number of square feet of painting **] [** lump sum price **]**. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item. **[** Temporary markings are not required. **]**~~

~~[**620-5.5** Payment for preformed markings shall be made at the contract price for [the number of square feet of preformed markings] [lump sum price].]~~

620-5.6 *Payment for retroreflectivity testing shall not be paid for separately.*

Payment will be made under:

Item P-620-5.1a	Runway and Taxiway Marking (Reflective) - per square foot
Item P-620-5.1b	Runway and Taxiway Marking (Non-Reflective) - per square foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer

ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24
Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings

29 CFR Part 1910.1200 Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne
FED STD 595	Colors used in Government Procurement

Commercial Item Description

A-A-2886B	Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1	Standards for Airport Markings
AC 150/5320-12	Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620

ITEM D-705 PIPE UNDERDRAINS FOR AIRPORTS

DESCRIPTION

705-1.1 This item shall consist of the construction of pipe drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

705-2.1 General. Materials shall meet the requirements shown on the plans and specified below.

705-2.2 Pipe. The pipe shall be *SDR 26 smooth wall PVC pipe conforming to ASTM D3034* ~~of the type called for on the plans or in the proposal~~ and shall be in accordance with the following appropriate requirements.

ASTM F758	Standard Specification for Smooth-Wall Poly (Vinyl Chloride) (PVC) Plastic Underdrain Systems for Highway, Airport, and Similar Drainage
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter

705-2.3 Joint mortar. Pipe joint mortar shall consist of one part by volume of Portland cement and two parts sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

705-2.4 Elastomeric seals. Elastomeric seals shall conform to the requirements of ASTM F477.

705-2.5 Porous backfill. Porous backfill shall be free of clay, humus, or other objectionable matter, and shall conform to the gradation in Table 1 when tested in accordance with ASTM C136.

Table 1. Gradation of Porous Backfill

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
	Porous Material No. 2
1-1/2 inch (37.5 mm)	100
1 inch (25.0 mm)	90-100
3/8 inch (9.5 mm)	25-60
No. 4 (4.75 mm)	5-40
No. 8 (2.36 mm)	0-20
No. 16 (1.18 mm)	
No. 50 (300 µm)	
No. 100 (150 µm)	

~~When two courses of porous backfill are specified in the plans, the finer of the materials shall conform to particle size tabulated herein for porous material No. 1. The coarser granular material shall meet the gradation given in the tabulation for porous material No. 2.~~

705-2.6 Granular material. Granular material used for backfilling shall conform to the requirements of ASTM D2321 for Class IA, IB, or II materials.

705-2.7 Filter fabric. The filter fabric *including Grab Strength, Sewn Seam Strength, Tear Strength, and Puncture Strength*, shall conform to the requirements of AASHTO M288 Class 2. *The filter fabric shall also conform to the requirements of Table 2 of this specification.*

Table 2. Fabric Properties

Fabric Property	Test Method	Test Requirement
~~***Grab Tensile Strength, lbs***~~	~~*ASTM D4632*~~	~~*125 min*~~
~~***Grab Tensile Elongation %***~~	~~*ASTM D4632*~~	~~*50 min*~~
~~***Burst Strength, psi***~~	~~*ASTM D3785*~~	~~*125 min*~~
~~***Trapezoid Tear Strength, lbs***~~	~~*ASTM D4533*~~	~~*55 min*~~
~~***Puncture Strength, lbs***~~	~~*ASTM D4833*~~	~~*40 min*~~
Abrasion, lbs	ASTM D4886	15 max loss
Equivalent Opening Size	ASTM D4751	70-100
Permittivity sec^{-1}	ASTM D4491	0.80
Accelerated Weathering (UV Stability) (Strength Retained - %)	ASTM D4355 *(500 hrs exposure)	70

705-2.8 Controlled low-strength material (CLSM). CLSM is not used.

705-2.9 Concrete. *Concrete used in conjunction with underdrains and underdrain outlet structures shall be 3,500 psi commercial grade concrete at 28-days and approved by the Engineer.*

CONSTRUCTION METHODS

705-3.1 Equipment. All equipment required for the construction of pipe underdrains shall be on the project, in good working condition, and approved by the RPR before construction is permitted to start.

705-3.2 Excavation. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but shall not be less than the external diameter of the pipe plus 6 inches on each side of the pipe. The trench walls shall be approximately vertical.

Where rock, hardpan, or other unyielding material is encountered, it shall be removed below the foundation grade for a depth of at least 4 inches. The excavation below grade shall be backfilled with selected fine compressible material, such as silty clay or loam, and lightly compacted in layers not over 6 inches in uncompacted depth to form a uniform but yielding foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

Excavated material not required or acceptable for backfill shall be disposed of by the Contractor as directed by the RPR. The excavation shall not be carried below the required depth; if this occurs, the trench shall be backfilled at the Contractor's expense with material approved by the RPR and compacted to the density of the surrounding material.

The pipe bedding shall be constructed uniformly over the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 inch when the bedding thickness is less than 6 inches, and 1-1/2 inch when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed, uncompacted material under the middle third of the pipe prior to placement of the pipe.

The Contractor shall do trench bracing, sheathing, or shoring necessary to perform and protect the excavation as required for safety and conformance to federal, state and local laws. Unless otherwise provided, the bracing, sheathing, or shoring shall be removed by the Contractor after the backfill has reached at least 12 inches over the top of the pipe. The sheathing or shoring shall be pulled as the granular

backfill is placed and compacted to avoid any unfilled spaces between the trench wall and the backfill material. The cost of bracing, sheathing, or shoring, and the removal of same, shall be included in the unit price bid per foot (meter) for the pipe.

705-3.3 Laying and installing pipe.

~~**a. Concrete pipe.** The laying of the pipe in the finished trench shall be started at the lowest point and proceed upgrade. When bell and spigot pipe is used, the bells shall be laid upgrade. If tongue and groove pipe is used, the groove end shall be laid upgrade. Holes in perforated pipe shall be placed down, unless otherwise shown on the plans. The pipe shall be firmly and accurately set to line and grade so that the invert will be smooth and uniform. Pipe shall not be laid on frozen ground.~~

~~Pipe which is not true in alignment, or which shows any settlement after laying, shall be taken up and re laid by the Contractor at no additional expense. Making adjustments in grade by exerting force on the barrel of the pipe with excavating equipment, by lifting and dropping the pipe, or by lifting the pipe and packing bedding material under it shall be prohibited. If the installed pipe section is not to grade, the pipe section shall be completely removed, the grade corrected, and the pipe rejoined."~~

~~**b. Metal pipe.** The metal pipe shall be laid with the separate sections joined firmly together with bands, with outside laps of circumferential joints pointing upgrade, and with longitudinal laps on the sides. Any metal in the pipe or bands that is not protected thoroughly by galvanizing shall be coated with a suitable asphaltum paint.~~

~~During installation, the asphalt protected pipe shall be handled without damaging the asphalt coating. Any breaks in the bitumen or treatment of the pipe shall be refilled with the type and kind of bitumen used in coating the pipe originally.~~

c. PVC, fiberglass, or polyethylene pipe. PVC or polyethylene pipe shall be installed in accordance with the requirements of ASTM D2321. Perforations shall meet the requirements of AASHTO M252 or AASHTO M294 Class 2, unless otherwise indicated on the plans. The pipe shall be laid accurately to line and grade. ~~Fiberglass per ASTM D3839 Standard Guide for Underground Installation of "Fiberglass" (Glass Fiber Reinforced Thermosetting Resin) Pipe.~~

d. All types of pipe. The upgrade end of pipelines, not terminating in a structure, shall be plugged or capped as approved by the RPR.

Unless otherwise shown on the plans, a 4-inch bed of granular backfill material shall be spread in the bottom of the trench throughout the entire length under all perforated pipe underdrains.

Pipe outlets for the underdrains shall be constructed when required or shown on the plans. The pipe shall be laid with tight-fitting joints. Porous backfill is not required around or over pipe outlets for underdrains. All connections to other drainage pipes or structures shall be made as required and in a satisfactory manner. If connections are not made to other pipes or structures, the outlets shall be protected and constructed as shown on the plans.

e. Filter fabric. The filter fabric shall be installed in accordance with the manufacturer's recommendations, or in accordance with the AASHTO M288 Appendix, unless otherwise shown on the plans.

705-3.4 Mortar. The mortar shall be of the desired consistency for caulking and filling the joints of the pipe and for making connections to other pipes or to structures. Mortar that is not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted.

705-3.5 Joints in concrete pipe. When open or partly open joints are required or specified, they shall be constructed as indicated on the plans. The pipe shall be laid with the ends fitted together as designed. If bell and spigot pipe is used, mortar shall be placed along the inside bottom quarter of the bell to center the following section of pipe.

The open or partly open joints shall be surrounded with granular material meeting requirements of porous backfill No. 2 in Table 1 or as indicated on the plans. This backfill shall be placed so its thickness will be not less than 3 inches nor more than 6 inches, unless otherwise shown on the plans.

When the original material excavated from the trench is impervious, commercial concrete sand or granular material ~~meeting requirements of porous backfill No. 1~~ shall surround porous backfill No. 2 (Table 1), as shown on the plans or as directed by the RPR.

When the original material excavated from the trench is pervious and suitable, it may be used as backfill ~~in lieu of porous backfill No. 1~~, when indicated on the plans or as directed by the RPR.

705-3.6 Embedment and Backfill

a. Earth. All trenches and excavations shall be backfilled soon after the pipes are installed, unless additional protection of the pipe is directed. The embedment material shall be select material from excavation or borrow and shall be approved by the RPR. The select material shall be placed on each side of the pipe out to a distance of the nominal pipe diameter and one foot over the top of the pipe and shall be readily compacted. It shall not contain stones 3 inches or larger in size, frozen lumps, chunks of highly plastic clay, or any other material that is objectionable to the RPR. The material shall be moistened or dried, as required to aid compaction. Placement of the embedment material shall not cause displacement of the pipe. Thorough compaction under the haunches and along the sides to the top of the pipe shall be obtained.

The embedment material shall be placed in loose layers not exceeding 6 inches in depth under and around the pipe. Backfill material over the pipe shall be placed in lifts not exceeding 8 inches. Successive layers shall be added and thoroughly compacted by hand and pneumatic tampers, approved by the RPR, until the trench is completely filled and brought to the planned elevation. Embedment and backfilling shall be done to avoid damaging top or side of the pipe.

In embankments and other unpaved areas, the backfill shall be compacted per Item P-152 to the density required for embankments in unpaved areas. Under paved areas, the subgrade and any backfill shall be compacted per Item P-152 to the density required for embankments for paved areas.

b. Granular backfill. When granular backfill is required, placement in the trench and about the pipe shall be as shown on the plans. The granular backfill shall not contain an excessive amount of foreign matter, nor shall soil from the sides of the trench or from the soil excavated from the trench be allowed to filter into the granular backfill. When required by the RPR, a template shall be used to properly place and separate the two sizes of backfill. The backfill shall be placed in loose layers not exceeding 6 inches in depth. The granular backfill shall be compacted by hand and pneumatic tampers to the requirements as given for embankment. Backfilling shall be done to avoid damaging top or side pressure on the pipe. The granular backfill shall extend to the elevation of the trench or as shown on the plans.

When perforated pipe is specified, granular backfill material shall be placed along the full length of the pipe. The position of the granular material shall be as shown on the plans. ~~*If the original material excavated from the trench is pervious and suitable, it shall be used in lieu of porous backfill No. 1.*~~

If porous backfill is placed in paved or adjacent to paved areas before grading or subgrade operations is completed, the backfill material shall be placed immediately after laying the pipe. The depth of the granular backfill shall be not less than 12 inches, measured from the top of the underdrain. During subsequent construction operations, a minimum depth of 12 inches of backfill shall be maintained over the underdrains. When the underdrains are to be completed, any unsuitable material shall be removed exposing the porous backfill. Porous backfill containing objectionable material shall be removed and replaced with suitable material. The cost of removing and replacing any unsuitable material shall be at the Contractor's expense.

If a granular subbase blanket course is used which extends several feet beyond the edge of paving to the outside edge of the underdrain trench, the granular backfill material over the underdrains shall be placed in the trench up to an elevation of 2 inches above the bottom surface of the granular subbase blanket course. Immediately prior to the placing of the granular subbase blanket course, the Contractor shall blade

this excess trench backfill from the top of the trench onto the adjacent subgrade where it can be incorporated into the granular subbase blanket course. Any unsuitable material that remains over the underdrain trench shall be removed and replaced. The subbase material shall be placed to provide clean contact between the subbase material and the underdrain granular backfill material for the full width of the underdrain trench.

c. Controlled low-strength material (CLSM). CLSM is not used.

705-3.7 Flexible Pipe Ring Deflection. Not used

705-3.8 Connections. When the plans call for connections to existing or proposed pipe or structures, these connections shall be watertight and made to obtain a smooth uniform flow line throughout the drainage system.

705-3.9 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, soil, and rubbish from the site. Surplus soil may be deposited in embankments, shoulders, or as directed by the RPR. Except for paved areas of the airport, the Contractor shall restore all disturbed areas to their original condition.

METHOD OF MEASUREMENT

705-4.1 The length of pipe shall be the number of linear feet of pipe underdrains in place, completed, and approved including porous backfill and filter fabric; measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. ~~The several classes, types, and sizes shall be measured separately~~. All fittings shall be included in the footage as typical pipe sections in the pipeline being measured.

~~**705-4.2 [** The quantity of porous backfill shall be the number of cubic yards of porous backfill No. 1 and No. 2, complete in place and accepted, and shall be determined from the dimensions given on the plans by typical trench sections indicating the placement of porous backfill or dimensions directed by the RPR. **] [** Not used. **]**~~

~~**705-4.3 [** The quantity of filter fabric shall be the number of square yards of filter fabric in place, completed, and approved; and shall be determined from the dimensions given on the plans by typical trench sections indicating the placement of filter fabric or dimensions directed by the RPR. **] [** Not used. **]**~~

705-4.4 *Outlet protectors will be measured for each item installed and completed in place.* ~~*The several types and sizes shall be measured separately.*~~

BASIS OF PAYMENT

705-5.1 Payment will be made at the contract unit price per linear foot for pipe underdrains of the type, class, and size designated.

~~**705-5.2 Porous backfill.**~~

~~**[** a. Porous backfill No. 1 shall be made at the contract unit price **[** per cubic yard **] [** per ton **].]**~~

~~**[** b. Porous Backfill No. 2 shall be made at the contract unit price **[** per cubic yard **] [** per ton **].]**~~

~~**705-5.3. Filter fabric.** Filter fabric shall be made at the contract unit price per square yard (square meter) for filter fabric.~~

705-5.4 Pipe underdrains, Complete. Pipe underdrains, complete (including porous backfill and filter fabric) shall be made at the contract unit price per linear foot complete (including porous backfill and filter fabric.

705-5.5 *Payment for concrete outlet protectors will be made at the contract unit price for each item installed and completed in place. This price shall be considered full compensation for furnishing all materials and for*

all preparation, excavation, and installation of these materials, including reinforcing steel, and for all labor, equipment, tools, and incidentals necessary to complete the item.

These prices shall be full compensation for furnishing all materials and for all preparation, excavation, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item D-705-5.1a	6” Perforated Underdrain Pipe – per linear foot
Item D-705-5.1b	6” Non-Perforated Outfall Pipe – per linear foot
Item D-705-5.2	*Concrete Outlet Protector – per each*

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C444	Standard Specification for Perforated Concrete Pipe
ASTM C654	Standard Specification for Porous Concrete Pipe
ASTM D2321	Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F758	Standard Specification for Smooth Wall Poly (Vinyl Chloride) (PVC) Plastic Underdrain Systems for Highway, Airport, and Similar Drainage
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M190	Standard Specification for Bituminous - Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M288	Standard Specification for Geotextile Specification for Highway Applications
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) diameter
AASHTO	Standard Specifications for Highway Bridges

END OF ITEM D-705

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ITEM D-754 CONCRETE GUTTERS, DITCHES, AND FLUMES

DESCRIPTION

754-1.1 This item shall consist of Portland cement concrete gutters, ditches, and flumes constructed in accordance with these specifications at the specified locations in accordance with the dimensions, lines, and grades as shown on the plans.

MATERIALS

754-2.1 Concrete. Plain and reinforced concrete shall ~~meet the requirements of Item P-610~~ be a commercially produced mix meeting the following criteria:

- 3500 psi 28-day compressive strength
- 4-6% air content
- 1” maximum aggregate size

754-2.2 Joints. Joint filler materials and premolded joint material shall conform to Item ~~P-605~~ P-610.

CONSTRUCTION METHODS

754-3.1 Preparing subgrade. Excavation shall be made to the required width and depth, and the subgrade upon which the item is to be built shall be compacted to a firm uniform grade. All soft and unsuitable material shall be removed and replaced with suitable approved material. When required, a layer of approved granular material, compacted to the thickness indicated on the plans, shall be placed to form a subbase. The underlying course shall be checked and accepted by the RPR before placing and spreading operations are started.

754-3.2 Placing. The forms and the mixing, placing, finishing, and curing of concrete shall conform to the requirements of Item P-610 and the following requirements.

The concrete shall be tamped until it is consolidated and mortar covers the top surface. The surface of the concrete shall be floated smooth and the edges rounded to the radii shown on the plans. Before the concrete is given the final finishing, the surface shall be tested with a 12-foot straightedge, and any irregularities of more than 1/4 inch in 12-foot shall be eliminated.

The concrete shall be placed with dummy-grooved joints not to exceed 25 feet apart and no section shall be less than 4 feet long.

Expansion joints of the type called for in the plans shall be constructed to replace dummy groove joints at a spacing of approximately 100 feet. When the gutter is placed next to concrete pavement, expansion joints in the gutter shall be located opposite expansion joints in the pavement. When a gutter abuts a pavement or other structure, an expansion joint shall be placed between the gutter and the other structure.

Forms shall not be removed within 24 hours after the concrete has been placed. Minor defects shall be repaired with mortar containing one (1) part cement and two (2) parts fine aggregate.

Depositing, compacting, and finishing the item shall be conducted to build a satisfactory structure. If any section of concrete is found to be porous, or is otherwise defective, it shall be removed and replaced by the Contractor without additional compensation.

754-3.3 Backfilling. After the concrete has set sufficiently, the spaces adjacent to the structure shall be refilled to the required elevation with material specified on the plans and compacted by mechanical

equipment to at least 90% of the maximum density as determined by ASTM D698. The in-place density shall be determined in accordance with ASTM D1556.

754-3.4 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as ordered by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear and in good condition.

Performance of the work described in this section shall be considered as a subsidiary obligation of the Contractor, covered under the contract unit price for the structure.

METHOD OF MEASUREMENT

~~**754-4.1** Concrete shall be measured by the cubic yard in accordance with the dimensions shown on the plans or ordered by the RPR. No deductions shall be made for the volume occupied by reinforcing steel, anchors, conduits, weep holes, or piling.~~

~~**754-4.2** Reinforcing steel shall be measured by the pound, based on the theoretical number of pounds complete in place as shown on the plans or placed as ordered by the RPR.~~

745-4.3 *Concrete Ditch Paving shall be measured by the square yard, complete in place as shown on the plans or placed as ordered by the RPR and shall include all labor and materials, including aggregate base, required by this specification and shown in the plans.*

BASIS OF PAYMENT

~~**754-5.1** The accepted quantities of structural concrete will be paid for at the contract unit price per cubic yard complete in place.~~

~~**754-5.2** The accepted quantities of reinforcing steel will be paid for at the contract price per pound complete in place. No allowance shall be made for clips, wire, or other material used for fastening reinforcement in place.~~

754-5.3 *The accepted quantities of Concrete Ditch Paving will be paid for at the contract price per square yard complete in place.*

Payment will be made under:

Item D-754-5.1	Concrete Ditch Paving - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

END OF ITEM D-754

ITEM T-901 SEEDING

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding, and fertilizing the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

901-2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as *specified in the Standard Specifications, Section 620 – Seeding, except that all seed shall be Bermuda* ~~follows:~~

~~**Seed Properties and Rate of Application**~~

~~**Seed**~~	~~**Minimum Seed Purity (Percent)**~~	~~**Minimum Germination (Percent)**~~	~~**Rate of Application lb/acre (or lb/1,000 S.F.)**~~
~~*~~	~~*~~	~~*~~	~~*~~
~~*~~	~~*~~	~~*~~	~~*~~

~~Seeding shall be performed during the period between **[ ]** and **[ ]** inclusive, unless otherwise approved by the RPR.~~

~~**901-2.2 Lime. [** Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 (850 µm) mesh sieve and 50% will pass through a No. 100 (150 µm) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate *specified by the tests furnished in T 905* of **[ ]**. All liming materials shall conform to the requirements of ASTM C602. **] [** Not required. **]**~~

901-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;

b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or

c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 800 lbs/acre.

901-2.4 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

901-3.1 Advance preparation and cleanup. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches as a result of grading operations and, if immediately prior to seeding, the top 3 inches of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

When the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches. Clods shall be broken and the top 3 inches of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 Dry application method.

a. Liming. Not required.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

b. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

c. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot of width for sandy or light soils.

901-3.3 Wet application method.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons over the entire range of the tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be

equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons per minute at a pressure of 100 lb / sq inches. The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet. One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For case of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds of lime shall be added to and mixed with each 100 gallons of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds of these combined solids shall be added to and mixed with each 100 gallons of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. The Contractor shall identify to the RPR all sources of water at least two (2) weeks prior to use. The RPR may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the RPR following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within two (2) hours from the time they were mixed or they shall be wasted and disposed of at approved locations.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches, after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to ensure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the RPR, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

901-3.4 Maintenance of seeded areas. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the RPR. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the RPR. A grass stand shall be considered adequate when bare spots are one square foot or less, randomly dispersed, and do not exceed 3% of the area seeded.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding to be paid for shall be the number of ~~units~~ acres measured on the ground surface, completed and accepted. *Seeding shall be measured to the nearest tenth (0.1) of an acre. Fertilizer will not be measured for separate payment but will be considered subsidiary to seeding.*

BASIS OF PAYMENT

901-5.1 Payment shall be made at the contract unit price per acre or fraction thereof, which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item T-901-5.1	Seeding – per acre

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602	Standard Specification for Agricultural Liming Materials

Federal Specifications (FED SPEC)

FED SPEC	JJJ-S-181, Federal Specification, Seeds, Agricultural

Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-901

ITEM T-904 SODDING

DESCRIPTION

904-1.1 This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

904-2.1 Sod. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the *Standard Specifications, Section 624 – Sodding* ~~special provisions~~, and any vegetation more than 6 inches in height shall be mowed to a height of 3 inches or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the *Standard Specifications, Section 624 – Sodding* ~~special provisions~~. *Type of sod shall be the type specified in the Standard Specifications, Section 624 – Solid Sodding.*

~~**904-2.2 Lime. [** Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 (850 µm) mesh sieve and 50% will pass through a No. 100 (150 µm) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of **[___]**. All liming materials shall conform to the requirements of ASTM C602. **] [** Not required. **]**~~

904-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;

b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or

c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 250 lbs/acre.

904-2.4 Water. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass.

904-2.5 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

904-3.1 General. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the RPR before the various operations are started. The Contractor shall demonstrate to the RPR before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 Preparing the ground surface. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 Applying fertilizer and ground limestone. Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions. These materials shall be incorporated into the soil to a depth of not less than 2 inches by discing, raking, or other suitable methods. Any stones larger than 2 inches in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

904-3.4 Obtaining and delivering sod. After inspection and approval of the source of sod by the RPR, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches. Sod sections or strips shall be cut in uniform widths, not less than 10 inches, and in lengths of not less than 18 inches, but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor’s control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, approval to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

904-3.5 Laying sod. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the RPR, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and ensure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen, when replacing it, shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after

compaction shall be set approximately one inch below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than one (1) vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches in length and have a cross-sectional area of not less than 3/4 sq inch. The pegs shall be driven flush with the surface of the sod.

904-3.6 Watering. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

904-3.7 Establishing turf. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the RPR. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. Weeds or other undesirable vegetation shall be mowed and the clippings raked and removed from the area.

904-3.8 Repairing. When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the RPR, and shall then be sodded as specified in paragraph 904-3.5.

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards of the surface covered with sod and accepted.

BASIS OF PAYMENT

904-5.1 This item will be paid for on the basis of the contract unit price per square yard for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904-5.1	Sodding - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-904

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ITEM T-905 TOPSOIL

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

905-2.1 Topsoil. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches) or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sod and herbaceous growth such as grass and weeds are not to be removed, but shall be thoroughly broken up and intermixed with the soil during handling operations. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means, shall be removed. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the Association of Official Agricultural Chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (75 µm) sieve as determined by the wash test in accordance with ASTM C117. *Topsoil testing shall be completed and paid for by the Contractor.*

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

905-2.2 Inspection and tests. Within 10 days following acceptance of the bid, the RPR shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in paragraph 905-2.1.

CONSTRUCTION METHODS

905-3.1 General. Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the RPR before the various operations are started.

905-3.2 Preparing the ground surface. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the RPR, to a minimum depth of 2 inches to facilitate bonding of the topsoil to the covered subgrade soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and compacted condition to prevent the formation of low places or pockets where water will stand.

905-3.3 Obtaining topsoil. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the RPR. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the RPR. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the RPR. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoil purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the RPR. The Contractor shall notify the RPR sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading, or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

905-3.4 Placing topsoil. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 4 inches after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turfing operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. after spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the RPR. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

905-4.1 Topsoil obtained on the site shall be measured by the *area in square yards of the specified thickness of topsoil rehandled and placed from the topsoil stockpiled under Item P-152-2.14 as accepted by the RPR. Topsoiling measured for payment shall only be the planned limits of construction.* ~~number of cubic yards of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards computed by the method of end areas.~~

~~**905-4.2** Topsoil obtained off the site shall be measured by the number of *square yards at the specified thickness* cubic yards of topsoil measured in its *final* original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards computed by the method of end areas.~~

BASIS OF PAYMENT

905-5.1 Payment will be made at the contract unit price per *square yard of the specified thickness* ~~cubic yard~~ for topsoil (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

~~**905-5.2** Payment will be made at the contract unit price per *square yard of the specified thickness* cubic yard for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

Payment will be made under:

Item T-905-5.1	Topsoil (Obtained on Site; 4” Thickness) - per square yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117	Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing

Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-905

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ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are direct buried and furnishing and/or installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the RPR. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA owned/operated facilities.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall maintain a minimum insulation resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge (AWG), L-824 Type C, 5,000 volts,

non-shielded, with cross-linked polyethylene insulation. ~~Conductors for use on 20 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #6 AWG, L-824 **[**Type B**][**Type C**]**, 5,000 volts, non shielded, with **[**ethylene propylene insulation**][**cross linked polyethylene insulation**]**.~~ L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Commercial Item Description A-A-59544A and shall be type THWN-2, 75°C for installation in conduit and RHW-2, 75°C for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, THWN-2, 600-volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of THWN-2, 600-volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Document.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for grounding bond wire per ASTM B3 and ASTM B8, ~~and shall be bare copper wire~~. For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.

Ground rods shall be copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 10 feet long and 3/4 inch in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The cast splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M™ Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal *are* acceptable.

c. The factory-molded plug-in splice. Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. The taped or heat-shrink splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description

A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the RPR proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

108-2.7 Flowable backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches wide. Detectable tape is incidental to the respective bid item. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Cable shall be run without splices, from fixture to fixture.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the RPR or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed and on both sides of slack loops where a future connector would be installed.

Provide not less than 3 feet of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot vertically above the top of the access structure. This requirement also applies where primary cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the RPR.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in duct banks or conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's

recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the RPR, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

108-3.3 Installation of direct-buried cable in trenches. Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3 inches vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches below finished grade per NEC Table 300.5, except as follows:

- When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches unless otherwise specified.
- Minimum cable depth when crossing under a railroad track, shall be 42 inches unless otherwise specified.

The Contractor shall excavate all cable trenches to a width not less than 6 inches. Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. Flowable backfill material may alternatively be used. *The Contractor shall ascertain the type of soil or rock to be excavated before bidding*. *All such rock removal shall be performed and paid for under subsidiary to the respective trenching or conduit or duct bank pay item.*

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing

cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall encompass all cables; be 3 deep, loose measurement; and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. This layer shall not be compacted. The second layer shall be 5 inches deep, loose measurement, and shall contain no particles that would be retained on a one inch (25.0 mm) sieve. The remaining third and subsequent layers of backfill shall not exceed 8 inches of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent material. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D1557.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of per the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the RPR. If not shown on the plans, the warning tape shall be located 6 inches) above the direct-buried cable or the counterpoise wire if present. A 3-6 inch wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches minimum below finished grade.

c. Restoration. Following restoration of all trenching near airport movement surfaces, the Contractor shall visually inspect the area for foreign object debris (FOD) and remove any that is found. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the sodding, topsoiling and seeding as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D1557. Restoration shall be considered incidental to the pay item of which it is a component part.

108-3.4 Cable markers for direct-buried cable. The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet square and 4-6 inch thick, extending approximately one inch above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word “CABLE” and directional arrows on each cable marking slab. The letters shall be approximately 4 inches high and 3 inches wide, with width

of stroke 1/2 inch and 1/4 inch deep. Stencils shall be used for cable marker lettering; no hand lettering shall be permitted.

At the location of each underground cable connection/splice, except at lighting units, or isolation transformers, a concrete marker slab shall be installed to mark the location of the connection/splice. The Contractor shall impress the word “SPLICE” on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the RPR. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint as approved by the RPR. Furnishing and installation of cable markers is incidental to the respective cable pay item.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer’s instructions and to the satisfaction of the RPR.

b. Field-attached plug-in splices. These shall be assembled per the manufacturer’s instructions. These splices shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches on each side of the joint (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) Wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches on each side of the joint. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

d. Taped or heat-shrink splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches on each end) is clean. After scraping, wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. The manufacturer's recommendation for stretching tape during splicing shall be followed. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately one inch over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminates prior to application.

e. Assembly. Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer's recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean all surfaces at least 1/4 inch beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare counterpoise wire installation for lightning protection and grounding. If shown on the plans or included in the job specifications, bare solid No. 6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.

a. Equipotential. – Not used

b. Isolation – Counterpoise size is shown on the plans. The isolation method is an alternate method for use only with edge lights installed in turf and stabilized soils and raceways installed parallel to and adjacent to the edge of the pavement. NFPA 780 uses 15 feet to define "adjacent to".

The counterpoise conductor shall be installed halfway between the pavement edge and the light base, mounting stake, raceway, or cable being protected.

The counterpoise conductor shall be installed 8 inches minimum below grade. The counterpoise is not connected to the light base or mounting stake. An additional grounding electrode is required at each light base or mounting stake. The grounding electrode is bonded to the light base or mounting stake with a 6 AWG solid copper conductor.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Isolation Method of lightning protection.

c. Common Installation requirements. When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

d. Parallel Voltage Systems. Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.

108-3.7 Counterpoise installation above multiple conduits and duct banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete area of protection measured 45 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise installation at existing duct banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic bonding. Bonding of counterpoise wire shall be by the exothermic welding process or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The RPR shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the RPR the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 500 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved “repair” procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet installed and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall include additional quantities required for slack.

108-4.2 No separate payment will be made for ground rods.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

Item L-108-5.1	No. 8 AWG**,** 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit - per Linear Foot
Item L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, Above the Duct Bank or Conduit, Including Connections/Terminations - per Linear Foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM International (ASTM)

ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes

Mil Spec

MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive
MIL-P-21035	*Paint High Zinc Duct Content, Galvanizing Repair*

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems

American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Federal Aviation Administration Standard

FAA STD-019E	Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment

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ITEM L-110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

110-2.2 Steel conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

110-2.3 Plastic conduit. Plastic conduit and fittings-shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

a. Type I–Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.

b. Type II–Schedule 40 PVC suitable for either above ground or underground use.

c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.

d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

~~**110-2.8 Flowable backfill.** Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.~~

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches per 100 feet. On runs where it is not practicable to maintain the grade all one way, the

duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the duct bank shall not be less than 18 inches below the subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches below finished grade.

*

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet.

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch sieve. Flowable backfill may alternatively be used. *The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for subsidiary to the respective trenching or conduit or duct bank pay item.*

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet.

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet beyond the edges of the pavement or 3 feet beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches apart measured from outside wall to outside wall. All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper

sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches wide tape, 8 inches minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch wide tape only for single conduit runs. Utilize the 6-inch wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches nor more than 12 inches wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches apart (measured from outside wall to outside wall) in a horizontal direction and lot less than 6 inches apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet square and 4 - 6 inches thick extending approximately one inch above the surface. The markers shall also be located directly above the ends of all conduits or

duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word “DUCT” or “CONDUIT” on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches high and 3 inches wide with width of stroke 1/2 inch and 1/4 inch deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 “Excavation and Embankment” except that the material used for backfill shall be select material not larger than 4 inches in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, ~~one moisture/density test per lift shall be made for each 250 linear feet of duct bank or one work period’s construction, whichever is less.~~ material used for backfill shall be imported stone backfill per item P-152. 57 stone may alternatively be used with prior approval from the RPR.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include sodding**,** topsoiling and seeding shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

110-3.8 Ownership of removed cable. Where existing cabling indicated on the plans for removal or demolition is removed, it is the responsibility of the contractor to dispose of offsite via recycling methods. The electrical contractor is the owner of the removed cabling.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1	Concrete Encased Electrical Duct Bank, 2-Way 2-Inch C - per Linear Foot
Item L-110-5.2	Non-Encased Electrical Conduit, 1-Way 2-Inch C - per Linear Foot

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circular (AC)

AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit - Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 1242	Electrical Intermediate Metal Conduit Steel
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit

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ITEM L-115 ELECTRICAL MANHOLES AND JUNCTION STRUCTURES

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR including removal of existing manholes and junction structures as shown on the plans.

EQUIPMENT AND MATERIALS

115-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications**.** The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 Concrete structures. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. Cast-in-place concrete structures shall be as shown on the plans.

~~**115-2.3 Precast concrete structures.** Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans.~~

~~Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand **[[**____**]** lb. aircraft**]** loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.~~

~~Threaded inserts and pulling eyes shall be cast in as shown on the plans.~~

~~If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.~~

115-2.4 Junction boxes. Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch thickness for L-867 and 3/4-inch thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

~~**115-2.7 Frames and covers.** The frames shall conform to one of the following requirements:~~

~~**a.** ASTM A48 Gray iron castings~~

~~**b.** ASTM A47 Malleable iron castings~~

~~**c.** ASTM A27 Steel castings~~

~~**d.** ASTM A283, Grade D Structural steel for grates and frames~~

~~**e.** ASTM A536 Ductile iron castings~~

~~**f.** ASTM A897 Austempered ductile iron castings~~

~~All castings specified shall withstand a maximum tire pressure of **[ ]** psi and maximum load of **[ ]** lbs.~~

~~All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.~~

~~Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.~~

~~All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.~~

~~Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.~~

~~Each manhole shall be provided with a "DANGER – PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).~~

~~**115-2.8 Ladders.** Ladders, if specified, shall be galvanized steel or as shown on the plans.~~

115-2.9 Reinforcing steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

115-2.10 Bedding/special backfill. Bedding or special backfill shall be as shown on the plans.

~~**115-2.11 Flowable backfill.** Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.~~

~~**115-2.12 Cable trays.** Cable trays shall be of **[**galvanized steel**][**plastic**][**aluminum**]**. Cable trays shall be located as shown on the plans.~~

115-2.13 Plastic conduit. Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.

115-2.14 Conduit terminators. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.15 Pulling-in irons. Pulling-in irons shall be manufactured with 7/8-inch diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7 strand, ½-inch diameter with an ultimate strength of 270,000 psi). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

115-2.16 Ground rods. Ground rods shall be one piece, copper clad steel. The ground rods shall be of the length and diameter specified on the plans~~, but in no case shall they be less than 8 feet long nor less than 5/8 inch in diameter.~~

CONSTRUCTION METHODS

115-3.1 Unclassified excavation. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the RPR without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the RPR. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand or a material approved by the RPR as a suitable base to receive the structure. The base material shall be compacted

and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

115-3.2 Concrete structures. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

115-3.3 Precast unit installations. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 Placement and treatment of castings, frames and fittings. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the RPR and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written approval is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the RPR and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

~~**115-3.5 Installation of ladders.** Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.~~

115-3.6 Removal of sheeting and bracing. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The RPR may direct the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 Backfilling. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the RPR may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all

damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

115-3.8 Connection of duct banks. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

~~**115-3.9 Grounding.** A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches above the floor. The ground rod shall be installed within one foot of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4 inch diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.~~

~~A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtails shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.~~

115-3.10 Cleanup and repair. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per MIL-P-21035. Surfaces shall be prepared and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 Restoration. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective Item L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 Inspection. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

~~**115-3.13 Manhole elevation adjustments.** The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise or lower the top of each manhole~~

~~to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.~~

~~The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. The Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.~~

~~The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.~~

115-3.14 Duct extension to existing ducts. Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

METHOD OF MEASUREMENT

115-4.1 Electrical junction structures shall be measured by each unit completed in place and accepted. The following items shall be included in the price of each unit: All required excavation and dewatering; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing.

BASIS OF PAYMENT

115-5.1 The accepted quantity of electrical junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item L-115-5.1	Electrical Junction Structure, L-867 Class 1, Size 16” Diameter by 24” Depth- Per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5340-30	Design and Installation Details for Airport Visual Aids

AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description (CID)

A-A 59544	Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C206	Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83	In Pavement Light Fixture Bolts

Mil Spec

MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)

END OF ITEM L-115

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ITEM L-125 INSTALLATION OF AIRPORT LIGHTING SYSTEMS

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not performs as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR’s opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

EQUIPMENT AND MATERIALS

125-2.2 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

125-2.3 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

125-2.4 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-2.5 Cable Connections. Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

125-2.6 Retroreflective Markers. Not required.

125-2.7 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

Lights

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861E(L)	2	1	NA	4	L-867	G/R	L-830	Temporary Threshold Lighting

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

Signs

Type	Size	Style	Class	Mode	Notes
L-858(L)	Size 1 / Size 2	Style 2	Class 2	Mode 2	LED

125-2.9 Runway End Identifier Light (REIL). Not required.

125-2.10 Precision Approach Path Indicator (PAPI). Not required.

125-2.11 Circuit Selector Cabinet. ~~The circuit selector cabinet shall meet the requirements of AC 150/5345-5, Type L-847, **[**one**][**two**][**three**][**four**]** circuit control **[**as indicated**]**, Class **[**A, indoor**][**B, outdoor**]**, Rating **[**1, for 6.6 amperes**][**2, for 20 amperes**]**.~~

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

125-2.13 Isolation Transformers. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

~~**125-3.4 Elevated and In-pavement Lights.** Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.~~

~~A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.~~

METHOD OF MEASUREMENT

125-4.1 Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR. Measurement for new sign panels or panel relocations shall be per each panel (full message element) replaced or relocated.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each guidance sign, guidance sign panel, or panel relocation installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

Payment will be made under:

Item L-125-5.1	L-858(L) Base Mounted, 2-Module Guidance Sign, Installed -- per Each
Item L-125-5.2	L-858(L) Base Mounted, 3-Module Guidance Sign, Installed -- per Each
Item L-125-5.3	New Sign Panels, Installed in Existing Guidance Sign – per Each
Item L-125-5.4	Existing Sign Panels, Relocated to Existing Sign – per Each
Item L-125-5.5	Existing Stored Guidance Sign, Installed on New Foundation with Relocated Sign Panels – per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits

AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

END OF ITEM L-125

4300 South J.B. Hunt Drive
Suite 240
Rogers, AR 72758

TEL 479.257.9188

www.GarverUSA.com

ADDENDUM NO. 01

Date:	**May 24, 2024**
Project Name:	**VBT Southeast Taxiway B Extension (Phase 2)**
Owner:	**City of Bentonville**
Owner Project No.:	**IFB-24-24**
Garver Project No.	**23A13191**

This addendum shall be a part of the Plans, Contract Documents and Specifications to the same extent as though it were originally included therein, and it shall supersede anything contained in the Plans, Contract Documents, and Specifications with which it might conflict. This addendum, including all attachments, shall become part of the Contract and all provisions of the Contract shall apply thereto. The time provided for completion of the Contract has not been changed as noted in this addendum. Acknowledgement of receipt of this addendum must be noted in the appropriate section of the Bid Form and included with the Contract Documents.

A. CONTRACT DOCUMENTS AND SPECIFICATIONS

1. Remove the following specifications sections in their entirety, and replace with the same, attached hereto:
    a. Section 00 41 00 “Bid Form”
    b. Section 00 52 00 “Contract Between Owner and Contractor for Construction Contract (Stipulated Price)”

B. DRAWINGS

1. Remove the following drawings in their entirety, and replace with the same, attached hereto:
    a. GC-103 – CONSTRUCTION SAFETY AND PHASING PLAN 3
    b. GC-203 – TEMPORARY AIRFIELD LIGHTING DETAILS 2

By: [redacted]

Christopher Maestri, [redacted]
Project Manager

Digitally Signed 05/24/2024

Attachments:

A. Contract Documents and Specifications
   1. Section 00 41 00 "Bid Form"
   2. Section 00 52 00 "Contract Between Owner and Contractor for Construction Contract (Stipulated Price)"

B. Drawings
   1. GC-103 – Construction Safety and Phasing Plan3
   2. GC-203 – Temporary Airfield Lighting Details 2

END OF ADDENDUM NO. 01

00 41 00 BID FORM

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

CITY OF BENTONVILLE
1000 SW 14TH Street, Bentonville, AR 72712

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for **120** days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

2.02 In submitting this Bid, Bidder acknowledges and accepts Contractor's representations as more fully set forth in the Contract.

2.03 In submitting this Bid, Bidder certifies Bidder is qualified to do business in the State of Arkansas as required by laws, rules and regulations or, if allowed by statute, covenants to obtain such qualification prior to contract award.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following addenda:

Addendum No.	Addendum, Date

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all laws and regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have

been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

K. The submission of the Bid constitutes that applicable sales taxes are included in the stated Bid prices for the work, unless provision is made herein for the bidder to separately itemize the estimated amount of sales tax.

L. By submitting a bid/proposal under this solicitation, the Bidder understands that the bid/proposal is subjected to the **Davis-Bacon Act, including prevailing wage rates,** Contract Work hours and Safety Standards Act.

M. By submitting a bid/proposal, the Bidder understands that the bid/proposal is subjected to the **Federal Aviation Administration requirements referenced in the Special Provisions.**

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder acknowledges that (1) each Bid unit price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

5.02 Bidder will complete the Work in accordance with the Contract Documents for the enclosed prices.

5.03 BID ALTERNATES

A. The undersigned Bidder offers to make, at the bid alternate prices (Additive) following, the changes in the Work covered in the total bid price set forth in unit price schedule ("Total Base Bid Price") that are specified in the bid alternates priced below:

B. It is understood that:

1. All bid alternate prices shall be filled in. The work detailed by the bid alternate(s) is an extension of the nature of the work for the Total Base Bid Price's project. This proposal requires that the undersigned Bidder propose on all work detailed by the Total Base Bid Price's project and the decrease in work as detailed by each and all of the bid alternates. Failure to comply with this requirement of submitting a price for each and all of the bid alternates may render the Bid non-responsive and may cause its rejection.

2. ***Any bid items contained within the alternate unit price schedule that are measured quantities (TN, SY, CY, SF, LF, EA, etc.) shall match exactly the unit price found within the base bid unit price schedule. Lump sum bid items will not be required to meet this requirement.]***

3. The acceptance or rejection of any or all of these bid alternates is at the option of the Owner.

4. Acceptance or rejection of bid alternates will not necessarily be made on the basis of price alone.

5. The acceptance or rejection of one or more bid alternates will not affect the Total Base Bid Project bid, nor other conditions of this bid, nor the price of other accepted bid alternates.

6. The order in which the bid alternates shall be considered for award is as follows:

   a. Base Bid A + Alternate A-1

   b. Base Bid A

7. Reference Document 00 21 00, Article 19 for Method of Award.

8. The undersigned has carefully examined the plans and other contractual documents and has coordinated the scopes between the Total Base Bid Documents and the Bid Alternate Documents. Through submittal of a bid, the undersigned agrees and understands that

the documents have been prepared with the highest level of care in the effort to coordinate the scopes of the Total Base Bid Project documents and the Bid Alternate documents. The undersigned agrees and accepts the responsibilities to coordinate and construct all required interconnections and coordination facilities between the Total Base Bid Project and any of, any combination of, and/or a total combination of the Bid Alternates to develop complete and operational facilities that meet the regulatory requirements for the facilities and the requirements set forth by these contract documents.

5.04 BID SCHEDULES

A. Not used.

CITY OF BENTONVILLE
SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)
UNIT PRICES: Base Bid A

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
1	SS-120-3.1	Construction Safety and Security	LS	1		
2	SS-130-4.1	Trench and Excavation Safety Systems	LS	1		
3	SS-300-5.1	Lockout/Tagout and Constant Current Regulator Calibration Procedures	LS	1		
4	SS-301-5.1	Existing Concrete Encased Electrical Duct Bank, Removed	LF	20		
5	SS-301-5.2	Existing Concrete Encased, Electrical Junction Structure, Removed	EA	1		
6	SS-301-5.3	Existing Base Mounted Guidance Sign, Removed and Stored, Foundation Demolished	EA	1		
7	SS-302-3.1	Power Utility Allowances	ALLOW	1	$20,000.00	
8	SS-310-5.1	Temporary Airfield Lighting	LS	1		
9	C-102-5.1	Temporary Erosion Control	LS	1		
10	C-105-6.1	Mobilization (Maximum 10% of Total Bid)	LS	1		
11	P-101-5.1	Pavement Removal	SY	340		
12	P-101-5.3	Pavement Markings Removal	SF	8,100		
13	P-152-4.1	Unclassified Excavation	CY	2,510		
14	P-152-4.2	Borrow Excavation (Stone Backfill)	CY	2,750		
15	P-152-4.3	Unsuitable Excavation (Stone Backfill)	CY	2,750		
16	P-209-5.1	Crushed Aggregate Base Course (13" Thickness)	SY	4,300		
17	P-209-5.2	Separation Geotextile	SY	4,870		
18	P-401-8.1	Asphalt Surface Course	TON	680		
19	P-620-5.1a	Runway and Taxiway Marking (Reflective)	SF	4,100		
20	P-620-5.1b	Runway and Taxiway Marking (Non-Reflective)	SF	12,300		
21	D-705-5.1a	6" Perforated Underdrain Pipe	LF	40		
22	D-705-5.1b	6" Non-Perforated Outfall Pipe	LF	140		
23	D-705-5.2	Concrete Outlet Protector	EA	1		
24	D-754-5.1	Concrete Ditch Paving	SY	10		
25	T-901-5.1	Seeding	AC	2.5		
26	T-904-5.1	Sodding	SY	2,360		
27	T-905-5.1	Topsoil (Obtained On-Site; 4" Thickness)	SY	13,950		
28	L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit	LF	250		
29	L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, Above the Duct Bank or Conduit, Including Connections/Terminations	LF	550		
30	L-110-5.1	Concrete Encased Electrical Duct Bank, 2-Way 2-Inch C	LF	175		

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31	L-110-5.2	Non-Encased Electrical Conduit, 1-Way 2-Inch C	LF	125		
32	L-115-5.1	Electrical Junction Structure, L-867 Class 1, Size 16” Diameter by 24” Depth	EA	3		
33	L-125-5.1	L-858(L) Base Mounted, 2-Module Guidance Sign, Installed	EA	4		
34	L-125-5.2	L-858(L) Base Mounted, 3-Module Guidance Sign, Installed	EA	3		
35	L-125-5.3	New Sign Panels, Installed in Existing Guidance Sign	EA	19		
36	L-125-5.4	Existing Sign Panels, Relocated to Existing Sign	EA	18		
37	L-125-5.5	Existing Stored Guidance Sign, Installed on New Foundation with Relocated Sign Panels	EA	1		
38	SP-C-01	Owner's Protective Insurance	LS	1		

Total Bid - Base Bid A _____

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CITY OF BENTONVILLE
SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)
UNIT PRICES -Alternate A-1

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
1	SS-407-9.1	ARDOT ACHM Surface Course (1/2") (PG 76-22)	TON	680		
2	P-401-8.1	Asphalt Surface Course	TON	(680)		

Total Bid - Alternate A-1 _____

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ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Section 90-09 of the General Provisions on or before the dates or within the number of calendar days indicated in the Contract.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security (00 43 13);

B. List of Proposed Subcontractors (00 43 36)

C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

D. Contractor's License No.: _____ or Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;

E. Required Bidder Qualifications Statement (00 45 13) with supporting data; and

F. DBE Participation Reporting (00 45 39)

G. Bidder Certifications (00 45 46)

H. Current Insurances and Coverages

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Provisions, and the Special Provisions.

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ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

_____

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

_____

_____

_____

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

_____

Bidder's License No.: _____
(where applicable)

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00 52 00 CONTRACT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between **CITY OF BENTONVILLE** ("Owner") and

_____ ("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: The project includes, but is not limited to, construction of approximately 600 linear feet of 35 foot wide asphalt parallel taxiway asphalt extension, including airfield signage and associated grading and drainage improvements as shown on the plans and indicated in the specifications.

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by **Garver, LLC**.

3.02 The Owner has retained **Garver, LLC** ("Engineer") to act as Owner's representative, and to have the rights, responsibilities, duties, and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Days*

A. The Work will be substantially completed within the following number of days after the date when the Contract Times commence to run as provided in Section 80-07 of the General Provisions, and completed and ready for final payment in accordance with Section 90-09 of the General Provisions within the following number of days after the date when the Contract Times commence to run.

Description	Substantial Completion
Phase 1	90 Calendar Days
Phase 2	45 Calendar Days
Phase 3	7 Days (Nighttime Closures)
Total Project	90 calendar days

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Project Completion: Contractor shall pay Owner **$1,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.

2. Phase 2: Contractor shall pay Owner **$1,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion of Phase 2 until the work is substantially complete.

3. Phase 3: Contractor shall pay Owner **$1,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion of Phase 3 until the work is substantially complete.

4.04 *Special Damages*

A. Not Used.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

B. The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. Estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer and Owner.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Applications for Payment shall be made in accordance with Section 90-06 of the General Provisions. Applications for Payment will be processed by Engineer as provided in the General Provisions.

6.02 *Progress Payments; Retainage*

A. Progress payments and retainage shall be in accordance with Section 90-06 of the General Provisions.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Section 50-15 of the General Provisions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in Section 90-09 of the General Provisions, minus any damages as described in Paragraphs 4.03 and 4.04.

ARTICLE 7 – INTEREST

7.01 Not Used.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all laws and regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings.

E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

K. The Contractor hereby represents and warrants to and for the benefit of the Owner that:

1. The Contractor has reviewed and understands the prevailing wage rate requirements and will provide any further verified information, certification or assurance of compliance as may be required by the Owner.

2. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Owner to recover as damages against the

Contractor any loss, expense or cost (including without limitation attorney's fees) incurred by the Owner resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Owner). While the Contractor has no direct contractual privity with the State, as a lender to the Owner for the funding of its Project, the Owner and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. Executed Contract
2. Addenda (if any)
3. Advertisement for Bids
4. Instructions to Bidders
5. Bid Form
6. List of Proposed Subcontractors
7. Wage Rates
8. Qualification Statement
9. General Provisions
10. Special Provisions
11. DBE Participation Reporting
12. Bidders Certifications
13. Supplemental Specifications as listed in the Table of Contents
14. Technical Specifications as listed in the Table of Contents
15. Drawings
16. Performance Bond
17. Payment Bond
18. Certificates of Insurance
19. Exhibits to this Agreement (enumerated as follows):
    a. Contractor's Bid
20. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    a. Notice to Proceed.
    b. Work Change Directives.
    c. Change Orders.
    d. Field Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Provisions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms not otherwise defined herein and used in this Agreement will have the meanings stated in the General Provisions and the Special Provisions.

10.02 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:	CONTRACTOR:
_____	_____
By: _____	By: _____
Title: _____	Title: _____ *(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*
Attest: _____	Attest: _____
Title: _____	Title: _____
Address for giving notices:	Address for giving notices:
_____	_____
_____	_____
_____	_____
	License No.: _____ *(where applicable)*

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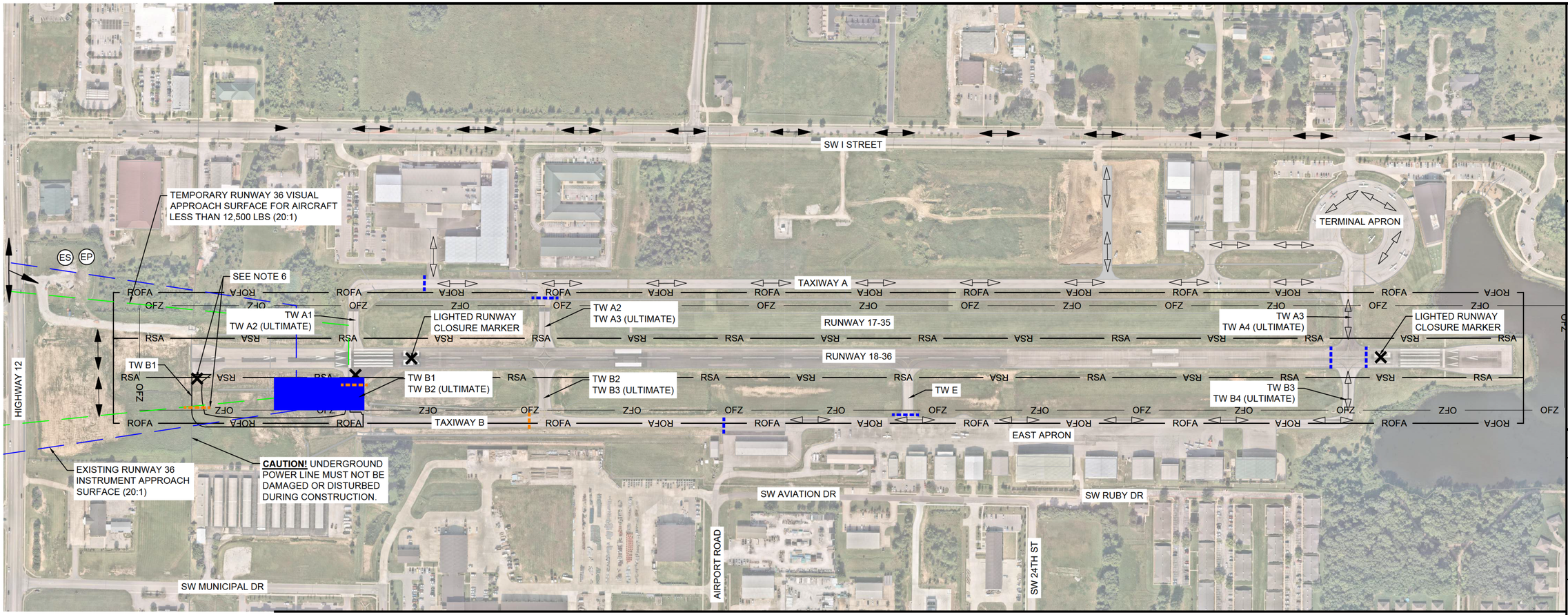


0 100' 200' 400' 600'
(IN FEET)

LEGEND

- PHASE 3 WORK AREA
- PROPOSED ASPHALT PAVEMENT
- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- OFZ — OBSTACLE FREE ZONE
- EXISTING STORM PIPE
- (ES) EQUIPMENT STORAGE
- (EP) EMPLOYEE PARKING
- AIRCRAFT ROUTE
- CONTRACTOR ROUTE
- LIGHTED BARRICADE (DAY)
- LIGHTED BARRICADE (NIGHT)
- RUNWAY/TAXIWAY CLOSURE MARKER

SEQUENCE OF CONSTRUCTION

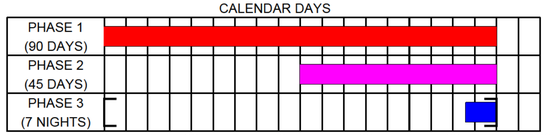
1. ISSUE NOTAM FOR RUNWAY AND TAXIWAY CLOSURES.
2. INSTALL LIGHTED BARRICADES (NIGHT) AND RUNWAY CLOSURE MARKERS. TURN OFF ALL AIRFIELD CIRCUITS.
3. PERFORM PHASE 3 ITEMS OF WORK.
4. PERFORM CLEAN UP OF WORK AREA.
5. REMOVE LIGHTED BARRICADES (NIGHT) AND CLOSURE MARKERS. RESTORE ALL AIRFIELD CIRCUITS.
6. RETRACT NOTAMS.
7. REPEAT STEP 1-6 FOR EACH NIGHT OF RUNWAY CLOSURE.

ITEMS OF WORK

3 — DEMOLITION, EXCAVATION, EARTHWORK, PAVEMENT CONSTRUCTION, DRAINAGE IMPROVEMENTS, SITE GRADING, ELECTRICAL IMPROVEMENTS, PAVEMENT MARKINGS, AND SITE RESTORATION.

CONTRACT TIME

CALENDAR DAYS



NOTES:

1. AT THE CONTRACTOR'S OPTION, PHASE 3 WORK MAY BE COMPLETED PRIOR TO PHASE 2.
2. CONTRACT TIME WILL BE SUSPENDED DURING 30-DAY ASPHALT PAVEMENT CURE PERIOD PRIOR TO PAVEMENT MARKING INSTALLATION.

NOTES:

1. SEE ITEM SS-100 CONSTRUCTION SAFETY AND PHASING PLAN FOR ADDITIONAL REQUIREMENTS.
2. PRIOR TO OPENING THE FULL LENGTH RUNWAY TO AIR TRAFFIC, THE CLOSED PORTION OF THE RUNWAY MUST BE SWEPT CLEAN AND CHECKED FOR FOD. GRADING STANDARDS REQUIRED BEFORE OPENING THE RUNWAY ARE AS FOLLOWS:
   - 2.1. RSA - MAXIMUM SLOPE 5% PERPENDICULAR TO RUNWAY CENTERLINE, WITH NO OBJECTS GREATER THAN 3 INCHES ABOVE GRADE, OPEN TRENCHES, OR HAZARDOUS SURFACE VARIATIONS. NO EQUIPMENT OR MATERIALS MAY BE LEFT IN THE RSA WHEN THE RUNWAY IS OPEN.
   - 2.2. OFZ/OFA - MAXIMUM POSITIVE SLOPE 4:1, NO MAXIMUM NEGATIVE SLOPE. NO EQUIPMENT OR MATERIALS MAY BE LEFT IN THE OFZ OR OFA WHEN THE RUNWAY IS OPEN.
3. SEE SHEET GC-201 FOR CONSTRUCTION SAFETY AND PHASING DETAILS.
4. ALL WORK TO CONSTRUCT THE PHASE 3 TAXIWAY TYPICAL SECTION, INCLUDING GRADING, DRAINAGE, AGGREGATE BASE COURSE, PAVING, AND ELECTRICAL SHALL BE COMPLETED DURING NIGHTTIME RUNWAY CLOSURES. RUNWAY CLOSURE WINDOW WILL BE DETERMINED BY AIRPORT PRIOR TO CLOSURE BUT TYPICALLY EXTENDS FROM SUNSET TO SUNRISE. PAVEMENT MARKINGS MAY BE INSTALLED ON A PULL-BACK BASIS AS APPROVED BY THE ENGINEER.
5. THE ASPHALT PAVING FOR PHASES 1, 2, AND 3 MAY BE PERFORMED CONCURRENTLY. PHASE 3 ASPHALT PAVING MAY BE COMPLETED ON A PULL-BACK BASIS DURING DAYTIME HOURS WITH PRIOR OWNER APPROVAL. FOR BIDDING PURPOSES, CONTRACTOR SHALL ASSUME PHASE 3 ASPHALT PAVING MUST BE COMPLETED DURING NIGHTTIME RUNWAY CLOSURES. (1)
6. CONTRACTOR SHALL PROVIDE TW CLOSURE X'S AND BARRICADES AT CONNECTOR TAXIWAY B1 IN THE EVENT PAVING IS COMPLETED PRIOR TO OPENING TW B.
7. LIGHTED BARRICADES ARE SHOWN FOR GRAPHIC PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE QUANTITY OF LIGHTED BARRICADES REQUIRED TO COMPLETE THE WORK AS SHOWN AND MUST BE IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULARS.
8. CONTRACTOR SHALL HAVE AN APPROVED PAVEMENT BROOM OR VACUUM TRUCK AVAILABLE ON SITE AT ALL TIME. HYDRANTS TO FILL VACUUM TRUCK WILL BE AVAILABLE ON AIRPORT PROPERTY.
9. IN NO EVENT SHALL CONSTRUCTION VEHICLES, EQUIPMENT, OR MATERIALS BE PARKED/STORED WITHIN 50' OF BARRICADES OR ACTIVE AIRFIELD PAVEMENT.
10. CONTRACTOR SHALL YIELD TO AIRPORT TRAFFIC AT ALL TIMES.

GARVER

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CERTIFICATE OF AUTHORIZATION — GARVER LLC No. 766 — ARKANSAS ENGINEER

STATE OF ARKANSAS — LICENSED — [redacted] — CHRISTOPHER M. [redacted]

Digitally Signed 05/24/2024

REV.	DATE	DESCRIPTION	BY
1	05/24/24	ADDENDUM NO. 01	CMM

BENTONVILLE MUNICIPAL AIRPORT
BENTONVILLE, ARKANSAS

SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)
CITY OF BENTONVILLE - LSD24-0009

CONSTRUCTION SAFETY AND PHASING PLAN 3

JOB NO.: 23A13191
DATE: MAY 2024
DESIGNED BY: CMM
DRAWN BY: VHL

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

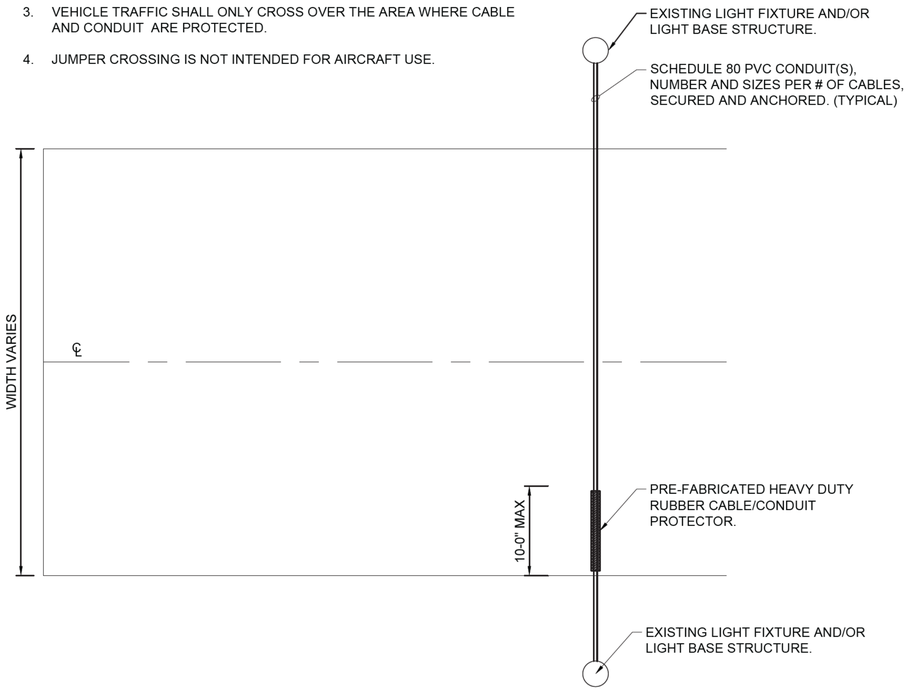
DRAWING NUMBER
GC-103

SHEET NUMBER **6**

File: L:\2023\23A13191 - VBT East Taxiway Extension DS Ph 2\Drawings\VBT_ETWP2-GC-101.dwg Last Save: 5/24/2024 5:13 PM Last saved by: CMMaestri
Last plotted by: Maestri, Christopher M. Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 5/24/2024 5:16 PM Plotter used: AutoCAD PDF (General Documentation).pc3

CROSSING PROTECTOR NOTES:

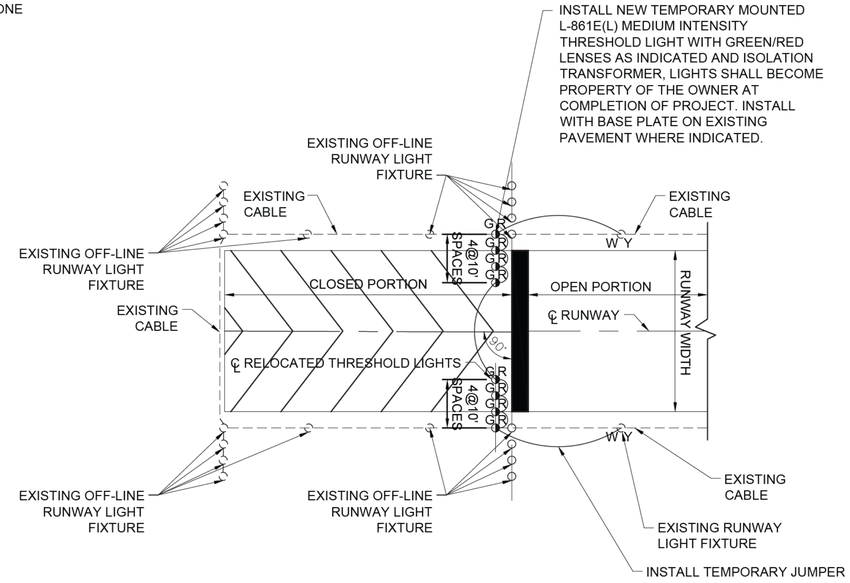
1. CABLE SHALL REMAIN IN CONDUIT FOR ENTIRE JUMPER LENGTH.
2. CONTRACTOR SHALL SUBMIT SUPPORT PROTECTOR PRODUCT DATA SHEETS.
3. VEHICLE TRAFFIC SHALL ONLY CROSS OVER THE AREA WHERE CABLE AND CONDUIT ARE PROTECTED.
4. JUMPER CROSSING IS NOT INTENDED FOR AIRCRAFT USE.



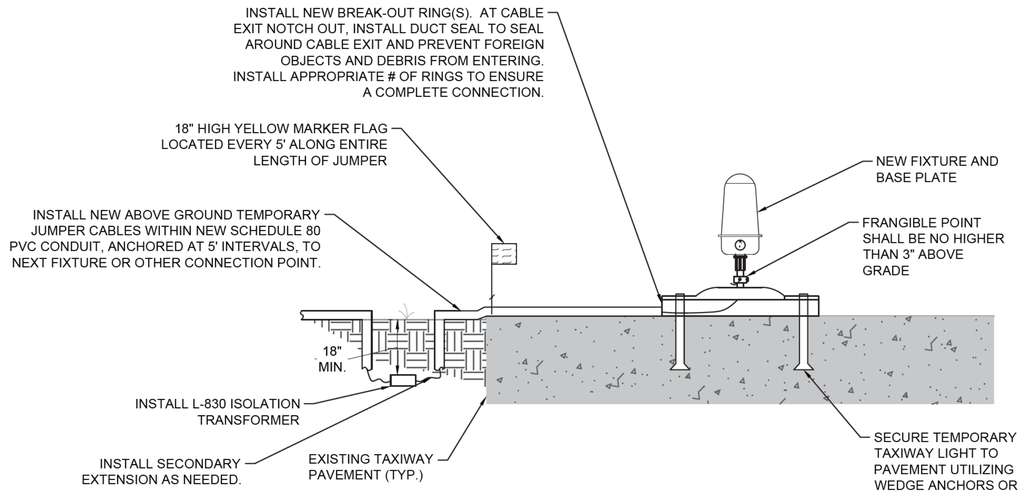
1 GC-203 TYPICAL PAVEMENT JUMPER CROSSING FOR TEMPORARY AIRFIELD LIGHTING
SCALE: NONE

TEMPORARY DISPLACED THRESHOLD NOTES:

1. DISCONNECT CABLES AND CONNECT TEMPORARY AT EXISTING FIXTURES AS DIRECTED BY THE ENGINEER. DISCONNECT TRANSFORMERS IN FIXTURES BETWEEN NORMAL THRESHOLD AND RELOCATED THRESHOLD. CHECK REGULATOR LOADING TO ENSURE PROPER OPERATION. PROTECT ALL CABLE ENDS.
2. TEMPORARY ELECTRICAL BYPASS CIRCUIT MAY BE REQUIRED DURING MODIFICATIONS TO RUNWAY CIRCUIT AT TAXIWAY/RUNWAY INTERSECTIONS.
3. RECONFIGURE CAUTION ZONE AND MOVE LIGHTS WITH WHITE/AMBER LENSES TO INDICATE LAST 2,000 FEET OR ONE-HALF THE AVAILABLE RUNWAY LENGTH, WHICHEVER IS LESS. RESTORE WHEN WORK IS COMPLETED.
4. NOTE REMOVED VIA ADDENDUM NO. 01 (1)
5. CONTRACTOR SHALL MAINTAIN THE DISPLACED THRESHOLD IN ACCEPTABLE CONDITIONS AT ALL TIMES.
6. COORDINATE PLACING PAPIS, ILS, AND OTHER NAVIGATIONAL AIDS OFF-LINE DURING PHASES OF WORK WITH TEMPORARY RELOCATED THRESHOLD.
7. ALL NEW FIXTURES AND/OR LENSES TO UPDATE THE RELOCATED THRESHOLD AND CAUTION ZONE EDGE LIGHTING AREAS SHALL BE PAID FOR BY TEMPORARY AIRFIELD LIGHTING.



2 GC-203 TEMPORARY DISPLACED THRESHOLD
SCALE: NONE



TEMPORARY EDGE LIGHT INSTALLATION ON EXISTING PAVEMENT
3 GC-203
SCALE: NONE

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THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

GARVER LLC No. 766 CERTIFICATE OF AUTHORIZATION ARKANSAS–ENGINEER

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER QUINTON D. SMITH

Digitally Signed 05/24/2024

REV	DATE	DESCRIPTION	BY
1	05/24/24	ADDENDUM NO. 01	CMM

BENTONVILLE MUNICIPAL AIRPORT
BENTONVILLE, ARKANSAS

SOUTHEAST TAXIWAY B EXTENSION (PHASE 2)
CITY OF BENTONVILLE - LSD24-0009

TEMPORARY AIRFIELD LIGHTING DETAILS 2

JOB NO.: 23A13191
DATE: MAY 2024
DESIGNED BY: QDS
DRAWN BY: TDP

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING NUMBER
GC-203

SHEET NUMBER **9**

File: L:\2023\23A13191 - VBT East Taxiway Extension DS Ph 2\Drawings\VBT_ETWP2-GC-401.dwg Last Save: 5/24/2024 5:14 PM Last saved by: CMMaestri
Last plotted by: Maestri, Christopher M. Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 5/24/2024 5:16 PM Plotter used: AutoCAD PDF (General Documentation).pc3

GARVER

RESOLUTION NO. _____

A RESOLUTION AWARDING IFB-24-24 TO APAC-CENTRAL, INC., FOR THE VBT SOUTHEAST TAXIWAY B EXTENSION (PHASE 2), IN THE AMOUNT OF ONE MILLION TWO HUNDRED EIGHTEEN THOUSAND THREE HUNDRED NINETY-FIVE DOLLARS ($1,218,395.00); ADJUSTING THE 2024 BUDGET; AND FOR OTHER PURPOSES.

WHEREAS, APAC-Central Inc. was the sole bidder for this project (IFB-24-24);

WHEREAS, this contract will be funded through FAA grant funds that were approved at the September 10, 2024 City Council meeting; and

WHEREAS, a budget adjustment will be needed to reflect the grant funds and City match of ten percent (10%).

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are hereby authorized to enter into an agreement with APAC-Central, Inc., for the VBT Southeast Taxiway B Extension (Phase 2), in the amount of one million two hundred eighteen thousand three hundred ninety-five dollars ($1,218,395.00);

Section 2: The 2024 Budget is hereby adjusted to recognize FAA grant funds in the amount of one million two hundred fifty-five thousand three hundred fourteen dollars ($1,255,314.00) into Account #101650-33110 – Federal Direct Grant and appropriate the same to Account #101650-47390 – Improvements Other than Building/Other;

Section 3: The 2024 Budget is further adjusted to appropriate one hundred thirty-four thousand four hundred eighty-one dollars ($134,481.00), the City's matching portion, from General Fund into Account #101650-47390 – Improvements Other than Building/Other;

Section 4 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 5 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, Mayor

ATTEST:

_____
MALORIE MARRS, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Dennis Birge
Phone:	479-271-5964	**For Department(s):**	Transportation - Airport
Email:	dbirge@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause

☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution Approving Work Order 5 for the VBT Southeast Taxiway B Extension (Phase 2)
Action Recommendation & Justification:	Resolution to enter into an agreement (Work Order 05) with Garver Engineers in the amount of $171,400.00 for the VBT Southeast Taxiway B Extension (Phase 2) project. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	This is being funded by the budget adjustment on the preceding item.
Amount for Approval:	$ 171,400.00

Budget Impact

Is this Item Budgeted? ☐ YES ☐ NO ☐ ITEM HAS NO COST ☑ OTHER: _____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s): _____

Budget Impact Notes for Consideration (Optional):

WORK ORDER NO. 05
CITY OF BENTONVILLE
EAST TAXIWAY EXTENSION PHASE 2
CONSTRUCTION PHASE SERVICES
Garver Project No. 2401153

This WORK ORDER ("Work Order") is made by and between the **City of Bentonville** (hereinafter referred to as "**Owner**") and **Garver, LLC**, (hereinafter referred to as "**Garver**" or "**Engineer**") in accordance with the provisions of the MASTER AGREEMENT FOR PROFESSIONAL SERVICES executed on October 14, 2021 (the "Agreement").

Under this Work Order, the Owner intends to make the following improvements at Bentonville Municipal Airport (VBT):

> Improvements to the East Taxiway (Taxiway B), including approximately 600 linear feet of new parallel taxiway to the Runway 36 end, including signage, on the east side of the airfield as shown in Exhibit C-05.

Garver will provide professional services related to these improvements as described herein. Terms not defined herein shall have the meaning assigned to them in the Agreement.

SECTION 1 - SCOPE OF SERVICES

1.1 Garver shall provide the following Services:
- 1.1.1 See Exhibit A-05, attached.

1.2 In addition to those obligations set forth in the Agreement, Owner shall:
- 1.2.1 Give thorough consideration to all documents and other information presented by Garver and informing Garver of all decisions within a reasonable time so as not to delay the Services.
- 1.2.2 Make provision for the Personnel of Garver to enter public and private lands as required for Garver to perform necessary preliminary surveys and other investigations required under the applicable Work Order.
- 1.2.3 Obtain the necessary lands, easements and right-of-way for the construction of the work. All costs associated with securing the necessary land interests, including property acquisition and/or easement document preparation, surveys, appraisals, and abstract work, shall be borne by the Owner outside of this Agreement, except as otherwise described in the Services under Section 1.1.
- 1.2.4 Furnish Garver such plans and records of construction and operation of existing facilities, available aerial photography, reports, surveys, or copies of the same, related to or bearing on the proposed work as may be in the possession of Owner. Such documents or data will be returned upon completion of the Services or at the request of Owner.
- 1.2.5 Furnish Garver a current boundary survey with easements of record plotted for the project property.
- 1.2.6 Pay all plan review and advertising costs in connection with the project.
- 1.2.7 Provide legal, accounting, and insurance counseling services necessary for the project and such auditing services as Owner may require.
- 1.2.8 Furnish permits, permit fees, and approvals from all governmental authorities having jurisdiction over the project and others as may be necessary for completion of the project.

SECTION 2 – PAYMENT

For the Services set forth above, Owner will pay Garver on a lump sum or cost-plus fixed fee basis as shown in the following table. The Owner represents that funding sources are in place with the available funds necessary to pay Garver.

The table below presents a summary of the fee amounts and fee types for this Work Order.

WORK DESCRIPTION	FEE AMOUNT	FEE TYPE
Construction Administration Services	$50,900.00	LUMP SUM
On-Site Resident Project Representative Services	$90,600.00	COST+FF
Materials Testing Services	$22,500.00	COST+FF
Project Closeout Services	$7,400.00	LUMP SUM
TOTAL FEE	**$171,400.00**	

The lump sum amount to be paid under this Work Order is **$58,300.00**. For informational purposes, a breakdown of Garver's estimated costs is included herein with approximate current hourly rates for each employee classification.

For cost plus fixed fee services, the Owner will pay Garver at the unburdened hourly payroll rate of each of Garver's personnel during the performance of these Services, plus payroll and general overhead costs of 191.01% of the unburdened hourly rate, plus direct reimbursable expenses normal and necessary for the completion of the Services, plus a fixed fee. Estimated cost of these Services, including the fixed fee is **$113,100.00** The actual total fee may not exceed this estimate without prior written approval from the Owner. For informational purposes, a breakdown of Garver's estimated costs is included herein with approximate current hourly rates for each employee classification. Notwithstanding the foregoing, Garver shall be entitled, in its sole discretion, to substitute a more qualified person (e.g., C-4) with a less qualified person (e.g., C-1); provided however, in such event Garver shall only be entitled to payment at the lesser rate.

Expenses other than salary costs that are directly attributable to performance of our Services will be billed as follows:

1. Direct cost for travel, long distance and wireless communications, outside reproduction and presentation material preparation, and mail/courier expenses.
2. Charges similar to commercial rates for reports, plan sheets, presentation materials, etc.
3. The amount allowed by the federal government for mileage with an additional $0.05 for survey trucks/vans.

Additional Services (Extra Work). For services not described or included in Section 1, but requested by the Owner in writing, the Owner will pay Garver as expressly set forth in the applicable Amendment.

SECTION 3 – EXHIBITS

3.1 The following Exhibits are attached to and made a part of this Work Order:
- 3.1.1 Exhibit A-05 – Scope of Services
- 3.1.2 Exhibit B-05 – Manhour Tables
- 3.1.1 Exhibit C-05 – Project Exhibit

This Work Order may be executed in two (2) or more counterparts each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Approval and acceptance of this Work Order, including attachments listed in SECTION 3 – Exhibits, shall incorporate this document as part of the Agreement. Garver is authorized to begin performance upon receipt of a copy of this Work Order signed by the Owner. The effective date of this Work Order shall be the last date written below.

CITY OF BENTONVILLE	GARVER, LLC
By: _____ *Signature*	By: [redacted] *Signature*
Name: _____ *Printed Name*	Name: Blake Roberson, P.E. *Printed Name*
Title: _____	Title: Vice President
Date: _____	Attest: [redacted]
Attest: _____	

EXHIBIT A-05
(SCOPE OF SERVICES)

Generally, the Scope of Services includes the following professional services for improvements to the East Taxiway (Taxiway B) at Bentonville Municipal Airport. Improvements will consist primarily of approximately 600 linear feet of new parallel taxiway to the Runway 36 end, including signage, on the east side of the airfield as shown in Exhibit C-05. More specifically, this Scope of Services includes the following professional engineering services:

- Construction Administration Services
- On-Site Resident Project Representative Services
- Materials Testing Services
- Project Closeout Services

1. CONSTRUCTION ADMINISTRATION SERVICES

1.1. During the construction phase of work, Garver will accomplish the tasks below.

1.2. Issued for Construction (IFC) Documents

1.2.1. Garver will compile bid addendums and any other necessary plan changes due to post-bid project updates and/or funding changes into a final Issued for Construction (IFC) set of plans and specifications.

1.3. Construction Management Plan

1.3.1. Garver will prepare a "Construction Management Plan" to be submitted to the Federal Aviation Administration (FAA) for approval. At a minimum, the plan shall list key construction personnel, qualifications of construction management personnel, and materials quality assurance information. The plan will be reviewed by the FAA project manager and must be approved along with the final plans and specifications for construction.

1.4. Submittals

1.4.1. Garver will evaluate and respond to construction material submittals and shop drawings. Corrections or comments made by Garver on the shop drawings during this review will not relieve Contractor from compliance with requirements of the drawings and specifications. The check will be for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor will be responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating his work with that of all other trades, and performing his work in a safe and satisfactory manner. Garver's review shall not constitute approval of safety precautions or constitute approval of construction means, methods, techniques, sequences, procedures, or assembly of various components. When certification of performance characteristics of materials, systems or equipment is required by the Contract Documents, either directly or implied for a complete and workable system, Garver shall be entitled to rely upon such submittal or implied certification to establish that the materials, systems or equipment will meet the performance criteria required by the Contract Documents.

1.5. Notice to Proceed & Preconstruction Meeting

1.5.1. Garver will issue a Notice to Proceed letter to the Contractor and attend preconstruction meeting. Garver will provide meeting minutes for submission to all parties at the conclusion of the meeting.

1.6. Progress Meetings

1.6.1. As a minimum, Garver's Project Manager, Project Engineer, and Resident Project Representative (RPR) will attend weekly progress meetings with the Owner and Contractor. It is expected that 13 meetings will be held on-site. To the extent possible, progress meetings and visits to the site of the work should be scheduled to coincide with each new phase of construction, scheduled FAA inspections, and other times when Garver's presence is desirable. Garver's project engineer or his qualified representative will be available at all times work is in progress for telephone contact by the RPR. Garver's project engineer shall direct, supervise, advise, and counsel the Resident Project Representative and construction observation personnel in the accomplishment of Garver's duties. Garver will prepare for and attend any utility pre-construction meetings as required.

1.7. Owner Coordination

1.7.1. Garver will consult with and advise the Owner during the construction period. Garver will submit, when requested by the Owner, written reports to the Owner on the progress of the construction including any problem areas that have developed or are anticipated to develop. In addition, Garver shall supply to Owner such periodic reports and information as may be required by the FAA, including FAA Form 5370-1, Construction Progress and Inspection Report, or equivalent form to the Owner on a weekly basis.

1.8. RFIs

1.8.1. Garver will issue instructions to the Contractor on behalf of the Owner and issue necessary clarifications (respond to RFIs) regarding the construction contract documents.

1.9. Progress Payments

1.9.1. Garver will prepare Contractor's progress payment requests based on the actual quantities of contract items completed and accepted and will make a recommendation to the Owner regarding payment. Garver's recommendation for payment shall not be a representation that Garver has made exhaustive or continuous inspections to (1) check the quality or exact quantities of the Work; (2) to review billings from Subcontractors and material suppliers to substantiate the Contractor's right to payment; or (3) to ascertain how the Contractor has used money previously paid to the Contractor.

1.10. Payroll Reviews

1.10.1. Garver will assist the Owner in the observation of the Contractor's operations for proper classification of workers, review of the Contractor's payroll as necessary to determine compliance with Davis Bacon requirements, and conduct contractor employee interviews to determine compliance with Davis Bacon requirements. Garver will keep the Contractor's payroll records on file demonstrating compliance with the Davis Bacon requirements. In addition, Garver will monitor the contractor's posting of the required EEO

notice and provide general oversight of any obvious instance of a segregated workplace. Garver will submit Contractor's certified payroll records to Owner at the completion of the project.

1.11. DBE Compliance

1.11.1. Garver will assist the Owner in the review of the Contractor's compliance with the DBE goals established during bidding including preparing the monthly DBE payment log.

1.12. Record Drawings

1.12.1. Garver will maintain a set of working drawings and provide information for preparation of record drawings of the completed project. This information will be incorporated into final record drawings completed as part of Project Closeout Services and final record drawings will be provided to the Owner after project completion.

1.13. Change Orders

1.13.1. When authorized by the Owner, Garver will prepare change orders or supplemental agreements for changes in the work from that originally provided for in the construction contract documents. If redesign or substantial engineering or surveying is required in the preparation of these change order documents, the Owner will pay Garver an additional fee to be agreed upon by the Owner and Garver.

1.14. Final Inspection

1.14.1. Garver will participate in a pre-final walkthrough with the Owner. Garver will also participate in a final project inspection with the Owner and Contractor, prepare a punch list, review final project closeout documents, and submit the final pay request.

2. ON-SITE RESIDENT PROJECT REPRESENTATIVE SERVICES

2.1. Garver will provide full-time Resident Project Representative (RPR) services for the 90-calendar-day construction contract performance time. The proposed fee is based on approximately 40 hours per week during the construction contract performance time for the RPR, plus an additional one (1) weeks for weather and other delays beyond the Contractor's control. If the construction time extends beyond the time established in this agreement or if the Owner wishes to increase the time or frequency of the observation, the Owner will pay Garver an additional fee agreed to by the Owner and Garver. All RPR personnel shall have the appropriate experience and qualifications. Garver will provide additional observation services for post-construction City inspections and punch list reviews (approximately 20 hours).

2.2. During the construction period, Garver's RPR will provide or accomplish the following:

- Consult with and advise the Owner during the construction period. Garver will submit, when requested by the Owner, written reports to the Owner on the progress of the construction including any problem areas that have developed or are anticipated to develop. In addition, Garver shall supply to the Owner such periodic reports and information as may be required by the FAA
- As necessary, conduct safety meetings with the Contractor.
- Coordinate with the firm providing construction materials quality assurance testing. Coordinate with this firm to ensure that all material tests required for construction are

scheduled and accomplished in a manner that will not delay the Contractor unnecessarily and will meet specification requirements as to location and frequency.

- Perform intermediate inspections in advance of the final inspection.
- Maintain a file of quantities incorporated into the work, test reports, certifications, shop drawings and submittals, and other appropriate information.
- In accordance with FAA AC 150/5370-12A, maintain a project diary which will contain information pertinent to each site visit.
- Administer the “Construction Management Plan” prepared by Garver.
- Monitor the contractor’s conformance to the approved construction safety and phasing plan.
- Prepare a Construction Materials Quality Control Summary. At a minimum, the summary shall include a list of all tests performed showing the date, location, pass or fail, results of retests, and whether the test is eligible or ineligible under the A.I.P. program. The Summary will include a certification that all testing was completed in accordance with the "Construction Management Plan."
- Provide up to 12 hours of survey crew time for field checking quantities, contractor’s layout, etc.

2.3. In performing construction observation services, Garver will endeavor to protect the Owner against defects and deficiencies in the work of the Contractor(s); but Garver does not guarantee the performance of the Contractor(s), nor is Garver responsible for the actual supervision of construction operations. Garver does not guarantee the performance of the contracts by the Contractors nor assume any duty to supervise safety procedures followed by any Contractor or subcontractor or their respective employees or by any other person at the job site. However, if at any time during construction Garver observes that the Contractor’s work does not comply with the construction contract documents, Garver will notify the Contractor of such non-compliance and instruct him to correct the deficiency and/or stop work, as appropriate for the situation. Garver will also record the observance, the discussion, and the actions taken. If the Contractor continues without satisfactory corrective action, Garver will notify the Owner immediately, so that appropriate action under the Owner’s contract with the Contractor can be taken.

3. MATERIALS TESTING SERVICES

3.1. Through a Subconsultant, Garver shall provide the quality assurance testing for the project as required by the Plans and Specifications in accordance with FAA and the Owner’s requirements.

4. PROJECT CLOSEOUT SERVICES

4.1. At the conclusion of construction, Garver will assist the Owner with project closeout by providing a final project report which will include all necessary documents required for FAA grant closeout. Closeout documentation will be provided within 90 days of the final payment to the Contractor. Garver will also update the airport’s ALD to show the completed project as “existing” and coordinate the submission of the updated ALD through OE/AAA.

5. PROJECT DELIVERABLES

5.1. The following deliverables will be submitted to the parties identified below. Unless otherwise noted below, all deliverables shall be electronic.

- Issued for Construction Plans and Specifications to the Owner, Contractor, and FAA.

- Three hard copies to the Contractor
- One copy to the FAA

- Construction Management Plan to the Owner and FAA
- Reviewed submittals to the Contractor.
- Record Plans and Specifications to the Owner and FAA.
  - One hard copy to the Owner.
- Other electronic files as requested.

6. ADDITIONAL SERVICES

6.1. The following items are not included under this agreement but will be considered as additional services to be added under Amendment if requested by the Owner.

- Redesign for the Owner's convenience or due to changed conditions after previous alternate direction and/or approval.
- Deliverables beyond those listed herein.
- Design of any utility relocation.
- Engineering, architectural, or other professional services beyond those listed herein.
- Retaining walls or other significant structural design.
- Environmental Handling and Documentation, including wetlands identification or mitigation plans or other work related to environmentally or historically (culturally) significant items.
- Coordination with FEMA and preparation/submittal of a CLOMR and/or LOMR.
- Services after construction, such as warranty follow-up, operations support, and Part 139 inspection support.

7. SCHEDULE

7.1. Garver shall begin work under this Agreement upon execution of this Agreement and shall complete the work within a mutually agreeable schedule with the Owner.

Exhibit B-05

City of Bentonville
East Taxiway Extension (Phase 2) CPS

Construction Administration

WORK TASK DESCRIPTION	E-4	E-3	E-2	E-1	T-1	C-1	2-Man Crew (Survey)
	hr	hr	hr	hr	hr	hr	hr
1. Civil Engineering							
Prepare IFC Plans and Specs and submit to Contractor, Owner, and FAA		1		2	4		
Prepare and Distribute Notice To Proceed		1		2			
Prepare for Preconstruction Meeting		1		4			
Develop Construction Management Plan		2		2	8		
Attend Preconstruction Meeting (2 people, on-site)		2		2			
Prepare and Distribute Preconstruction meeting minutes				2			
Prepare Contractor Pay Application (4 applications)		4		12			
Coordination with Inspector (4 hr/Week)		10		42			
Develop Submittal Log		1		2	4		
Prepare Change Orders		2		4			
Response to Contractor and RPR Inquiries		4		12			
Certified Payroll Reviews				2	8		
DBE Compliance		1		2	4		
Prepare for and Attend (On-Site) Progress Meetings (2 people, 13 meetings)		26		13			
Site Visits (2 people, 4 trips)				8			
Shop Drawings/Submittal Review & Responses		2		4	16		
Final Inspection and Punchlist		2		2	4		
Punchlist Coordination		1		4			
Final Walkthrough		2		2	4		
Develop and Distribute Record Documents		2		2	4		
Subtotal - Civil Engineering	**0**	**64**	**0**	**125**	**56**	**0**	**0**

Exhibit B-05

City of Bentonville
East Taxiway Extension (Phase 2) CPS

Construction Administration

WORK TASK DESCRIPTION	E-4	E-3	E-2	E-1	T-1	C-1	2-Man Crew (Survey)
	hr	hr	hr	hr	hr	hr	hr
2. Electrical Engineering							
Prepare IFC Plans and Specs and submit to Contractor, Owner, and FAA			2	2			
Construction Management Plan			1				
Attend Preconstruction Meeting (1 person, on-site)			2				
Submittal Log			1	2			
Change Orders			2				
Response to Contractor and RPR Inquiries			2	4			
Site Visits (1 person, 2 trips)			4				
Shop Drawings/Submittal Review & Responses			2	4	6		
Final Inspection and Punchlist			2	2			
Punchlist Coordination			1	2			
Final Walkthrough			2	2			
Develop Record Documents			1	2	4		
Coordinate Spare Parts and O&M Manuals			1	2			
Subtotal - Electrical Engineering	**0**	**0**	**23**	**22**	**10**	**0**	**0**
Hours	**0**	**64**	**23**	**147**	**66**	**0**	**0**

SUBTOTAL - SALARIES:	**$15,112.21**
LABOR AND GENERAL ADMINISTRATIVE OVERHEAD:	**$28,865.83**
DIRECT NON-LABOR EXPENSES	
Document Printing/Reproduction/Assembly	$75.25
Postage/Freight/Courier	$50.00
Travel Costs (25 trips @ 12 miles/trip)	$200.00
SUBTOTAL - DIRECT NON-LABOR EXPENSES:	**$325.25**
SUBTOTAL:	**$44,303.29**
SUBCONSULTANTS FEE:	**$0.00**
PROFESSIONAL FEE	**$6,596.71**
TOTAL FEE:	**$50,900.00**

Exhibit B-05

City of Bentonville
East Taxiway Extension (Phase 2) CPS

On-Site Resident Project Representative Services

WORK TASK DESCRIPTION	E-4	E-3	E-2	E-1	T-1	C-1	2-Man Crew (Survey)
	hr	hr	hr	hr	hr	hr	hr
1. Civil Engineering							
Review IFC Plans and Specifications						16	
Attend Preconstruction Meeting (1 person, on-site)						2	
Review Construction Management Plan						8	
Resident Project Representative Services (14 weeks @ 40 hr/Week)						560	
QA Construction Staking / Survey Verification							12
City Inspections and Punchlist Coordination						20	
Subtotal - Civil Engineering	**0**	**0**	**0**	**0**	**0**	**606**	**12**
Hours	**0**	**0**	**0**	**0**	**0**	**606**	**12**

SUBTOTAL - SALARIES:	**$26,866.08**
LABOR AND GENERAL ADMINISTRATIVE OVERHEAD:	**$51,316.90**
DIRECT NON-LABOR EXPENSES	
Document Printing/Reproduction/Assembly	$69.57
Postage/Freight/Courier	$50.00
Travel Costs (72 trips @ 12 miles/trip)	$570.00
SUBTOTAL - DIRECT NON-LABOR EXPENSES:	**$689.57**
SUBTOTAL:	**$78,872.55**
SUBCONSULTANTS FEE:	**$0.00**
PROFESSIONAL FEE	**$11,727.45**
TOTAL FEE:	**$90,600.00**

Exhibit B-05

City of Bentonville
East Taxiway Extension (Phase 2) CPS

Materials Testing Services

WORK TASK DESCRIPTION	E-4	E-3	E-2	E-1	T-1	C-1	2-Man Crew (Survey)
	hr	hr	hr	hr	hr	hr	hr
1. Civil Engineering							
Coordination with Materials testing Firm		4		8			
Review Test Results		4		8			
Subtotal - Civil Engineering	**0**	**8**	**0**	**16**	**0**	**0**	**0**
Hours	**0**	**8**	**0**	**16**	**0**	**0**	**0**

SUBTOTAL - SALARIES:	**$1,317.84**
LABOR AND GENERAL ADMINISTRATIVE OVERHEAD:	**$2,517.21**
DIRECT NON-LABOR EXPENSES	
Document Printing/Reproduction/Assembly	$39.70
Postage/Freight/Courier	$50.00
Travel Costs	$0.00
SUBTOTAL - DIRECT NON-LABOR EXPENSES:	**$89.70**
SUBTOTAL:	**$3,924.75**
SUBCONSULTANTS FEE (GHBW):	**$18,000.00**
PROFESSIONAL FEE	**$575.26**
TOTAL FEE:	**$22,500.00**

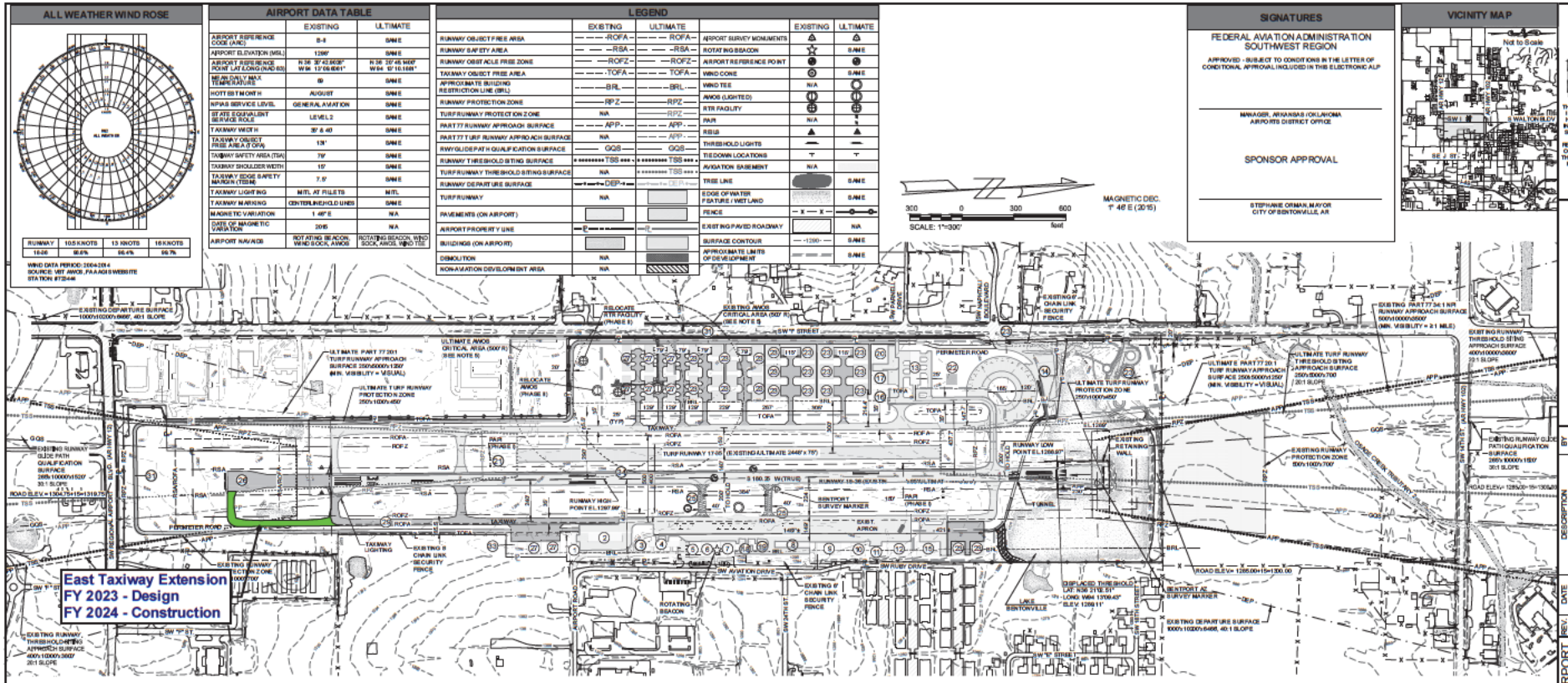
Exhibit B-05

City of Bentonville
East Taxiway Extension (Phase 2) CPS

Project Closeout Services

WORK TASK DESCRIPTION	E-4	E-3	E-2	E-1	T-1	C-1	2-Man Crew (Survey)
	hr	hr	hr	hr	hr	hr	hr
1. Civil Engineering							
Review and Submit Final Construction Pay Application		1		2			
Prepare and Submit Final Reconciliation Change Order		1		2			
Assemble and Review Summary of Project Costs		1		2			
ALD Drafting		1		2	4		
ALD Upload to OEAAA				2			
Draft Final Construction Report and Submit to FAA, State, Owner		2		8			
FAA Closeout Documents		2		8			
Subtotal - Civil Engineering	**0**	**8**	**0**	**26**	**4**	**0**	**0**
2. Electrical Engineering							
Draft Final Construction Report and Submit to FAA, State, Owner		2		2			
Subtotal - Electrical Engineering	**0**	**2**	**0**	**2**	**0**	**0**	**0**
Hours	**0**	**10**	**0**	**28**	**4**	**0**	**0**

SUBTOTAL - SALARIES:	**$2,186.46**
LABOR AND GENERAL ADMINISTRATIVE OVERHEAD:	**$4,176.36**
DIRECT NON-LABOR EXPENSES	
Document Printing/Reproduction/Assembly	$32.76
Postage/Freight/Courier	$50.00
Office Supplies/Equipment	$0.00
Travel Costs	$0.00
SUBTOTAL - DIRECT NON-LABOR EXPENSES:	**$82.76**
SUBTOTAL:	**$6,445.58**
SUBCONSULTANTS FEE:	**$0.00**
PROFESSIONAL FEE	**$954.42**
TOTAL FEE:	**$7,400.00**



ALL WEATHER WIND ROSE

RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
18-36	95.6%	95.4%	95.7%

WIND DATA PERIOD: 2004-2014
SOURCE: ASOS, FAA AGIS WEBSITE
STATION: BTN-ha

AIRPORT DATA TABLE

	EXISTING	ULTIMATE
AIRPORT REFERENCE CODE (ARC)	B-II	SAME
AIRPORT ELEVATION (MSL)	1286'	SAME
AIRPORT REFERENCE POINT LAT LONG (NAD 83)	N 36° 20' 42.9528" W 94° 13' 59.6561"	N 36° 20' 48.1600" W 94° 13' 10.1881"
MEAN DAILY MAX TEMPERATURE	89	SAME
HOTTEST MONTH	AUGUST	SAME
NPIAS SERVICE LEVEL	GENERAL AVIATION	SAME
STATE EQUIVALENT SERVICE ROLE	LEVEL 2	SAME
TAXIWAY WIDTH	35' & 40'	SAME
TAXIWAY OBJECT FREE AREA (TOFA)	131'	SAME
TAXIWAY SAFETY AREA (TSA)	79'	SAME
TAXIWAY SHOULDER WIDTH	15'	SAME
TAXIWAY EDGE SAFETY MARGIN (TESM)	7.5'	SAME
TAXIWAY LIGHTING	MITL AT FILLETS	MITL
TAXIWAY MARKING	CENTERLINE/HOLD LINES	SAME
MAGNETIC VARIATION	1° 46' E	N/A
DATE OF MAGNETIC VARIATION	2015	N/A
AIRPORT NAVAIDS	ROTATING BEACON, WIND SOCK, AWOS	ROTATING BEACON, WIND SOCK, AWOS, WIND TEE

LEGEND

	EXISTING	ULTIMATE
RUNWAY OBJECT FREE AREA	ROFA	ROFA
RUNWAY SAFETY AREA	RSA	RSA
RUNWAY OBSTACLE FREE ZONE	ROFZ	ROFZ
TAXIWAY OBJECT FREE AREA	TOFA	TOFA
APPROACH/DEPARTURE BUILDING RESTRICTION LINE (BRL)	BRL	BRL
RUNWAY PROTECTION ZONE	RPZ	RPZ
TURF RUNWAY PROTECTION ZONE	N/A	RPZ
PART 77 RUNWAY APPROACH SURFACE	APP	APP
PART 77 TURF RUNWAY APPROACH SURFACE	N/A	APP
RWY GLIDEPATH QUALIFICATION SURFACE	GQS	GQS
RUNWAY THRESHOLD SITING SURFACE	TSS	TSS
TURF RUNWAY THRESHOLD SITING SURFACE	N/A	TSS
RUNWAY DEPARTURE SURFACE	DEP	DEP
TURF RUNWAY	N/A	
PAVEMENTS (ON AIRPORT)		
AIRPORT PROPERTY LINE		
BUILDINGS (ON AIRPORT)		
DEMOLITION	N/A	
NON-AVIATION DEVELOPMENT AREA	N/A	

	EXISTING	ULTIMATE
AIRPORT SURVEY MONUMENTS		
ROTATING BEACON		SAME
AIRPORT REFERENCE POINT		
WIND CONE		SAME
WIND TEE	N/A	
AWOS (LIGHTED)		
RTR FACILITY		
PAPI	N/A	
RSMS		
THRESHOLD LIGHTS		
TIEDOWN LOCATIONS		
AVIGATION EASEMENT	N/A	
TREE LINE		SAME
EDGE OF WATER FEATURE / WETLAND		SAME
FENCE		
EXISTING PAVED ROADWAY		N/A
SURFACE CONTOUR	1280	SAME
APPROXIMATE LIMITS OF DEVELOPMENT		SAME

SCALE: 1"=300'

MAGNETIC DEC. 1° 46' E (2015)

SIGNATURES

FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGION

APPROVED - SUBJECT TO CONDITIONS IN THE LETTER OF CONDITIONAL APPROVAL INCLUDED IN THIS ELECTRONIC ALP

MANAGER, ARKANSAS / OKLAHOMA AIRPORTS DISTRICT OFFICE

SPONSOR APPROVAL

STEPHANIE ORMAN, MAYOR
CITY OF BENTONVILLE, AR

VICINITY MAP

Not to Scale

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RUNWAY 18-36 (PAVED) DECLARED DISTANCES

	RUNWAY 18		RUNWAY 36	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE
TAKEOFF RUN AVAILABLE (TORA)	6453'	SAME	6453'	6799'
TAKEOFF DISTANCE AVAILABLE (TODA)	6453'	SAME	6453'	6799'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	6453'	5053'	4199'	4799'
LANDING DISTANCE AVAILABLE (LDA)	4199'	4799'	4199'	SAME

NOTES

1. FAR/S APPROVAL OF THIS AIRPORT LAYOUT PLAN (ALP) REPRESENTS ACCEPTANCE OF THE GENERAL LOCATION OF THE FUTURE FACILITIES DEPICTED. DURING THE PRELIMINARY DESIGN PHASE, THE AIRPORT OWNER IS REQUIRED TO SUBMIT FOR APPROVAL THE FINAL LOCATIONS, HEIGHTS AND EXTERIOR FINISHES OF STRUCTURES. FAR/S CONCERNS ARE OBSTRUCTIONS, IMPACT ON ELECTRONIC AIDS AND ADVERSE EFFECT ON CONTROLLER VIEW OF AIRCRAFT APPROACHES AND GROUND MOVEMENTS, WHICH COULD ADVERSELY AFFECT THE SAFETY, EFFICIENCY OR UTILITY OF THE AIRPORT.
2. ALL LATITUDE AND LONGITUDE COORDINATES ARE NORTH AMERICAN DATUM OF 1983 (NAD 83).
3. ALL ELEVATIONS ARE IN ACCORDANCE WITH NATIONAL MAP ACCURACY STANDARDS. GROUND SURVEYS ARE RECOMMENDED TO VERIFY ACCURACY. ALL ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL (NAVD 88). NO SURVEYS WERE OBTAINED FOR THIS UPDATE.
4. FOR CLARITY, THE RSA, ROFZ & ROFA NOTED ON THE DRAWING FOR RUNWAY 18-36 (PAVED) ARE BASED ON EXISTING RUNWAY CENTERLINE, NOT THE ULTIMATE CENTERLINE SHIFTED FIVE FEET WEST. THE FUTURE TURF RUNWAY RSA, ROFZ & ROFA ARE NOT SHOWN FOR CLARITY.
5. ADDITIONAL DEVELOPMENT RESTRICTIONS APPLY WITHIN 500' OF THE AWOS STRUCTURE TO PRESERVE THE PERFORMANCE OF THE VARIOUS WEATHER SENSORS. THESE RESTRICTIONS INCLUDE LIMITING OF STRUCTURES/BUILDING HEIGHTS RELATIVE TO THE ANEMOMETER HEIGHT AND VISIBILITY SENSOR. REFER TO FAA ORDER 6560-20B *SITING CRITERIA FOR AUTOMATED WEATHER OBSERVING SYSTEMS* (AWOS) FOR SPECIFICS.
6. THE POSITION OF THE BRL IS APPROXIMATE ONLY AND BASED ON A 35' BUILDING HEIGHT. ACTUAL BUILDING PLACEMENT AND HEIGHTS SHALL BE DICTATED BY PART 77 SURFACES, TOFAS, AND NAVAID CRITICAL AREAS.
7. LAYOUT OF ULTIMATE HANGARS IS CONCEPTUAL AND MAY CHANGE PENDING TENANT NEEDS AND FINAL DESIGN.
8. TREE PENETRATIONS EXISTING IN THE EXIST. RUNWAY 18 TSS. SEE SHEET 5.
   POWER POLE PENETRATIONS EXIST IN THE ULTIMATE RUNWAY 36 TSS. SEE SHEET 7.
9. CITY OF BENTONVILLE ZONING ORDINANCES
   A. POLICY PF-09: THE CITY SHALL PROTECT THE FUNCTION OF THE MUNICIPAL AIRPORT BY LIMITING RESIDENTIAL ENCROACHMENT INTO APPROACH ZONES.
   B. POLICY PF-40: THE CITY SHALL REGULATE LAND USES, INTENSITIES, AND STRUCTURAL HEIGHTS TO PROTECT THE FUNCTIONALITY AND SAFETY OF LONG-TERM AIRPORT OPERATIONS.

BUILDING / FACILITIES INDEX TABLE

NO.	EXISTING	NO.	ULTIMATE	PHASE
1	STORAGE HANGAR			
2	T-HANGAR	21	PARS	I
3	FUEL FARM	22	MAINTENANCE/FUELING BLDG	I
4	T-HANGAR	23	HANGAR/APRON DEVELOPMENT (SOCO/CORPORATE OR T-HANGARS)	II SEE NOTE 5
5	TERMINAL /FBO	24	CORPORATE HANGAR	I
6	CORPORATE HANGAR	25	TAXIWAY DEMOLITION	I
7	CORPORATE HANGAR	26	RUNWAY 36 EXTENSION	I
8	T-HANGAR	27	HANGAR/APRON DEVELOPMENT (SOCO/CORPORATE OR T-HANGARS)	II SEE NOTE 5
9	CORPORATE HANGAR			
10	CORPORATE HANGAR	28	TAXIWAY IMPROVEMENTS	I
11	CORPORATE HANGAR			
12	CORPORATE HANGAR	31	PERIMETER ROAD	II
13	T-HANGAR			
14	FLIGHT CENTER (FBO)	35	MAINTENANCE BUILDING	II
15	CORPORATE HANGAR	36	RUNWAY WIDENING/ LIGHTING IMPROVEMENTS	I
16	CORPORATE HANGAR			
17	BOX HANGAR			
18	BOX HANGAR			
19	BOX HANGAR			
20	CORPORATE HANGAR			

PHASING PROGRAM

I	0-5 YEARS
II	5-10 YEARS
III	10-20 YEARS

RUNWAY 18-36 (PAVED) DATA TABLE

DESCRIPTION	EXISTING RW 18	EXISTING RW 36	ULTIMATE RW 18	ULTIMATE RW 36
APPROACH VISIBILITY MINIMUMS	1 MILE	1 MILE	SAME	SAME
FAR PART 77 APPROACH SLOPE	34:1	34:1	SAME	SAME
RUNWAY MARKINGS	NPI	NPI	SAME	SAME
VISUAL APPROACH AIDS	MIRL/SRLS	MIRL/SRLS	MIRL/SRLS/PAPI	MIRL/SRLS/PAPI
INSTRUMENT APPROACH AIDS	VOR/DME,GPS	VOR/DME,GPS	SAME	SAME
RUNWAY END COORDINATES (NAD 83) LATITUDE LONGITUDE	N36 21'05.05" W94 13'09.45"	N36 20'21.02" W94 13'09.87"	SAME	N36 20'10.06" W94 13'09.63"
DISPLACED THRESHOLD COORDINATES (NAD 83) LATITUDE LONGITUDE	N36 21'02.51" W94 13'09.45"	N/A N/A	SAME	N36 20'21.02" W94 13'09.87"
RUNWAY END ELEVATION (MSL)	1289.30'	1282.54	SAME	1282.8±
RUNWAY HIGH POINT/LOW POINT ELEVATION (MSL)	1291.99'/ 1288.97'		SAME	
DISPLACED THRESHOLD ELEV. (MSL)	1288.11'	N/A	SAME	1282.8±
RUNWAY DESIGN CODE (RDC)	B-II-5000		SAME	
APPROACH REFERENCE CODE (APRC)	B-II-5000		SAME	
DEPARTURE REFERENCE CODE (DPRC)	B-II		SAME	
TRUE BEARING	160.25	.25	SAME	SAME
DIMENSIONS (LENGTH x WIDTH)	6453' x 60'		5053' x 75'	
SURFACE TYPE	ASPHALT		SAME	
PAVEMENT DESIGN STRENGTH (LBS)	S-12,500, D-31,500		D-45,000	
PAVEMENT CLASSIFICATION NUMBER (PCN)	21		SAME	
LIGHTING / SIGNAGE	MIRL		SAME	
MAXIMUM GRADE	0.99%		SAME	
RUNWAY PROTECTION ZONE (RPZ)	500' x 1000' x 700'		SAME	
ROFZ DIMENSIONS	4853' x 400'		5453' x 400'	
RSA DIMENSIONS	4799' x 150'		5399' x 150'	
ROFA DIMENSIONS	4799' x 500'		5399' x 500'	
CRITICAL AIRCRAFT	CITATION SOVEREIGN		SAME	
WIND COVERAGE (ALL WEATHER)	95.4%		SAME	
CROSSWIND COMPONENT	13 KNOTS		SAME	
USABLE RUNWAY LENGTH	6453'	4199'	5053'	4799'
DISPLACED THRESHOLD	257'	N/A	SAME	500'
AERONAUTICAL SURVEY REQUIRED	NVGS + VGAS		SAME	

RUNWAY 17-35 (TURF) DATA TABLE

DESCRIPTION	ULTIMATE RW 17	ULTIMATE RW 35
APPROACH VISIBILITY MINIMUMS	VISUAL	VISUAL
FAR PART 77 APPROACH SLOPE	20:1	20:1
RUNWAY MARKINGS	N/A	N/A
VISUAL APPROACH AIDS	N/A	N/A
INSTRUMENT APPROACH AIDS	N/A	N/A
RUNWAY END COORDINATES (NAD 83) LATITUDE LONGITUDE	N36 20'55.66" W94 13'11.37"	N36 20'31.80" W94 13'11.42"
DISPLACED THRESHOLD COORDINATES (NAD 83) LATITUDE LONGITUDE	N/A N/A	N/A N/A
RUNWAY END ELEVATION (MSL)	1286.79'	1282.47'
RUNWAY HIGH POINT/LOW POINT ELEVATION (MSL)	1286.73'/ 1286.79'	
DISPLACED THRESHOLD ELEV. (MSL)	N/A	
RUNWAY DESIGN CODE (RDC)	A-I/B-VIS	
APPROACH REFERENCE CODE (APRC)	A-I/B-VIS	
DEPARTURE REFERENCE CODE (DPRC)	A-I/B	
TRUE BEARING	160.25	.25
DIMENSIONS (LENGTH x WIDTH)	2448' x 75'	
SURFACE TYPE	TURF	
PAVEMENT DESIGN STRENGTH (LBS)	N/A	
PAVEMENT CLASSIFICATION NUMBER (PCN)	N/A	
LIGHTING / SIGNAGE	N/A	
MAXIMUM GRADE	1.16%	
RUNWAY PROTECTION ZONE (RPZ)	250' x 450' x 450'	
ROFZ DIMENSIONS	2848' x 120'	
RSA DIMENSIONS	2828' x 120'	
ROFA DIMENSIONS	2828' x 250'	
CRITICAL AIRCRAFT	CARBON CUB, STEARMAN	
WIND COVERAGE (ALL WEATHER)	95.6%	
CROSSWIND COMPONENT	10.5 KNOTS	
USABLE RUNWAY LENGTH	2448'	2448'
DISPLACED THRESHOLD	N/A	N/A
AERONAUTICAL SURVEY REQUIRED	NVGS	NVGS

MODIFICATIONS OF STANDARDS

NO.	STANDARD MODIFIED	PROPOSED ACTION	FAA CASE NO.	DATE APPROVED
1.	AC 150/5300-13A, FIGURE 23, TRANSVERSE GRADE LIMITATIONS FOR RUNWAY 9 RSA'S.	GRADE A NEW TURF RUNWAY AND RSA AT A CONTINUOUS TRANSVERSE CROSS SLOPE EQUAL TO 2% WITH NO CROWN.	–	6/23/15

NO.	REVISIONS	BY	DATE	APPROVALS SPONSOR/DATE	FAA/DATE	ADA/DATE
1.	PROPERTY LINE UPDATE	GARVER	3/17/17			
2.	WEST TAXIWAY CONSTRUCTED AND RUNWAY EXTENSION REMOVAL	GARVER	5/22/19			
3.	RUNWAY 36 DISPLACED THRESHOLD REMOVAL, RUNWAY 18 TUNNEL ADDED	GARVER	10/21/19			
4.	PROPERTY LINE UPDATE, RUNWAY 36 AND TAXIWAY EXTENSION ADDED	GARVER	2/2021			

BENTONVILLE MUNICIPAL AIRPORT
BENTONVILLE, ARKANSAS

AIRPORT LAYOUT PLAN

AIRPORT LAYOUT PLAN

JOB NO.: 16041191
DATE: MARCH 2017
DESIGNED BY: SAM
DRAWN BY: SAM

BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

DRAWING NUMBER
2

SHEET NUMBER

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR AND CITY CLERK TO ENTER INTO WORK ORDER NO. 5 WITH GARVER ENGINEERING, IN THE AMOUNT OF ONE HUNDRED SEVENTY-ONE THOUSAND FOUR HUNDRED DOLLARS ($171,400.00), FOR THE VBT SOUTHEAST TAXIWAY B EXTENSION (PHASE 2) PROJECT; AND FOR OTHER PURPOSES.

WHEREAS, the approval of Work Order No. 5 includes Construction Administration, On-Site Resident Project Representative, Materials Testing, and Project Closeout Services relating the VBT Southeast Taxiway B Extension (Phase 2) Project; and

WHEREAS, this is being funded by grant funds from the budget adjustment on the preceding item.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are hereby authorized to enter into Work Order No. 5 with Garver Engineering, in the amount of one hundred seventy-one thousand four hundred dollars ($171,400.00), for professional services administered for the Southeast Taxiway B Project;

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, Mayor

ATTEST:

_____
MALORIE MARRS, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Mike Bender
Phone:	(479) 271-3140	**For Department(s):**	Water Utilities Director
Email:	mbender@bentonvillear.com		

Item Type (Check all that apply)

☐ **Informational** ☐ **Bid Award** ☐ **Enter into an Agreement** ☐ **Change Order**
☐ **Recognizing Funds** ☐ **Budget Adjustment** ☐ **Waiver of Bid** ☑ **Emergency Clause**
☑ **Ordinance** ☐ **Resolution** ☐ **Informational**

Title, Recommendation & Justification

Title:	Ordinance Confirming Existing Electric Rates
Action Recommendation & Justification:	Adopt an ordinance confirming and certifying existing electric rates for the City of Bentonville, Arkansas; providing for the Emergency Clause; and for other purposes. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	The City is currently pursuing a financing structure for a wastewater facility to be secured by rates charged by the City for the provision of utility services, and Bond Counsel for the issuance has requested that the City confirm existing electric rates as set forth in Ordinance 2021-18. The financing is scheduled to close this week.
Amount for Approval:	$

Budget Impact

Is this Item Budgeted? ☐ **YES** ☐ **NO** ☑ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

ORDINANCE NO. _____

AN ORDINANCE CONFIRMING EXISTING ELECTRIC RATES FOR THE CITY OF BENTONVILLE, ARKANSAS; PROVIDING FOR THE EMERGENCY CLAUSE; AND FOR OTHER PURPOSES

WHEREAS, the City of Bentonville, Arkansas ("City") is the owner, operator, and regulator of a utility furnishing water, wastewater, and electricity service for retail use; and

WHEREAS, the City is currently pursuing a financing structure for a wastewater facility to be secured by rates charged by the City for the provision of utility services; and

WHEREAS, Council has previously approved the funding for this project;

WHEREAS, Bond Counsel has requested that the City confirm existing electric rates as set forth in Ordinance 2021-218.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS.

Section 1: That the following electric rate schedules have been adopted and the rate schedules contained in Ordinance [2000-20, 2000-160, 2005-183, 2008-38, 2008-88, 2009-73, and 2015-122] amended accordingly for all bills due on or after January 1, 2022:

Schedule R-2022 – Residential Service

Applicable to residential customers for all domestic users.

	2022	2023	2024
Facilities Charge	$13.70/month	$14.70/month	$15.70/month
Winter Block 1 (0- 800 kWh)	$0.10285	$0.0971	$0.09135
Winter Block 2 (excess)	$0.08538	$0.08837	$0.09135
Summer Block 1 (0-800 kWh)	$0.10865	$0.10870	$0.10875
Summer Block 2 (excess)	$0.10278	$0.10627	$0.10875
Minimum Bill	$13.70/month	$14.70/month	$15.70/month

Schedule SC-2022 – Small Commercial Service

Available to commercial customers and multiple-family dwelling for all general purposes when the demand is **less than 50 kW**.

	2022	2023	2024
Facilities Charge	$16.80/month	$19.80/month	$22.80/month
Winter Block 1 (0-2,000 kWh)	$0.10997	$0.10294	$0.09591
Winter Block 2 (excess)	$0.0901	$0.09301	$0.09591
Summer Block 1 (0-2,000 kWh)	$0.1170	$0.1170	$0.1170
Summer Block 2 (excess)	$0.1170	$0.1170	$0.1170
Minimum Bill	$16.80/month	$19.80/month	$22.80/month

Schedule SC – 2022 – Medium Commercial Service

Available to commercial customers and multiple-family dwelling for all general purposes when the demand is **more than 50 kW but less than 200 kW**.

	2022	2023	2024
Facilities Charge	$20.00/month	$30.00/month	$40.00/month
Demand Charge per month (All kW)	$8.35	$9.35	$10.35
Energy Charge (Winter: Nov. - April)	$0.06545	$0.06238	$0.0593
Energy Charge (Summer: May - Oct.)	$0.06915	$0.06608	$0.063
Minimum Bill (25 kW)	$228.75/month	$263.75/month	$298.75/month

Schedule SC – 2022 – Large Commercial Power Service

Available to commercial customers and multiple-family dwelling for all general purposes when the demand is **more than 200 kW**.

	2022	2023	2024
Demand Charge (All kW)	$7.75	$8.25	$8.75
Consumption Charge (Demand (kW) x 200)	$0.0665	$0.06488	$0.06327
Consumption Charge (all excess use)	$0.0665	$0.06488	$0.06327
Minimum Bill (100 kW)	$775.00/month	$825.00/month	$875.00/month

Schedule PA-2022 – Power Cost Adjustment Rider

The revised monthly "base cost" for purposes of the PCA will be the total demand, energy and transmission cost contained on Exhibit 12A and 12 B – Development of Purchased Power Expense. A copy of this exhibit is a part of the Technical Appendix

found in the Comprehensive Electric Rate Study prepared by HDR and dated October 2015.

The total purchased power expense from Exhibit 12A will be divided by the total kWh's to produce a ¢/kWh value (PCA calculation shown in Exhibit 12B). The ¢/kWh value is the "base cost" for the PCA adjustment and shall be set at $0.00210.

Schedule NM -2022 – Net Metering

Available to customers who meet the Net Metering requirements in Ordinance 2015-122.

	2022	2023	2024
Residential			
Energy Charge (Winter: Nov - April)	($0.05715)	($0.05715)	($0.05715)
Energy Charge (Summer: May - Oct.)	($0.05715)	($0.05715)	($0.05715)
Small Commercial (< 50kW)			
Energy Charge (Winter: Nov - April)	($0.05715)	($0.05715)	($0.05715)
Energy Charge (Summer: May - Oct.)	($0.05715)	($0.05715)	($0.05715)
Medium Commercial (> 50kW; < 200kW)			
Energy Charge (Winter: Nov. - April)	($0.05715)	($0.05715)	($0.05715)
Energy Charge (Summer: May - Oct.)	($0.05715)	($0.05715)	($0.05715)
Large Commercial (> 200kW)			
Energy Charge (Winter: Nov. - April)	($0.05715)	($0.05715)	($0.05715)
Energy Charge (Summer: May - Oct.)	($0.05715)	($0.05715)	($0.05715)

a) Net metering service charge is paid in addition to the standard rate facilities charge
b) Net metering credit is multiplied by the energy generated by the customer up to a maximum of the customer's total usage in the billing period. No credit is provided for demand usage or demand charges.

Section 2: That Ordinance No. 2021-218 is hereby confirmed and ratified, and effective from and after the date originally approved.

Section 3: That it is found and determined that the financing structure proposed for needed wastewater improvements will be enhanced by confirming and ratifying the rate ordinance as shown in the official records for the City, and that the immediate effectiveness of this ordinance will keep important wastewater projects on schedule; therefore, an emergency is declared to exist and this Ordinance being immediately necessary for the preservation of the public peace, health and safety of the population shall be in full force and effect from and after its passage and approval.

APPROVED:

_____
Stephanie Orman, MAYOR

ATTEST:

_____
Malorie Marrs, CITY CLERK

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Travis Matlock
Phone:	479-271-5941	**For Department(s):**	Electric
Email:	tmatlock@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☑ Bid Award ☐ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause
☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution to Award Bid IFB-24-65 for 161 kV GOAB Switch Interrupters
Action Recommendation & Justification:	Resolution to award bid IFB-24-65 for 161 kV GOAB Switch Interrupters for transmission materials to MVA Power, Inc. in the amount of $33,391.05 plus applicable tax. MVA Power, Inc. was the sole bid received. Approved by Utility Board 4-0. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	
Amount for Approval:	**$** 33,391.05 plus applicable taxes

Budget Impact

Is this Item Budgeted? ☑ YES ☐ NO ☐ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

CITY OF BENTONVILLE, ARKANSAS PURCHASING DEPARTMENT

FORMAL SEALED BID TABULATION

Date of Bid Opening:	9/12/2024	Time of Bid Opening:	1:00 PM	IFB-24-65

Solicitation Title: Electric Material

	Bidders:	MVA Power, Inc.

Line Item	Quantity	Structure Number	Description	Unit Price	Extended Price
1	2	48, 51	D-T816-2625	$11,130.35	$22,260.70
2	1	1	D-T816-2624	$11,130.35	$11,130.35
			Total Bid Price:		$33,391.05

purchasing@bentonvillear.com - (479) 271-3115

Docusign Envelope ID: 96CE14BD-ED47-4F33-9A60-F01B91498FF6

Administrative Services
Purchasing Department
1000 SW 14th Street
Bentonville, AR 72712

CITY OF BENTONVILLE, ARKANSAS

City Hall
305 SW A Street
Bentonville, AR 72712

NOTICE OF AWARD

To: MVA Power, Inc.
1 Holly Road
Montreal, Quebec H3X3K6

Date: 9/17/24

Solicitation Number and Title: 161kV GOAB Switch Interrupters

Date of Award : 9/17/24

The City of Bentonville has considered the Bid submitted by MVA Power, Inc. for the above-described Solicitation in response to its Advertisement for Bids dated 8/18/24 and Bidding Documents.

You are hereby notified that your Bid has been accepted in the amount of: $33,391.05
Thirty-three thousand three hundred ninety-one dollars and five cents
(Written amount)

You are required to return an acknowledged copy of this Notice of Award to the City.

Dated this September 28, 2024 | 4:54 AM CDT (Month/Day/Year).

By [redacted]
(Signature)
Printed Name: Stephanie Orman

Title: Mayor

Acceptance of Notice

Receipt of the above Notice of Award is hereby acknowledged by: MVA POWER INC

this the 30 day of September, 2024.

By: [redacted]
(Signature)

Printed Name: Charly-Marc Hadid

Title: Sales and Marketing associate

RESOLUTION NO. _____

A RESOLUTION AWARDING BID IFB-24-65 TO MVA POWER, INC., FOR THE PURCHASE OF GOAB SWITCH INTERRUPTERS; IN THE AMOUNT OF THIRTY-THREE THOUSAND THREE HUNDRED NINETY-ONE DOLLARS AND FIVE CENTS ($33,391.05) PLUS APPLICABLE TAXES; AND FOR OTHER PURPOSES.

WHEREAS, MVA Power, Inc. was the sole bid received for bid IFB-24-65;

WHEREAS, this contract covers the purchase for 161 kV GOAB Switch Interrupters for transmission materials; and

WHEREAS, this is a budgeted item.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are authorized to enter into a contract with MVA Power, Inc., for the purchase of GOAB Switch Interrupters, in the amount of thirty-three thousand three hundred ninety-one dollars and five cents ($33,391.05) plus applicable taxes;

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED and APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, MAYOR

ATTEST:

_____
Malorie Marrs, CITY CLERK

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Chris Earl
Phone:	479-696-0273	**For Department(s):**	Water Resource Recovery Facility (WRRF)
Email:	cearl@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order

☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause

☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution to Enter a Contract of Obligation for Financial Assurance Agreement
Action Recommendation & Justification:	Staff request CIty Council approval of a Resolution authorizing the Mayor and City Clerk to enter into a Contract of Obligation for Financial Assurance Agreement in the amount of $755,000.00. This will be in the form of a letter of credit. Passed Utility Board 4-0. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	Contract of Obligation for Financial Assurance is required for owners of a Solid Waste Facility. This CO is in accord with the provisions of the State and with Arkansas Pollution Control and Ecology Commission Rule 22.1405. This is an agreement that states should for any reason we have to close the Compost Facility that we have the monies to remove, dispose and clean the facility.
Amount for Approval:	$

Budget Impact

Is this Item Budgeted? ☐ YES ☑ NO ☐ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

MUNICIPALITY SOLID WASTE FACILITY FINANCIAL ASSURANCE AGREEMENT --
§8-6-1603(d)(4) (CONTRACT OF OBLIGATION)

1. The **CITY OF BENTONVILLE** (MUNICIPALITY), a Municipality government of the State of Arkansas, is owner or operator of a solid waste management facility permitted by Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ) Permit No. **0297-SC-R2 (**Permit). Pursuant to Ark. Code Ann. § 8-6-1603, MUNICIPALITY is required to provide financial assurance to ensure that sufficient funds are available to meet the costs of corrective action, closure and post-closure care of the permitted solid waste facility.

2. The current required amount of financial assurance for corrective action, closure and post-closure care as provided by Ark. Code Ann. § 8-6-1603(a), (b), and (c) for the MUNICIPALITY's permitted solid waste management facility is **SEVEN HUNDRED AND FIFTY FIVE THOUSAND ($755,000).**

3. To satisfy its statutory obligations, MUNICIPALITY hereby elects to execute this binding agreement (AGREEMENT) described in Ark. Code Ann. § 8-6-1603(d)(4) as a "Contract of Obligation" in accord with the provisions of that statute and with Arkansas Pollution Control and Ecology Commission (APC&EC) Rule 22.1405(n) as codified in the Code of Arkansas Rules, 8 CAR §60-1405(o).

4. By this AGREEMENT, pursuant to the provisions of Ark. Code Ann. § 8-6-1603(d)(4) and Rule 22.1405(n) as codified in 8 CAR §60-1405(o), MUNICIPALITY pledges general revenues equal to the amount of the required financial assurance in Paragraph 2 of this AGREEMENT, and authorizes the Director of DEQ to collect any general revenues being disbursed or to be disbursed from the State to MUNICIPALITY pursuant to Rule 22.1406(b) as codified in 8 CAR §60-1406(b)

should MUNICIPALITY fail to properly perform corrective action, closure or post-closure of the permitted solid waste management facility as required by state law, agency rule, or the Permit.

5. This AGREEMENT is for one fiscal year of MUNICIPALITY and shall automatically renew for each subsequent fiscal year. MUNICIPALITY agrees that the amount of financial assurance required at the time of each annual renewal shall be based upon the latest available annual reporting mechanisms submitted for the permitted facility and reviewed and approved by DEQ. This amount may be increased or decreased upon each annual renewal as required to reflect estimated costs for corrective action, closure, and post-closure care.

6. MUNICIPALITY acknowledges that this AGREEMENT is legally valid, binding, and enforceable and is irrevocable unless terminated upon written approval from the DEQ Director that:

a. The solid waste management facility has closed in compliance with the law; and

b. MUNICIPALITY has completed post-closure care in compliance with the law; or

c. MUNICIPALITY provides an alternate financial assurance mechanism acceptable to DEQ and in compliance with applicable law.

7. MUNICIPALITY shall file a copy of this AGREEMENT with the Commissioner of Revenues, Department of Finance and Administration and the Local Government Services Division, Arkansas State Treasury, no later than the tenth (10th) calendar day following the effective date of this AGREEMENT. MUNICIPALITY shall provide the DEQ Director with file-marked copies of this AGREEMENT no later than the fifteenth (15th) calendar day following the effective date of this AGREEMENT.

8. COUNTY represents and affirms that it has sufficient funds on-hand, appropriated by the annual budget, and available to comply with the terms and conditions of this AGREEMENT.

9. All notices required by this AGREEMENT shall be made by certified mail, return receipt requested, and addressed as follows:

Arkansas Department of Energy and Environment, DEQ
Attn: Bailey Taylor, Division of Environment Quality, Director
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

City of Bentonville, Arkansas
Attn: The Honorable Stephanie Orman, Mayor
305 SW "A" St.
Bentonville, Arkansas 72712

Arkansas Department of Finance and Administration
Attn: Commissioner of Revenues
P.O. Box 1272
Little Rock, Arkansas 72203

Arkansas State Treasury
Attn: Local Government Services Division
220 State Capitol
Little Rock, Arkansas 72201

10. Funds collected through this AGREEMENT will be used for closure and post-closure activities in accordance with Rule 22. In the event that there are funds remaining after DEQ certifies the necessary closure and post-closure activities are completed then DEQ will return those funds to the MUNICIPALITY.

11. Nothing herein shall prevent DEQ from initiating any enforcement proceeding against MUNICIPALITY. Nothing herein is construed to relieve MUNICIPALITY from any closure or post-closure action resulting from the solid waste management facility that is the subject of the Permit.

Nothing herein is construed to limit the liability of MUNICIPALITY for any closure or post-closure resulting from the subject solid waste management facility to the amount established by this AGREEMENT.

12. This AGREEMENT shall be effective upon the DEQ Director's signature.

13. This AGREEMENT has been reviewed and approved by the governing body of the MUNICIPALITY in a duly called and convened meeting with a quorum present.

14. The governing body of the MUNICIPALITY has authorized the MUNICIPALITY JUDGE to sign this AGREEMENT on the behalf of MUNICIPALITY as evidenced by the attached resolution.

IN WITNESS WHEREOF the parties hereto have set their hands and seals.

Arkansas Department of Energy and Environment,
Division of Environmental Quality

_____ _____
Bailey Taylor Date
Division of Environment Quality, Director

MUNICIPALITY

_____ _____
Stephanie Orman Date
Mayor

Attest:

_____
[RECORDER/CLERK/DIRECTOR]

WHAT IS REQUIRED AT A MINIMUM:

- ✓ The financial assurance mechanism must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action when needed.

- ✓ The maximum amount pledged under the contract cannot exceed the total amount of general revenue disbursed to the County or Municipality in the last fiscal year, or, if approved by the DEQ Chief Administrator, the amount currently projected by the State to be disbursed during the current fiscal year.

- ✓ The contract of obligation must be irrevocable and issued for a period of at least one year.

- ✓ The owner or operator shall submit the contract of obligation on forms developed by DEQ and provided to the DEQ Director for approval.

ARVEST BANK

Arvest Bank
502 S. Main – 3rd Floor
Tulsa, Oklahoma 74103
Attn: International Department

Standby LC Number: STB2848

Issue Date: May 7, 2024

Expiry Date: May 7, 2025

Amount: USD 1,000,000.00

Beneficiary:
Arkansas Department of Energy and Environment, DEQ
5301 Northshore Drive
North Little Rock, AR 72118-5317

Applicant:
City of Bentonville
1000 SW 14th Street
Bentonville, AR 72712

Re: Compost Facility

We hereby establish our Irrevocable Standby Letter of Credit No. STB2848 in your favor, at the request and for the account of the City of Bentonville, 1000 SW 14th Street, Bentonville, AR, 72712, up to the aggregate amount of One Million and 00/100 U.S. dollars (USD 1,000,000.00), available upon presentation of:

(1) Your sight draft, bearing reference to this Letter of Credit No. STB2848 and;

(2) Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Arkansas Solid Waste Management Act (Act 237 of 1971 as amended)."

This letter of credit is effective as of May 7, 2024 and shall expire on May 7, 2025, but such expiration date shall be automatically extended for a period of one year on May 7, and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and the City of Bentonville by certified mail/courier that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and the City of Bentonville, as shown on the signed return receipts or courier tracking.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall forfeit the amount of the draft to the Arkansas Department of Energy and Environment, Division of Environmental Quality in accordance with your instructions.

For any and all disputes arising out of, in connection with, or relating to this Letter of Credit, the Owner or Operator and Issuing Bank or Institution expressly agree and consent that the exclusive jurisdiction

ARVEST BANK

Arvest Bank
502 S. Main – 3rd Floor
Tulsa, Oklahoma 74103
Attn: International Department

and venue for any proceeding shall be in Pulaski County Circuit Court for the State of Arkansas in Little Rock, Arkansas, and the Owner or Operator and Issuing Bank or Institution waive any argument that the venue in such a forum is not convenient and any rights under any Federal or State law establishing jurisdiction or venue in another forum.

[redacted]

Ashley Allen
VP, International Banking Manager
Arvest Bank

CERTIFIED RESOLUTION
OF THE
BOARD OF DIRECTORS
OF
ARVEST BANK

I, the undersigned, do hereby certify that I am the Secretary of Arvest Bank, an Arkansas state-chartered bank, (the "Bank"), and do hereby further certify that pursuant to a meeting of the Board of Directors of the Bank held on the 22nd day of January 2024, the following Resolution was duly adopted and that such Resolution is true and in full force and effect and has not been amended, modified, or revoked:

RESOLVED, that the Board of Directors authorizes the following to execute letters of credit on behalf of the Bank:

Ashley Allen, VP International Banking Manager
Grant Good, AVP International Banking Specialist II - $1MM Limit
Lisa Knudsen, SVP Treasury Management Director of Operations - $2MM Limit
Carolyn Kennedy, EVP Executive Director of Treasury Management
Mark Stephen, SVP Loan Manager

IN WITNESS WHEREOF, I hereunto subscribe my name as Secretary of the Bank on this 13th day of March 2024.

Arvest Bank

[redacted]

Karla Payne, EVP CFO
Secretary

ARVEST BANK

Arvest Bank
502 S. Main – 3rd Floor
Tulsa, Oklahoma 74103
Attn: International Department

May 7, 2024

To Whom It May Concern:

Attached is our Standby Letter of Credit issued in your favor.

We suggest that you check the terms and conditions of this Credit immediately upon receipt. Should any terms and conditions be unacceptable please contact the Applicant directly, without delay, with a view to obtaining a suitable amendment.

If this Letter of Credit contains an auto-extension provision, we do not as a practice send a mail confirmation of extension. If you need a confirmation of an extension, we will provide said confirmation upon receipt of your written request.

In the event this Credit is no longer required prior to the current expiration date, the original Letter of Credit and all amendments must be submitted to Arvest Bank, at the above address, along with a signed letter on your letterhead addressed to Arvest Bank authorizing its cancellation.

We reserve the right to not enter into or process a transaction that may violate any U.S. law.

All communications to us regarding this Credit must be sent to the address at the top of this page and must mention our reference number. Should you have any questions, please don't hesitate to contact the Arvest Bank International Department via telephone at 1 (855) 682-2113 or via email at arvestinternational@arvest.com.

Arvest Bank

International Department

RESOLUTION NO. _____

A RESOLUTION ALLOWING THE MAYOR AND CITY CLERK TO ENTER INTO AN AGREEMENT TO EXECUTE AGREEMENT TO PROVIDE FINANCIAL ASSURANCE PER §8-6-1603(D)(4) (CONTRACT OF OBLIGATION), IN THE AMOUNT OF SEVEN HUNDRED FIFTY-FIVE THOUSAND DOLLARS ($755,000.00); AND FOR OTHER PURPOSES.

WHEREAS, City of Bentonville, Arkansas, as owner or operator of a solid waste management facility permitted by Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ), is required by Ark. Code Ann. § 8-6-1603 to provide financial assurance to ensure that sufficient funds are available to meet the costs of corrective action, closure and post-closure care of its permitted solid waste facility;

WHEREAS, Ark. Code Ann. § 8-6-1603(d)(4) provides that an allowable mechanism for a municipality or county that owns or operates a solid waste management facility to demonstrate financial assurance and ensure that funds necessary to meet the costs of closure, post-closure care, and corrective action is for the county to execute a statutory contract of obligation as described therein; and

WHEREAS, this agreement will be in the form of a letter of credit.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are authorized to enter into an agreement to execute agreement to provide financial assurance per § 8-6-1603(d)(4) (Contract of Obligation), in the amount of seven hundred fifty-five thousand dollars ($755,000.00);

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3: Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED this _____ day of _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, Mayor

ATTEST:

_____
MALORIE MARRS, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Mike Bender
Phone:	479-271-3140	**For Department(s):**	Sewer Rehab 503040
Email:	mbender@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☑ Enter into an Agreement ☐ Change Order

☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☐ Emergency Clause

☐ Ordinance ☑ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Resolution Approving the Spring Creek - Vaughn Gravity Sewer Design Agreement
Action Recommendation & Justification:	Staff requests the Mayor and City Clerk to enter into an agreement with Crafton, Tull & Associates to perform the design services for 6,700 feet of sewer utility upgrades to Spring Creek - Vaughn Gravity Sewer. The contract amount is $117,500.00. Crafton, Tull & Associates was selected following the City's Purchasing Policy for professional services. This is a budgeted project for 2024. Utility Board approved 4-0. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	This project is the result of a sewer analysis of the Spring Creek & Vaughn Sewer Basin. The Vaughn Lift station and gravity sewer is currently at capacity. This project will remove the lift station and up size the existing gravity line to help facilitate future growth. The sewer line has been sized according to the future land use plan and is expected to be adequate for all future development.
Amount for Approval:	**$** 117,500.00

Budget Impact

Is this Item Budgeted? ☑ **YES** ☐ **NO** ☐ **ITEM HAS NO COST** ☐ **OTHER:**_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue
		$	$
Account Number (ORG-OBJECT)	Account Description	Expense	Revenue

Fund(s) Impacted (check all that apply) ☐ **General Fund** ☐ **Utility Fund** ☐ **Street Fund** ☐ **Other(s):**_____

Budget Impact Notes for Consideration (Optional):

PROFESSIONAL SERVICES AGREEMENT

PROJECT NAME: Professional Civil Engineering Services for the **Spring Creek - Vaughn Gravity Sewer – Lift Station to NACA** for City of Bentonville Water Utility Department (BWU) ("PROJECT")

THIS AGREEMENT ("AGREEMENT") is made in Benton County, Arkansas, by and between the City of Bentonville, Arkansas, hereinafter referred to as "CITY", and Crafton Tull & Associates, hereinafter referred to as "PROFESSIONAL CONSULTANT" (collectively, the "PARTIES").

The PARTIES have caused this AGREEMENT to be effective this ____day of _____, 20___ ("EFFECTIVE DATE").

RECITALS:

A. WHEREAS, the CITY has a need for professional civil engineering services for the design of **Spring Creek - Vaughn Gravity Sewer – Lift Station to NACA**; and
B. WHEREAS, The CITY has selected the PROFESSIONAL CONSULTANT and negotiated this AGREEMENT in accordance with the City's Purchasing Policy; and
C. WHEREAS, the CITY wishes to contract for Professional Services; and
D. WHEREAS, The PROFESSIONAL CONSULTANT has the skill, experience, ability, background, certifications and knowledge to provide these services; and
E. WHEREAS, The PROFESSIONAL CONSULTANT wishes to perform such professional services under this AGREEMENT with the CITY.

NOW, THEREFORE, in consideration of the terms in this AGREEMENT, the CITY and PROFESSIONAL CONSULTANT agree to the following:

ARTICLE I - PROJECT DESCRIPTION

The PROJECT shall be as described in APPENDIX A, "Proposal and Scope of Work", attached hereto and incorporated herein by reference.

ARTICLE II - SCOPE OF SERVICE

Upon issuance of a written Notice to Proceed by the CITY, PROFESSIONAL CONSULTANT agrees to provide the CITY the necessary professional services related to the PROJECT, as set forth in APPENDIX A, "Proposal and Scope of Work", attached hereto and incorporated herein by reference.

ARTICLE III - STANDARD OF CARE

PROFESSIONAL CONSULTANT shall at all times material hereto adhere to the generally accepted standard of care typically exhibited by similarly situated professionals performing similar scope(s) of service on projects of like size, scope, nature, cost, schedule, and complexity, at the same time and in the same general regional locale ("Standard of Care").

ARTICLE IV - ADDITIONAL SERVICES

A. Any service outside of the work described herein or included by reference hereto must be pre-approved by the CITY and executed as an AMENDMENT to this AGREEMENT by the Parties prior to any such work being completed; any such AMENDMENT shall be in accordance with the CITY'S purchasing laws and guidelines and may require approval from the Bentonville City Council.

B. PROFESSIONAL CONSULTANT shall make no claims for additional services or changes in the services until an AMENDMENT has been fully executed by the Parties.

ARTICLE V - SCHEDULE OF FEES, SERVICES AND PAYMENT

A. The term of this AGREEMENT shall commence on the EFFECTIVE DATE and shall proceed in accordance with APPENDIX A, "Proposal and Scope of Work", attached hereto and incorporated herein by reference.

B. The cost of this AGREEMENT shall be in accordance with APPENDIX A, more specifically according to the "Fee Schedule Summary" Table.

C. The cost of this AGREEMENT shall not exceed **$117,500** without approval by the Bentonville Utility Board and Bentonville City Council.

D. CITY agrees to pay PROFESSIONAL CONSULTANT for all services authorized by inclusion in this AGREEMENT which have been properly performed by PROFESSIONAL CONSULTANT in accordance with this AGREEMENT and approved by CITY.

E. All fees paid to PROFESSIONAL CONSULTANT shall be based on invoices submitted by PROFESSIONAL CONSULTANT for work performed under this AGREEMENT, less any previous payments. PROFESSIONAL CONSULTANT shall submit invoices for services related to this AGREEMENT on a monthly basis.

F. CITY reserves the right to delay, without penalty, any partial payment when, in the opinion of the CITY, PROFESSIONAL CONSULTANT has not made satisfactory progress on the Project based on the SCOPE. If CITY objects to any portion of an invoice, the CITY shall notify PROFESSIONAL CONSULTANT and shall pay all other portions of the invoice which are not in dispute. In the event of dispute, CITY and PROFESSIONAL CONSULTANT shall immediately make every effort to settle the disputed portion of the invoice.

G. In the event that the CITY becomes credibly informed that any representations of PROFESSIONAL CONSULTANT provided in its invoicing are wholly or partially inaccurate, CITY may withhold payment of sums then, or in the future, otherwise due to PROFESSIONAL CONSULTANT until the inaccuracy and the cause thereof is corrected to the CITY's reasonable satisfaction.

H. If the CITY fails to make any payment, not in dispute, due to PROFESSIONAL CONSULTANT within thirty (30) days after receipt of an invoice, then the amount due to the PROFESSIONAL CONSULTANT will increase at the lesser of one percent (1 %) per month or the maximum amount allowed by law after the 30th day. In addition, PROFESSIONAL CONSULTANT may, after giving seven (7) days' written notice to CITY, suspend its services and any deliverables until PROFESSIONAL CONSULTANT has been paid in full for all amounts outstanding more than thirty (30) days.

ARTICLE VI - INSURANCE

A. PROFESSIONAL CONSULTANT shall during the term hereof maintain in full force and effect the following insurance:

1. A comprehensive general liability policy of insurance for bodily injury, death and property damage insuring against all claims, demands or actions relating to the PROFESSIONAL CONSULTANT's performance of services pursuant to this AGREEMENT with a combined single limit of not less than $1,000,000.00 per occurrence and $2,000,000 in the aggregate for injury to persons (including death), and for property damage;

2. A policy of automobile liability insurance covering any vehicles owned and/or operated by PROFESSIONAL CONSULTANT, its officers, agents, and employees, and used in the performance of this AGREEMENT with policy limits of not less than $1,000,000.00 combined single limit and aggregate for bodily injury and property damage;

3. Statutory Worker's Compensation Insurance at the statutory limits and Employers Liability covering all of PROFESSIONAL CONSULTANT's employees involved in the provision of services under this AGREEMENT with policy limit of not less than $1,000,000.00; and

4. Professional Liability/Errors and Omissions coverage covering negligent acts, errors and omissions in the performance of professional services with policy limit of not less than $1,000,000.00.

B. All insurance and certificate(s) of insurance shall contain the following provisions:

1. Include CITY as additional insured as to all applicable coverage with the exception of Workers Compensation Insurance and Professional Liability/Errors and Omissions coverage; and

2. Provide for at least thirty (30) days prior written notice to CITY for cancellation or non-renewal of the insurance;

3. Provide for a waiver of subrogation against CITY for injuries, including death, property damage, or any other loss to the extent the same is covered by the proceeds of insurance, except for Professional Liability/Errors and Omissions coverage.

C. PROFESSIONAL CONSULTANT shall provide 30 day written notice to CITY of any material change of or to the insurance required herein.

D. All insurance companies providing the required insurance shall be authorized to transact business in Arkansas and rated at least "A" by AM Best or other equivalent rating service. A certificate of insurance evidencing the required insurance and all endorsements required by this Agreement shall be submitted prior to commencement of services.

E. In the event that additional or greater insurance requirements are warranted, these requirements shall be included as an Appendix, which will be attached hereto and incorporated by reference.

ARTICLE VII - RIGHT OF ACCESS

A. CITY will obtain and/or furnish right-of-access for PROFESSIONAL CONSULTANT to perform any required studies, surveys, tests or other necessary investigations in relation to the PROJECT.

B. PROFESSIONAL CONSULTANT will take reasonable precautions to minimize damage to the personal or real property in the performance of such surveys, tests, studies and investigations.

C. CITY recognizes that PROFESSIONAL CONSULTANT's operations and use of equipment may unavoidably alter existing conditions or affect the environment at the PROJECT site. The cost of repairing such damage shall be the responsibility of PROFESSIONAL CONSULTANT, at no additional cost to the CITY. In the event that PROFESSIONAL CONSULTANT fails to correct such damages, CITY is entitled to utilize CITY forces or other labor to repair the damage; any costs incurred by CITY for such work shall be deducted from the monies due to PROFESSIONAL CONSULTANT.

ARTICLE VIII - RECORDS AND RETENTION

A. All surveys, studies, proposals, applications, drawings, plans, specifications and other documents, including those in electronic form, prepared by PROFESSIONAL CONSULTANT and its PROFESSIONAL CONSULTANTs, subcontractors, agents, representatives, and/or employees in connection with this AGREEMENT ("PROJECT DOCUMENTS") are intended for the use and benefit of CITY. PROFESSIONAL CONSULTANT and its PROFESSIONAL CONSULTANTs, subcontractors, agents, representatives, and/or employees shall be deemed the authors of their respective part of the PROJECT DOCUMENTS. Notwithstanding anything to the contrary, CITY shall own, have, and retain all rights, title and interest in and to all PROJECT DOCUMENTS, whether in draft form or final form, which are produced at CITY's request or otherwise produced from PROFESSIONAL CONSULTANT's performance of the work described herein for CITY. The CITY's ownership of PROJECT DOCUMENTS shall not apply to PROFESSIONAL CONSULTANT's proprietary standard details that were developed by the PROFESSIONAL CONSULTANT prior to the commencement of this PROJECT.

B. CITY shall have full authority to reuse, reproduce, publish, disclose and distribute PROJECT DOCUMENTS, as needed, according to Arkansas State Law.

C. PROFESSIONAL CONSULTANT shall, upon completion of the services and full payment for the PROFESSIONAL CONSULTANT'S services by the CITY, or earlier termination and appropriate compensation as provided by this AGREEMENT, provide the CITY with all PROJECT DOCUMENTS prepared by PROFESSIONAL CONSULTANT pursuant to this AGREEMENT in formats requested by the CITY.

D. All instruments of service (including plans, specifications, drawings, reports, designs, computations, computer programs, estimates, surveys, other data or work items, etc.) prepared under this AGREEMENT shall be submitted for approval to the CITY. All instruments of service shall be professionally sealed in accordance to applicable laws or at CITY's request.

E. Acceptance and approval of the PROJECT DOCUMENTS by the CITY shall not constitute nor be deemed a release of the responsibility and liability of PROFESSIONAL CONSULTANT, its employees, associates, agents and PROFESSIONAL CONSULTANT's for the accuracy or competency of their designs, working drawings and specifications, or other documents and work; nor shall such approval be deemed to be an assumption of such responsibility by the CITY for any defect in the designs, working drawings and specifications, or other documents prepared by PROFESSIONAL CONSULTANT, its employees, contractor, agents and PROFESSIONAL CONSULTANT's.

F. PROFESSIONAL CONSULTANT will retain the PROJECT DOCUMENTS for a period of three years following project completion. During this three year period, any requests for document recovery and reproduction will be assessed a fee in accordance with PROFESSIONAL CONSULTANT's FEES.

ARTICLE IX - SAFETY

A. CITY agrees to inform PROFESSIONAL CONSULTANT of any applicable site safety procedures and regulations known to CITY as well as any special safety concerns or dangerous conditions at the site of which the CITY is aware, which PROFESSIONAL CONSULTANT shall communicate to its employees. PROFESSIONAL CONSULTANT and its employees shall adhere to such procedures and regulations once notice has been given by the CITY.

B. Unless specifically provided in the SCOPE, PROFESSIONAL CONSULTANT shall not have any responsibility for overall job safety at the site. If in the PROFESSIONAL CONSULTANT's opinion, its field personnel are unable to access required locations or perform required services in conformance with applicable safety standards, PROFESSIONAL CONSULTANT may immediately suspend performance until such safety standards can be attained.

C. PROFESSIONAL CONSULTANT agrees to indemnify and hold harmless the CITY for any safety conditions that may arise out of PROFESSIONAL CONSULTANT's performance of this AGREEMENT.

ARTICLE X - TERMINATION

A. CITY may suspend or terminate this AGREEMENT for cause or without cause at any time by giving written notice to PROFESSIONAL CONSULTANT. In the event suspension or termination is without cause, payment to PROFESSIONAL CONSULTANT, in accordance with the terms of this AGREEEMENT, will be made on the basis of services reasonably determined by the CITY to be satisfactorily performed to the date of suspension or termination. Such payment will be due upon delivery of all instruments of service to CITY.

B. Should the CITY require a modification of this AGREEMENT with the PROFESSIONAL CONSULTANT, and in the event the CITY and PROFESSIONAL CONSULTANT fail to agree upon a modification to this AGREEMENT, the CITY shall have the option of terminating this AGREEMENT and the PROFESSIONAL CONSULTANT's services hereunder at no additional cost other than the payment to PROFESSIONAL CONSULTANT, in accordance with the terms of this AGREEMENT, for the services reasonably determined by the CITY to be properly performed by PROFESSIONAL CONSULTANT prior to such termination date.

C. If, for whatever reason adequate funding is not made available by CITY to support or justify continuation of the level of services to be provided by PROFESSIONAL CONSULTANT under this AGREEMENT, CITY may terminate or reduce the amount of services to be provided by PROFESSIONAL CONSULTANT under this AGREEMENT. In such event, CITY will notify PROFESSIONAL CONSULTANT in writing at least thirty (30) days in advance of such termination or reduction of services for lack of funds.

D. In no event shall the CITY pay to PROFESSIONAL CONSULTANT fees for termination outside of payment for services reasonably determined by the City to be properly performed prior to termination.

ARTICLE XI - INDEMNIFICATION

A. For purposes of this AGREEMENT, PROFESSIONAL CONSULTANT agrees to indemnify, hold harmless the CITY, its officers and employees from any loss, damage, liability or expense, of any nature whatsoever to the extent caused by the negligence, willful misconduct, or other actionable fault of PROFESSIONAL CONSULTANT, its affiliates, subsidiaries, employees, agents, assignees, and subcontractors and their respective employees and agents. PROFESSIONAL CONSULTANT is not required hereunder to defend the CITY, its officers, appointees, employees, or agents from assertions that they were negligent, nor to indemnify and hold them harmless from liability based on the CITY's negligence

B. Nothing contained herein shall waive any governmental immunity CITY may be entitled to by law.

C. This provision shall survive the termination of this AGREEMENT.

ARTICLE XII - CONTINGENCY CLAUSE

A. NOT USED

ARTICLE XIII - RELATIONSHIP OF THE PARTIES

It is understood and agreed by and between the parties that the PROFESSIONAL CONSULTANT, in satisfying the conditions of this AGREEMENT, is acting independently, and that the CITY assumes no responsibility or liabilities to any third party in connection with PROFESSIONAL CONSULTANT's actions. All services to be performed by the PROFESSIONAL CONSULTANT pursuant to this AGREEMENT shall be in the capacity of an Independent Contractor, and not as an agent or employee of CITY. The PROFESSIONAL CONSULTANT shall supervise the performance of its services and shall be entitled to control the manner and means by which its services are to be performed, subject to the terms of this AGREEMENT. There is no intended third party beneficiary to the AGREEMENT and nothing contained herein shall create a contractual relationship with, or any rights in favor of, any third party.

ARTICLE XIV - DISPUTE RESOLUTION

A. CITY and PROFESSIONAL CONSULTANT agree that disputes relative to the services will first be addressed by negotiations between the Parties. If direct negotiations fail to resolve the dispute, the Party initiating the claim that is the basis for dispute may take such steps as it deems necessary to protect its interests; provided, however, that notwithstanding any such dispute, PROFESSIONAL CONSULTANT will proceed with the services as per this AGREEMENT as if no dispute existed, and CITY will continue to make payment for PROFESSIONAL CONSULTANT's completed services; and provided further that no dispute will be submitted to arbitration without both Parties' express written consent.

ARTICLE XV - OPINIONS OF PROBABLE COST

A. Since the PROFESSIONAL CONSULTANT has no control over the cost of labor, materials, equipment or services furnished by others, or over methods of determining prices, or over competitive bidding or market conditions, the PROFESSIONAL CONSULTANT's estimates of PROJECT costs and construction costs provided for herein are to be made on the basis of the PROFESSIONAL CONSULTANT's experience and qualifications and represent the PROFESSIONAL CONSULTANT's judgement in accordance with the "Standard of Care". The PROFESSIONAL CONSULTANT cannot and does not guarantee that proposals, bids or actual PROJECT or construction costs will not vary from estimates prepared by the PROFESSIONAL CONSULTANT.

B. The CITY understands that the construction cost estimates developed by the PROFESSIONAL CONSULTANT do not establish a limit for construction contract amount. If the actual amount of the low construction bid exceeds the construction budget established by the CITY, the PROFESSIONAL CONSULTANT will not be required to re-design the PROJECT or any part thereof without additional compensation.

ARTICLE XVI - APPLICABLE LAWS

PROFESSIONAL CONSULTANT shall comply with all Federal, State, Local laws, ordinances, resolutions, specifications, regulations and all other laws or regulations relating or applicable to service to be performed under this AGREEMENT. Interpretation of this AGREEMENT and disputes arising out of or related to this AGREEMENT will be subject to and governed by the laws of the State of Arkansas. Jurisdiction and venue for any suit arising out of or related to this AGREEMENT will be in the District Court of Benton County, Arkansas.

ARTICLE XVII - PRECEDENCE

This AGREEMENT shall take precedence over any inconsistent or contradictory provisions contained in any proposal, contract, purchase order, requisition, notice to proceed, or any other like document regarding the PROJECT or PROFESSIONAL CONSULTANT's services.

ARTICLE XVIII - SEVERABILITY

A. In the event that one or more provisions contained herein shall, for any reason, be deemed invalid, illegal, void or unenforceable, in whole or in part, the remaining provisions hereof shall remain in full force and effect.

B. In the event that any provision hereof is in conflict with any statutory provision of the State of Arkansas, said provision, which may be in conflict therewith, shall be deemed inoperative, null and void insofar as it may be in conflict therewith, and shall be deemed modified to conform to such statutory provisions; provided, however, that the remaining provisions of this AGREEMENT will be unaffected and will continue to be valid and enforceable.

ARTICLE XIX - SURVIVAL OF OBLIGATIONS

The obligations of the Parties contained in this AGREEMENT, which by their nature survive after the term of the AGREEMENT, shall survive the termination or expiration of this AGREEMENT and continue indefinitely or as otherwise provided by this AGREEMENT.

ARTICLE XX – ENTIRE AGREEMENT

This AGREEMENT, including all documents and Appendices included by reference herein, constitutes the entire agreement between the PARTIES and supersedes all prior agreements, whether oral or written, covering the same subject matter. This AGREEMENT may not be modified or amended except in writing, mutually agreed upon and accepted by both PARTIES to this AGREEMENT.

[This space has been intentionally left blank]

The cost of this AGREEMENT including all reimbursable expenses as described in the FEES AND SCHEDULE, **shall not exceed** One hundred & thirteen thousand dollars ($117,500), unless otherwise approved by the CITY through an official AMENDMENT agreed and executed by CITY and PROFESSIONAL CONSULTANT.

IN WITNESS THEREOF, the CITY and PROFESSIONAL CONSULTANT have executed this AGREEMENT, the EFFECTIVE DATE of which is indicated on page 1 of this AGREEMENT.

CITY OF BENTONVILLE	**CRAFTONT TULL & ASSOCIATES**
CITY	PROFESSIONAL CONSULTANT
	[redacted]
BY	BY
MAYOR	**VICE PRESIDENT**
TITLE	TITLE
	10/04/2024
DATE SIGNED	DATE SIGNED

APPENDIX A

PROPOSAL AND SCOPE OF WORK

Exhibit “A1”
Scope of Basic Services For:

Project:	Spring Creek – Vaughn Gravity Sewer – Lift Station to NACA	
Client:	Bentonville Water Utilities	
Location of Project:	SW Regional Airport Boulevard – Bentonville, AR	
Discipline:	*Surveying*	
Discipline Manager:	James Montgomery	
Project Manager:	Sean Johnson	
Proposal Date:	9/11/2024	
Billing Type:	Hourly Basis Not to Exceed, with reimbursable expenses	
Fee:	Topographic Design Survey Survey Exhibits & Descriptions: Reimbursable Expenses: Total NTE:	 $38,000 $5,000 $43,000
Description of the Construction Project:	50-ft strip topographic survey to support the engineering design for the proposed sewer (i.e. 6,700± L.F. with estimated 17 parcels), as shown on Exhibit “C”.	

The Service to be Provided by the Surveyor are as Outlined Below:

Topographic Design Survey:

- A title company will be employed to provide a title search of the property to be surveyed. The title search will include record plats, deeds and easement documents. The title company fee will be a reimbursable expense to the client.
- A representative from our survey department will mark the survey areas, and we will submit a request to the local utility 1-Call System to mark all underground utilities within the survey areas.
- Our GPS survey crew will set a minimum of four (4) semi-permanent survey control monuments adjacent to each street. The control monuments will be tied to the city state plane coordinates and elevation datum to which all survey data for this project will be referenced.
- We will provide a 50-ft strip topographic survey as shown on Exhibit ”C”. Sufficient ground elevation shots will be taken for the creation of 1’-contours across the survey area.
- We will locate all visible utility lines and those as marked by the utility 1-Call System. All flow lines of drainage inlets and pipes will be measured, and the invert elevation of sanitary sewer manholes will be recorded. All pipe sizes will be measured and shown on the topographic survey.
- We will locate all trees in the topographic design survey areas.
- We will prepare an AutoCAD base survey drawing of the topographic design survey of the site, which will be used for engineering design purposes. This base survey drawing will include property boundary lines and any easement lines discovered by the examination of the title search for the property or any other provided documents.
- We will prepare legal descriptions with exhibits for easement documents.

Scope of Basic Services does NOT Include the Following:

- As-built built survey
- Preparation of a final subdivision plat, easement dedication plat, easement documents, tract or lot split plats, tract or lot combination plats, or similar type plats as may be required by the governing agency for approval of this project.
- Surveys and plats of the property for financing, sales, or other purposes such as an ALTA or as-built survey.
- Surveys of offsite utility, street or drainage improvements not within the survey site.
- Surveys for environmental studies, including wetland delineation.
- Surveys for flood data or studies for Corps of Engineer, FEMA or other special government agency permitting.
- Surveys for location of geotechnical soil borings or pits.
- Surveying related to construction services or construction staking.
- Phase 1 Environmental Site Assessment
- Cultural Resources Survey
- Threatened & Endangered Species Habitat Assessment
- A separate tree location or landscape plat.
  Note: Services listed can be provided for additional fee.

Client Shall Provide:

- Access for our survey crew personnel to enter the property to conduct the surveys.

This is the scope of services for the Project. Should there be additions to this scope of services, those services shall be compensated for additional fee.

NOTE: The scope references 17 parcels for exhibits. However, if additional parcels for easement docs, it will be considered additional services.

Exhibit "A2"
Scope of Basic Services for:

Project:	Spring Creek – Vaughn Gravity Sewer – Lift Station to NACA	
Client:	Bentonville Water Utilities	
Location of Project:	SW Regional Airport Boulevard – Bentonville, AR	
Discipline:	*Civil Engineering*	
Discipline Manager:	Luke Jost, PE	
Project Manager:	Luke Jost, PE	
Proposal Date:	September 2024	
Billing Type:	Hourly Not-to-Exceed, with reimbursable expenses	
Fee:	Civil Design:	$62,500
	Geotechnical Investigation (GTS):	$11,500
	Reimbursable Expenses:	$500
	Total (NTE):	$74,500
Description of the Construction Project:	Design of a gravity sewer main along SW Regional Airport Blvd. between the lift station at the Benton County Fairgrounds and the Little Osage Creek Interceptor. Anticipated alignment and pipe sizes are shown on the attached map (Exhibit C). Total project length is roughly 6500 LF.	

The Service to be Provided by the Engineer are as Outlined Below:

- Project will include review at 30%, 60%, 90% and Final plan sets
- AACE Class 2 Cost estimates
- Plan set for construction of an 18", 21" & 24" Sanitary sewer main as outlined in Exhibit C including the following sheets:
    - Title Sheet
    - Overall Map
    - Sewer Plan & Profiles
    - Lift Station Demo Plan
    - Erosion Control Plans
    - Details
- Specifications & contract documents
- Bidding assistance
- Coordination of reviews with client
- Permit Coordination with ADEQ & ARDOT
- ADH Review/Permitting coordination

Additional Items that can be provided by CTA under amendment or separate contract:

- Construction Administration
- Construction Observation
- FEMA Studies & Map Revision Applications (CLOMR/LOMR)
- Wetland Determinations
- Corps of Engineers Permitting
- ROW Acquisition Services
- As-built Drawings

This is the scope of services for the Project. Should there be additions to this scope of services, those services shall be compensated for additional fee.

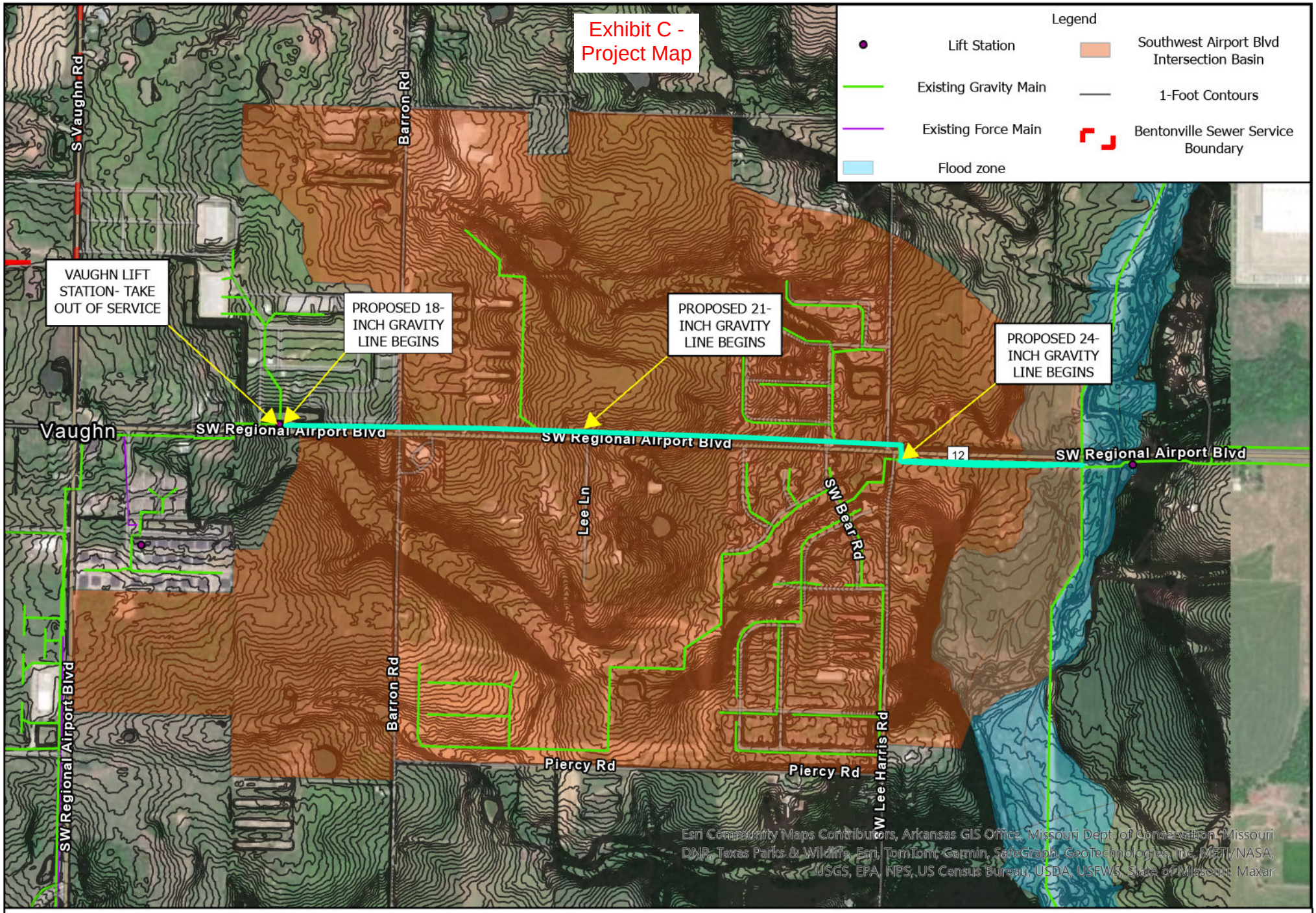
Crafton Tull

Exhibit "B"
Standard Hourly Rate Schedule
Effective January 1, 2024

Category	Hourly Rate
CIVIL ENGINEERING	
ENGINEERING PRINCIPAL	$ 250
SR. ENGINEERING MANAGER	$ 225
ENGINEERING MANAGER	$ 190
SR. PROJECT ENGINEER	$ 165
PROJECT ENGINEER	$ 145
ENGINEER INTERN III	$ 135
ENGINEER INTERN II	$ 125
ENGINEER INTERN I	$ 115
SR. ENGINEERING DESIGNER	$ 165
ENGINEERING DESIGNER III	$ 130
ENGINEERING DESIGNER II	$ 110
ENGINEERING DESIGNER I	$ 100
ENGINEERING CAD TECHNICIAN III	$ 90
ENGINEERING CAD TECHNICIAN II	$ 80
ENGINEERING CAD TECHNICIAN I	$ 70
ENVIRONMENTAL	
ENVIRONMENTAL MANAGER	$ 200
SR. ENVIRONMENTAL SCIENTIST	$ 150
PROJECT ENVIRONMENTAL SCIENTIST	$ 120
ENVIRONMENTAL SCIENTIST II	$ 100
ENVIRONMENTAL SCIENTIST I	$ 80
INSPECTION	
SR. INSPECTOR	$ 115
INSPECTOR II	$ 100
INSPECTOR I	$ 80
LANDSCAPE ARCHITECTURE	
LANDSCAPE ARCHITECTURE MANAGER	$ 170
SR. LANDSCAPE ARCHITECT	$ 150
PROJECT LANDSCAPE ARCHITECT	$ 130
LANDSCAPE ARCHITECT INTERN II	$ 110
LANDSCAPE ARCHITECT INTERN I	$ 90
LANDSCAPE ARCHITECTURE DESIGNER	$ 85
ADMINISTRATIVE	
ADMINISTRATIVE PRINCIPAL	$ 220
ADMINISTRATIVE MANAGER	$ 165
ADMINISTRATIVE IV	$ 105
ADMINISTRATIVE III	$ 85
ADMINISTRATIVE II	$ 65
ADMINISTRATIVE I	$ 50

Category	Hourly Rate
PLANNING	
PLANNING MANAGER	$ 210
SR. PLANNER	$ 190
PROJECT PLANNER	$ 130
PLANNER II	$ 110
PLANNER I	$ 95
SURVEYING	
SURVEYING PRINCIPAL	$ 230
SR. SURVEYING MANAGER	$ 195
SURVEYING MANAGER	$ 175
SR. PROJECT SURVEYOR	$ 155
PROJECT SURVEYOR	$ 140
SURVEYOR INTERN II	$ 125
SURVEYOR INTERN I	$ 110
SURVEY COORDINATOR	$ 115
CREW CHIEF II	$ 105
CREW CHIEF I	$ 95
FIELD SURVEYOR III	$ 85
FIELD SURVEYOR II	$ 75
FIELD SURVEYOR I	$ 65
SURVEY CAD TECHNICIAN III	$ 105
SURVEY CAD TECHNICIAN II	$ 80
SURVEY CAD TECHNICIAN I	$ 70
UAV SERVICES	
UAV TEAM LEAD	$ 120
UAV PILOT	$ 80
GEOGRAPHIC INFORMATION SYSTEMS	
SR. GIS MANAGER	$ 175
GIS MANAGER	$ 130
GIS ANALYST	$ 105
GIS TECHNICIAN II	$ 80
GIS TECHNICIAN I	$ 55
REIMBURSABLE EXPENSES	
GPS Equipment	$35/Hour
Robotic Survey Equipment	$20/Hour
LiDAR Scanning Equipment	$35/Hour
UAV	$1000/Unit
Job Related Mileage	$0.67/Mile
Per Diem for Out of Town Crews	Per GSA Allowable
Airfare and other travel related expenses	At Cost
Black and white 8.5"x11" Copies	$0.15/sheet
Color 8.5"x11" Copies	$1.50/sheet
Photo Paper Color Plan Sheet Copies	$0.75/sq. ft.
Reproducible Plan Copies (Vellum)	$1.50/sq. ft
Reproducible Plan Copies (Bond)	$0.35/sq. ft.

All rates are subject to change without notice.



olsson

Figure 3.5. Southwest Regional Airport Boulevard Basin: Alternative 1 - Vaughn Lift Station Decommissioning and Gravity Line Replacement.

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR AND CITY CLERK TO ENTER INTO AN AGREEMENT WITH CRAFTON TULL & ASSOCIATES, IN THE AMOUNT OF ONE HUNDRED SEVENTEEN THOUSAND FIVE HUNDRED DOLLARS ($117,500.00), FOR DESIGN SERVICES FOR SEWER UTILITY UPGRADES TO SPRING CREEK – VAUGHN GRAVITY SEWER; AND FOR OTHER PURPOSES.

WHEREAS, the City of Bentonville staff request to enter into an agreement with Crafton Tull & Associates to perform the design services for six thousand seven hundred feet of sewer utility upgrades to Spring Creek – Vaughn Gravity Sewer;

WHEREAS, Crafton Tull was selected in compliance with the City's Purchasing Policy for professional services; and

WHEREAS, this is a budgeted item.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are hereby authorized to enter into an agreement, in the amount of one hundred seventeen thousand five hundred dollars ($117,500.00), with Crafton Tull & Associates, for the design services of the for Sewer Utility Upgrades to Spring Creek – Vaugn Gravity Sewer;

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED this _____ day of _____, 2024.

APPROVED:

_____
STEPHANIE ORMAN, Mayor

ATTEST:

_____
MALORIE MARRS, City Clerk

City of Bentonville, Arkansas Agenda Item Form

Item Details

Council Meeting Date:	10/22/2024	**Submitted By:**	Preston Newbill
Phone:	479-271-3140	**For Department(s):**	Water Utilities
Email:	pnewbill@bentonvillear.com		

Item Type (Check all that apply)

☐ Informational ☐ Bid Award ☐ Enter into an Agreement ☐ Change Order
☐ Recognizing Funds ☐ Budget Adjustment ☐ Waiver of Bid ☑ Emergency Clause
☑ Ordinance ☐ Resolution ☐ Informational

Title, Recommendation & Justification

Title:	Ordinance Requesting Approval of the 2024 Water Utilities Department Specifications Update
Action Recommendation & Justification:	Staff requests council approval of an ordinance adopting revised Water Utilities Department Specifications, which will replace the existing version. The revisions are focused on reducing water loss from the distribution system and limiting inflow and infiltration into the sewer collection system while minimizing operations and maintenance expenses. Utility Board approved 4-0. No budget adjustment is needed.
Additional Comments for Consideration (Optional):	A separate memo has been provided detailing the revisions.
Amount for Approval:	$ 0

Budget Impact

Is this Item Budgeted? ☐ YES ☐ NO ☑ ITEM HAS NO COST ☐ OTHER:_____

Budget Adjustment *(to be completed by Finance when applicable)*

		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		
		$ Expense	$ Revenue
Account Number (ORG-OBJECT)	Account Description		

Fund(s) Impacted (check all that apply) ☐ General Fund ☐ Utility Fund ☐ Street Fund ☐ Other(s):_____

Budget Impact Notes for Consideration (Optional):

Memo

To: City Council, Mayor Orman

From: Beau Thompson, Joey Ingle

CC:

Date: October 04, 2024

Re: 2024 Water Utilities Department Specifications Update

Ordinance. - Staff requests council approval of an ordinance adopting revised Water Utilities Department Standard Specifications, which will replace the existing version.

Aiming to reduce water loss from the distribution system and limit inflow and infiltration into the sewer collection system, staff began to gather information for the revision in 2022.

In the summer of 2024, Water Utilities sent the revision to the Arkansas Department of Health for review. All comments were addressed by staff and we received approval of the Water and Sewer Specifications on October 02, 2024, pending submittal of a final signed and sealed copy following council approval of the ordinance.

Bentonville Water Utilities staff is confident the installation practices, materials, and testing procedures outlined in the specifications will protect the public health and minimize long term maintenance cost.

Significant amendments to the Bentonville Water Utilities Specifications are as follows:

GENERAL

- Multiple quality assurance organizations' references were updated including ASTM, AWWA and ANSI standards.
- Updated references to City processes and departments throughout to match current terminology.
- Removed requirement for paper copy of as-builts to be provided at final inspection.
- Reorganization of some sections for clarity and ease of reading.
- Correction of minor spelling and grammar errors throughout.
- Updated obsolete part number references throughout.

WATER

- ❖ Updated allowable service line materials.
  - o Remove C901 polyethylene from specifications.
  - o C904 PEX-A, added in 2022 as alternate to C901 PE, to remain.
  - o Add polyethylene coating requirement to copper service lines.
- ❖ Updated service fittings.
  - o Expanded available fittings for connection of service line to meter setter. Connections are now able to made at a 90, or 45 degree angle in addition to straight in. A 45 degree connection will be standard.
  - o Added clarity that service fittings are only allowed at the connection to the meter setter. No in-line fittings are allowed.
  - o Added requirement for short plastic stiffeners at all PEX-A connections.
  - o Removed fittings no longer required for new services.
- ❖ Updated hydrostatic test pressures in accordance with latest AWWA standards. Engineers must specify testing pressure on the utility sheet.

SEWER

- ❖ Added composite manhole lids by CAP ONE and East Jordan. Specified to be used when a manhole is lined due to corrosion concerns or rehabilitation.
- ❖ Removed thickness and preparation requirements for manhole linings. Will allow staff to review and approve new and innovative products case by case. Specification will require preparation and application in accordance with the manufacturer's recommendations.
- ❖ Added new products and improved methods for ensuring water-tight manholes.
  - o Requirement for Kor-N-Seal connector and application of an approved lining product from the invert to 1 foot above the pipe for cored manhole connections.
  - o Requirement for water stop and application of an approved lining product 1 foot either side of a cold joint in manhole wall. Applies to height adjustment of existing infrastructure and multiple pour new construction manholes.
- ❖ Updated required mandrel diameters for ASTM F679 sewer pipe.
- ❖ Force Mains
  - o Removed Cla-Val air/vacuum combination valves and replaced with Crispin.
  - o Updated air valve manhole requirements to increase longevity and accessibility for maintenance.
  - o Specified C900 PVC as required material for force mains, rather than preferable.
  - o Updated hydrostatic test pressures in accordance with latest AWWA standards. Engineers must specify testing pressure on the utility sheet.

BACKFLOW

- ❖ Updated backflow prevention requirements for frost free hydrants to include a lower cost option in low hazard situations, as determined by the department. An RPZ assembly is still required where a high hazard is present, but a dual in-line check valve device may be installed where low level hazards exist.

CITY OF BENTONVILLE

WATER UTILITIES DEPARTMENT SPECIFICATIONS

Water Utilities Department – (479) 271-3140

Wastewater Treatment – (479) 271-3160

Fire Department – (479) 271-3151

www.bentonvillear.com

2024

CITY OF BENTONVILLE
WATER UTILITIES
1000 SW 14TH STREET
(3200 SW MUNICIPAL DR)
BENTONVILLE, AR 72712

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Appendix A Detailed Drawings

BENTONVILLE WATER UTILITIES
CONSTRUCTION SPECIFICATIONS

SECTION 1 GENERAL INFORMATION

1.1 ALL MATERIALS SHALL BE DOMESTICALLY MADE

Any deviation to require DEPARTMENT approval, and certificate(s) of materials origin shall be provided at the pre-construction meeting.

1.2 The intent of this publication is to simplify and expedite the process of water and sewer construction within the jurisdiction of the City of Bentonville. This publication specifically applies, but is not limited to "Subdivision" and "Large Scale Development". All rules and regulations set forth by the ADH - Division of Engineering, shall be the minimum standard of all construction and development practices to be approved by the Bentonville Water Utilities. In such case as the standard specifications herein set forth exceeds the Arkansas Department of Heath specifications, this document as approved by the City Council of Bentonville, Arkansas shall govern.

1.3 These general and detailed specifications shall govern the handling and installation of pipe and appurtenances for the City of Bentonville Water Utilities. Specifications stipulate general requirements for the preparation of reports, plans, specifications, methods of construction, inspection, testing, and final approval of any proposed water and/or sanitary sewer lines, appurtenances, or other structures that are within the jurisdiction of Bentonville Water Utilities. Any requested deviation from the specifications herein set forth, shall be reviewed on a case-by-case basis by the DEPARTMENT and approved or denied by written authorization of the MANAGER.

1.4 Special conditions may arise on projects that are not covered in these specifications or that may require special handling. In case of such special conditions, complete detail as to materials, method of construction or other procedures shall be submitted to the Bentonville Water Utilities for review and approval. Standard construction details are incorporated and made a part of the specifications and shall become a part of the standard requirements for water line, sewer line and lift station construction. The standard details are included in these appendices at the back of these specifications. Where reference is made to a particular industry specification (ASTM, etc) it is hereby understood that reference is made to the latest specification revision in effect.

1.5 These specifications are intended to set forth minimum standards of quality for the construction of water and sewer facilities which are to be accepted by the Bentonville Water Utilities. These specifications do not replace the ENGINEERS specifications and contract documents; however, construction of all water and sewer facilities must meet these standards of quality as a minimum. The Bentonville Water Utilities shall not be responsible nor shall it bear any liability for CONTRACTOR'S means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, nor shall the Bentonville Water Utilities be responsible for any actions resulting from direction of the project by a City of Bentonville ENGINEER/INSPECTOR. The Bentonville Water Utilities shall not be responsible for the acts or omissions of the CONTRACTOR, Sub-Contractor, supplier, or of any other person or organization performing or furnishing any of the work. Nothing contained in these specifications shall be construed as an endorsement or warranty by the Bentonville Water Utilities of any product, material, or workmanship. The Bentonville Water Utilities shall not be responsible nor shall it bear any liability for the durability of any material or method of construction. Material used on any project shall be warranted against defects and workmanship by responsible CONTRACTOR for one calendar year from date of acceptance.

SECTION 2 DEFINITIONS AND ABBREVIATIONS

2.1 DEPARTMENT: Refers to the Bentonville Water Utilities, under the jurisdiction of the Bentonville City Council, hereinafter referred to as "DEPARTMENT"; having full and complete authority to manage, operate, improve, extend and maintain the City water distribution system and sewer collection system.

2.2 ENGINEERING DEPARTMENT: City of Bentonville Engineer.

2.3 MANAGER: Bentonville Water Utilities Manager.

2.4 DEVELOPER: Industrial partnership, corporation, or other legal entity such as an improvement district, desiring to construct water and/or sanitary sewer facilities for immediate or contemplated future inclusion in the city system.

2.5 ENGINEER: Individual registered to practice Engineering in the State of Arkansas who is responsible for the preparation of reports, plans, specifications and inspection of the work herein approved.

2.6 CONTRACTOR: The person, firm or corporation with whom the DEVELOPER has entered into an agreement to construct the water and/or sewer improvements.

2.7 CITY INSPECTOR: City of Bentonville Water Utilities Department Inspector responsible for inspection, and notification of proposed reconstruction or alterations and inspections involving the City of Bentonville's water and sewer system.

2.8 RESIDENT INSPECTOR: An authorized representative of the ENGINEER responsible for the inspection of construction for compliance with approved plans, specifications and other contract documents.

2.9 NORMAL WORK SCHEDULE: The City of Bentonville's normal work schedule is Monday through Friday 7:30 AM to 4:00 PM except HOLIDAYS.

2.10 HOLIDAYS: New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Friday following Thanksgiving Day, Christmas Eve and Christmas Day.

2.11 TERMS: "As specified" shall mean as specified by the DEPARTMENT in plans, proposals, specifications, and other written instructions.

2.11.1 The term "or equal" shall mean that the proposed material or item shall perform adequately the duties imposed by the general design and is of the same or equal design, substance and junction to that specified by using the name of a product, manufacturer, or vendor. Use of the term "equal" shall mean any party proposing to substitute an "equal" shall obtain an approval from the DEPARTMENT. The DEPARTMENT shall make final approval of such items or materials judged to be "equal".

2.11.2 The term "these specifications" shall refer to the "Design Materials and Construction Specification of Water and Sewer Facilities", latest revision, written by the DEPARTMENT. It is the responsibility of the CONTRACTOR, ENGINEER, DEVELOPER or OWNER, etc. to obtain copies and to comply with the latest revision of these specifications.

2.12 Abbreviations used throughout these specifications have meanings as follows:

ASTM.....American Society for Testing and Materials
AASHTO.....American Association State Highway & Transportation Officials
ARDOT .....Arkansas Highway Transportation Department
DEQ.....Arkansas Department of Energy Environment, Division of Environmental Quality
ADH .....Arkansas Department of Health
ADL.....Arkansas Department of Labor
ANSI.....American National Standards Institute
AWWA.....American Water Works Association (Latest Revision)
CTS.....Copper Tubing Size
CI .....Gray Cast Iron
CS or CC .....AWWA (Mueller Corp Stop Thread)
DI .....Ductile Iron
DFT .....Film Thickness
FCCCHR .....Foundation for Cross Connection Control & Hydraulic Research
FIP .....Female Iron Pipe
HDPE.....High Density Polyethylene
ID .....Inside Diameter
IP .....Iron Pipe
MIP.....Male Iron Pipe
NFPA .....National Fire Protection Association
OD .....Outside Diameter
OSHA .....Occupational Safety and Health Administration
PE .....Polyethylene
PSI/PSIG .....Pounds per Square Inch (gauge)
PVC .....Polyvinyl Chloride
SSPC.....Steel Structures Painting Council
USACE.....U.S. Army Corps of Engineers

SECTION 3 LAWS, REGULATIONS AND ORDINANCES

3.1 This section covers such rules and regulations as required by statute for the completion of plans, specifications and construction work on any and all proposed water and/or sanitary sewage facilities.

3.2 All Federal, State, County and City Laws, Regulations or Ordinances shall be complied with on all projects. This shall include, but not be limited to the obtaining of approval from ADH, DEQ, and USACE. Submission to and approval by ADH, DEQ, and USACE shall be the ENGINEERS responsibility, including payment of any applicable fees. Approved plans and specifications shall be returned to the City of Bentonville for file and inspection prior to the pre-construction meeting.

SECTION 4 PERMITS AND LICENSES

4.1 All permits and licenses required by a Federal, State, County or City shall be obtained in strict accordance with requirements of the governing agency. When required by the licensing agency, the DEPARTMENT will assist in application for permits and licenses, but the cost of any permit, fee or bond required will be borne by the DEVELOPER. The DEPARTMENT shall charge 10% of the bond fee as a handling charge. Permits for all street bores within the City of Bentonville's corporate limits shall be permitted by the Bentonville Street Department. Permits for boring of state highways will be permitted via the DEPARTMENT as to obtaining permission from ARDOT. The project ENGINEER shall provide footage's, profiles, and any other documented information necessary to the DEPARTMENT for State boring permits. Project ENGINEER may

obtain permit and obtain ARDOT permit without going through the DEPARTMENT. ARDOT will require a check for the full amount of bond to ARDOT. Project ENGINEER to submit copy of approved permit to DEPARTMENT when received.

SECTION 5 PLANS AND SPECIFICATIONS

5.1 RECORD DRAWING STANDARDS

5.1.1 Prior to site final of the project, one (1) complete set of "As-Built" drawings shall be PDF and furnished or emailed to the DEPARTMENT for record purposes by the same ENGINEER who prepared and submitted the construction plans and specifications. Change of ENGINEERING firm shall warrant re-submittal both to CITY ENGINEERING and ADH. CITY ENGINEERING shall be notified in writing of change in Engineering Firm, additional requirements considered on a case-by-case basis. Record Drawing Standards shall be as outlined below:

5.1.2 All files associated with acceptance of the record drawings found in this section shall be received prior to site final. If any are found to be incorrect or inconsistent during review or at the site final, all files shall be revised as necessary and the corrected files sent to the DEPARTMENT for review and acceptance prior to approval of the site final.

5.1.3 Record Drawings shall include the site plan, construction plan sheets, and any supplementary drawings and shop drawings. Plan of lift stations or other special features should be shown if applicable. "Record Drawing" is to be stamped in large clear print on plans.

5.1.4 Public vs. Private Infrastructure shall be delineated on the PDF plans as well as the digital and data (.shp & .csv) files. Public vs. Private utilities shall clearly be identified on the PDF plan when both are present. If private utilities are present, then two (2) sets of data files will be required with the submittal. One set for public only, as outlined in these standards, and the other shall include private infrastructure only.

5.1.5 Piping line work for both water and sewer infrastructure shall be drawn as continuous segments without breaks. Breaks shall only occur at constructed locations of valves, manholes or other assets along a pipe segment.

5.1.6 Material Quantity Table – Utility Sheet to include a material quantity table of all public infrastructure that was installed during construction for each project. Table information shall quantify the entire water and sewer infrastructure that was constructed. To include all water and sewer lines, bends, tees, hydrants, valves, meter sets, manholes, etc. Table 5.8.

5.1.7 All plans shall be drawn to a scale suitable for adequately showing the facilities proposed, except as stipulated herein. All plans and profiles of sewer lines shall be drawn to scale with the profile vertical scale at **1" = 5'** and plan horizontal scale for water and/or sewer lines of **1" = 30'** or larger. All drawings shall be no larger than **24" X 36" sheets**. All elevations shall be based on mean sea level. An overall project map shall be a minimum 24" X 36" and shall depict the entire project and show all proposed water and/or sewer lines properly labeled as to size and pipe material. All other utilities shall be shown along with the proposed road profile if applicable. A vicinity map at a scale **of 1" = 2,000'** shall be furnished indicating the location of the project in relation to arterial streets and major highways. Reduced size drawings may be allowed for inspection purposes after all approvals have been obtained.

5.2 **Cad Files - .dwg & .dxf**

5.2.1 Submit one or more AutoCAD / Civil 3D (.dwg format AND .dxf) drawing files that contain the entire utility infrastructure (water and sewer,) that was constructed with the project, as well as all other pertinent reference lines, project information, and survey control data. The following layers are requested to be used for all "Water" features: BWD-WATER & BWD-WATERTXT and the following layers are requested to be used for all "SEWER" features; BWD-SEWER & BWD-SEWERTXT." The infrastructure shall be drawn in the file at the as-built locations as surveyed and certified by the Professional Land Surveyor. The AutoCAD file(s) shall be placed into a folder named "CAD" on the submitted media. Please note: the delivered CAD files should not be of the Plan/Profile sheets, but should be the overall working drawing in "model space" that is registered to AR North State Plane, NAD 1983.

5.3 **Shape Files - .shp**

5.3.1 Submit as-built data for direct import into the City's Geographic Information System (GIS). Submit four (4) shape (.shp) files; One (1) shape file (points), named "WTR_F" that contains all of the water infrastructure features that was constructed with the project; One (1) shape file (lines), named "WTR_L" that contains all of the water infrastructure lines that was constructed with the project; One (1) shape file (points), named "SWR_F" that contains all of the sanitary sewer infrastructure features that was constructed during the project; One (1) shape file (lines), named "SWR_P" that contains all of the sanitary sewer infrastructure lines that was constructed during the project. Each shape file shall include all features and line work that was constructed with the project only. Correctly name the files as outlined above. The shape files shall match the data files (.csv)

5.4 **Data Files - .csv**

5.4.1 Data shall consist of files in an ASCII Comma Separated Value (CSV) file format. The preferred horizontal coordinate system for the digitally submitted data as described below shall be AR NORTH State Plane (NAD83), U.S. Survey Feet. The preferred vertical coordinate system for the digitally submitted data as described below shall be North American Vertical Datum, 1988 (NAVD 1988), U.S. Survey Feet. All of these file(s) shall be placed into a folder named "DATA" on the submitted media.

5.5 **Water Features**

5.5.1 The file shall be named "Water_Features" and contains various elements that connect and control the distribution of water within and among various water lines. These features include both buried fittings (bends, crosses, end caps, reducers, and tees) and features that are accessible and/or visible at the surface (meters, valves, and hydrants). Buried features should be located similar to the method our utility locators use: (a paint dot is placed on the pavement at the approximate location of the feature and then surveyed location is taken at the paint mark.)

Water line locations are required only if the water line curves. These locations shall be surveyed at 25 foot stations along the length of the water line.

Each line of the file shall contain the following information:

ID, Type, Northing, Easting, Elevation, Description (all on first line of the file)

Where:

ID - A unique ID number assigned to each feature noted on the as-built plan and profile sheets (e.g. GV1, HYD1, etc.)

Type - The type of feature. Provide the following codes as indicated in the table below:

5.5.2 Water Features Descriptions

Feature Description	Type
Air Release Valve	ARV
Backflow Preventer	BFP, RPZ, RPA, etc.
Bend	BEND
Blow Off	BLOWOFF
Cross	CROSS
Demarcation Valve	DMV
Encasement	ENCASE
End Cap	CAP
Fire Department Connection	FDC
Fire Hydrant	HYDRANT
Post Indicator Valve	PIV
Reducer/Increaser	REDUCER
Tee/Tapping Sleeve	TEE
Water Valve	VALVE
Water Line	WATERLINE
Water Meter	METER

Northing – North coordinate value (+/- 2.0’ if buried, +/- 0.1’ otherwise)
Easting – East coordinate value (+/- 2.0’ if buried, +/- 0.1’ otherwise)
Elevation – Elevation, collected as follows: (+/- 2.0’ if buried, +/- 0.1’ otherwise)

5.5.3 Water Feature Elevation Locations

Feature Type	Elevation Location
BEND/BLOWOFF/CROSS/END CAP/REDUCER/TEE	Surface, at the mark that indicates the approximate location of the buried feature.
HYDRANT	Top of the fire hydrant.
METER/VALVE	Center of the access structure.
WATERLINE	Surface, at the mark that indicates the approximate location of the buried line, at 25 foot stations. *Only required if a water line is curved.*

Description - The description of the item for the feature; encoded as follows:

5.5.4 Water Feature Descriptions

Feature Type	Description
BEND	Degree of bend (e.g. 11.25/22.5/45/90).
BLOWOFF	Size (in inches) of the blow off.
CROSS	Size (in inches) of each water line that connects to the cross (e.g. "12x12x8x8").
ENDCAP	Size (in inches) of the water line.
HYDRANT	Manufacturer and year of manufacture. This information will be on the hydrant (e.g. "CLOW- 2004").
METER	The size (in inches).
REDUCER	The size (in inches) of the lines on either side of the reducer (e.g. "8x4").
TEE	The sizes (in inches) of each water line that connects to the tee (e.g. "12x12x8").
VALVE	The size (in inches) and type of the valve (e.g. 6 GV, 12 BFV)
WATERLINE	No description required.

Example file format:

ID	Type	Northing	Easting	Elevation	Description
GV1	VALVE	749862.3433	653776.6033	1215.05	8 GV
BEND1	BEND	749818.6838	653805.9192	1214.15	22.5 BEND

5.5.6 Water Lines

The file shall be named "Water_Lines" and shall contain the following data. There is one line of data for each water line that connects two water features.

ID, Size, Material, FeatureID1, FeatureID2 (all on first line of the file)
Where:

ID – A unique number assigned to each section of water line noted on the as-built plan and profile sheets (e.g. "WL1")

Material – Water line material

Size – The size (in inches) of the water line

FeatureID1 - The ID of the feature on the near end of the water line as shown on the as- built plans (e.g. "GV1")

FeatureID2 - The ID of the feature on the far end of the water line as shown on the as- built plans (e.g. "HYD1")

Example file format:

ID	Material	Size	FeatureID1	FeatureID2
WL1	PVC	8	GV1	GV2
WL2	PVC	8	GV10	GV1

5.6 Sewer Features

The file shall be named “Sewer_Features” and shall contain information about manholes, cleanouts, and other features listed in the table below. There is one line of data for each sewer feature.

Buried features such as force main bends and tees should be located similar to the method our utility locators use: (a paint dot is placed on the pavement at the approximate location of the feature and then surveyed location is taken at the paint mark.)

Force main locations (see the “FORCEMAIN” type in the table below) are required only if the force main curves. These locations will be surveyed at 25 foot stations along the length of the water line.

End of service locations shall be the location at which the stub-out connection point is to be made. Section 14.2.7

ID, Type, Northing, Easting, Elevation, Invert, Material (all on first line of file)

Where:

ID – If the feature is a manhole then the number as shown on the as-built drawings (e.g. “MH1”). If feature is a clean out then a lot number or street address (e.g. “LOT10” or “123 Street Name”).

Type – The feature type, coded according to the following table:

5.6.1 Sanitary Sewer Features Descriptions

Feature Description	Type
Clean Out	CLEANOUT
Drain	DRAIN
End Of Service	SERV
Force Main Valve	FMVALVE
Force Main Tee	FMTEE
Force Main Bend	FMBEND
Force Main	FORCEMAIN
Grease Trap	GREASETRAP
Manhole	MANHOLE
Sand / Oil Separator	SOS
Tracer Wire Port	TWPORT

Northing – North coordinate value at the center of cover (+/- 0.1’).
Easting – East coordinate value at the center of cover (+/- 0.1’).
Elevation – Rim elevation at the center of cover (+/- 0.1’)

5.6.2 Sanitary Sewer Features Elevation Locations

Feature Type	Elevation Location
CLEANOUT	Surface adjacent to the cleanout.
DRAIN	Center of the drain grate.
FMVALVE	Center of the access structure.
FMTEE/FMBEND	Surface, at the mark that indicates the approximate location of the buried feature.
FORCEMAIN	ark that indicates the approximate location of the buried main, at 25 foot stations. *Only required if a force main curves.*
GREASETRAP/OWS	Center of the structure
MANHOLE	Center of Rim

Invert Elevation– Invert elevation (+/- 0.1', bottom of manholes)
Material – Construction material

Example file format:

ID	Type	Northing	Easting	Elevation	Invert	Material
MH1	MANHOLE	751915.787	662437.91	1282.86	1277.71	CIP
CLEANOUT1	CLEANOUT	751927.504	662217.212	1285.37	1280.13	PVC

5.6.3 Sewer Pipes

The file shall be named "Sewer_Pipes" and shall contain the following data. There is one line of data for each sewer pipe.

If the pipe is a force main, values for Size, Material, USId, and DSId only need to be provided.

ID, Size, Material, USId, DSId, USInv, DSInv, Slope, Length (all on first line of the file)

Where:

ID – A sequential pipe number as noted on the as-built drawings (e.g. "SSP1").

Size – Inside pipe diameter (inches).

Material – Pipe material

USId – Upstream manhole number as shown on the as-built drawings (e.g. "MH1").

DSId - Downstream manhole number as shown on the as-built drawings (e.g. "MH2").

USInv – Invert elevation at the upstream end.

DSInv – Invert elevation at the downstream end. If downstream end is a drop connection, provide both elevations separated by a slash (e.g. 1100.05 / 1100.15).

Slope – The as-built grade of the pipe, expressed as a percentage and carried out to two decimal places.

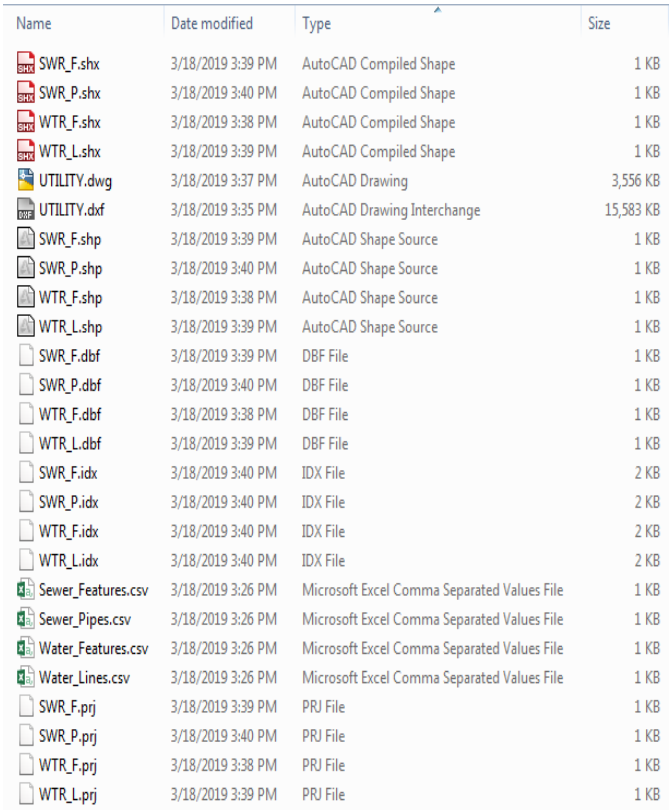
Length – The length (in linear feet) of the pipe as indicated on the as-built carried out two decimal places.

Example file format:

ID	Size	Material	USID	DSID	USINV	DSINV	Slope	Length
SSP1	8"	PVC	MH1	MH2	1233.15	1228.41	6.02%	78.76

5.7 REQUIRED DATA FOLDER FILE FORMAT:

Example file format:



Name	Date modified	Type	Size
SWR_F.shx	3/18/2019 3:39 PM	AutoCAD Compiled Shape	1 KB
SWR_P.shx	3/18/2019 3:40 PM	AutoCAD Compiled Shape	1 KB
WTR_F.shx	3/18/2019 3:38 PM	AutoCAD Compiled Shape	1 KB
WTR_L.shx	3/18/2019 3:39 PM	AutoCAD Compiled Shape	1 KB
UTILITY.dwg	3/18/2019 3:37 PM	AutoCAD Drawing	3,556 KB
UTILITY.dxf	3/18/2019 3:35 PM	AutoCAD Drawing Interchange	15,583 KB
SWR_F.shp	3/18/2019 3:39 PM	AutoCAD Shape Source	1 KB
SWR_P.shp	3/18/2019 3:40 PM	AutoCAD Shape Source	1 KB
WTR_F.shp	3/18/2019 3:38 PM	AutoCAD Shape Source	1 KB
WTR_L.shp	3/18/2019 3:39 PM	AutoCAD Shape Source	1 KB
SWR_F.dbf	3/18/2019 3:39 PM	DBF File	1 KB
SWR_P.dbf	3/18/2019 3:40 PM	DBF File	1 KB
WTR_F.dbf	3/18/2019 3:38 PM	DBF File	1 KB
WTR_L.dbf	3/18/2019 3:39 PM	DBF File	1 KB
SWR_F.idx	3/18/2019 3:40 PM	IDX File	2 KB
SWR_P.idx	3/18/2019 3:40 PM	IDX File	2 KB
WTR_F.idx	3/18/2019 3:40 PM	IDX File	2 KB
WTR_L.idx	3/18/2019 3:40 PM	IDX File	2 KB
Sewer_Features.csv	3/18/2019 3:26 PM	Microsoft Excel Comma Separated Values File	1 KB
Sewer_Pipes.csv	3/18/2019 3:26 PM	Microsoft Excel Comma Separated Values File	1 KB
Water_Features.csv	3/18/2019 3:26 PM	Microsoft Excel Comma Separated Values File	1 KB
Water_Lines.csv	3/18/2019 3:26 PM	Microsoft Excel Comma Separated Values File	1 KB
SWR_F.prj	3/18/2019 3:39 PM	PRJ File	1 KB
SWR_P.prj	3/18/2019 3:40 PM	PRJ File	1 KB
WTR_F.prj	3/18/2019 3:38 PM	PRJ File	1 KB
WTR_L.prj	3/18/2019 3:39 PM	PRJ File	1 KB

5.8 **Material Quantity Table**

WATER SYSTEM IMPROVEMENTS	TYPE	QUANTITY
16" ENCASEMENT	LF	20
8" PVC WATER LINE	LF	1200
GATE VALVES (8")	EA	16
TAPPING SLEEVE & VALVE	EA	2
FIRE HYDRANTS	EA	8
45° BEND	EA	4
METER SETS	EA	36
SEWER SYSTEM IMPROVEMENTS		
8" PVC	LF	880
8" DIP	LF	40
CIP SMH	EA	10
CLEANOUT	EA	2
4" FM	LF	180

SECTION 6 INSPECTION

6.1 This section covers the requirements of inspection for the construction of water and sewer facilities.

6.2 The responsible ENGINEER who prepared and submitted the construction plans and specifications shall be responsible for construction layout, general direction, resident inspection and site final as described in more detail in the following sections. Continuous project responsibility shall be an express condition of plan approval. The ENGINEERS responsibility shall extend through site final approval and submittal of "As-Built" drawings for acceptance of the project by the DEPARTMENT for maintenance.

6.3 All water and sewer facilities proposed shall be constructed by a licensed utility CONTRACTOR with the correct classification and inspected by the responsible ENGINEER as defined under definitions. Inspection shall consist of, but not be limited to, periodic visits to the construction site to observe the progress and quality of the executed work to determine if the work is proceeding in accordance with the approved plans and specifications and with the standards set forth by the DEPARTMENT. Any defects, deficiencies or irregularities in the work found by the ENGINEER or reported by the RESIDENT INSPECTOR shall be reported to the CITY INSPECTOR. Such action, as deemed appropriate, and as approved by the DEPARTMENT, shall be taken to correct such deficiencies. All work performed, shall at all times be subject to general inspection by the MANAGER or representative.

6.4 If deemed necessary by the DEPARTMENT to insure conformance with the approved plans and specifications, full time resident inspection may be required during all or part of the project and shall be performed by qualified personnel under the direct supervision of the ENGINEER. The name(s) of the RESIDENT INSPECTOR shall be furnished to the DEPARTMENT, any changes shall be notified to the DEPARTMENT in writing with all contact information included. It shall be the responsibility of the RESIDENT INSPECTOR to safeguard the DEPARTMENT'S interest by checking the construction work for compliance with the approved plans, specifications and other standards. The responsible ENGINEER shall provide an inspector for each location within a project that would use more than one pipe laying crew (e.g. two pipe laying crews on two different sites, two inspectors, one for each site). The CITY INSPECTOR or DEPARTMENT

representative and the RESIDENT INSPECTOR shall witness all test procedures. The RESIDENT INSPECTOR shall provide a documented report of results, conditions, and time of test to the DEPARTMENT for its use and approval. If the CONTRACTOR intends to work outside of the normal work schedule or on a holiday, the RESIDENT INSPECTOR shall be required to be on the job site at all times and shall notify the DEPARTMENT. **Refer to Section 2.**

6.5 Any defects, deficiencies or irregularities shall be reported to the ENGINEER. A job diary shall be kept, outlining all aspects of the construction project and shall be made available to the DEPARTMENT upon request.

SECTION 7 CONSTRUCTION LAYOUT

7.1 The layout and staking of the construction work shall be completed by trained and qualified survey personnel under the supervision of the ENGINEER. Construction layout shall consist of staking (physical monuments) necessary to determine alignment and elevations to properly construct the proposed facilities. All depths shall be approved by the DEPARMENT during plan review.

SECTION 8 SITE FINAL PROCEDURES

8.1 Before acceptance of new construction involving water lines or sewer main extensions, a physical site inspection will be scheduled by the ENGINEERING DEPARTMENT referred to as a "Site Final".

8.2 All lot corners shall be in place and witnessed by a survey marker. Said marker shall bear the number of the respective lot it represents. If lot lines do not coordinate with newly constructed utilities, it shall be the DEVELOPER'S responsibility to make the appropriate adjustments. If said situation exists at time of site final, approval shall be withheld until lot lines and utility locations coordinate. If these requirements have not been met, then site final shall be cancelled.

8.3 Water valve boxes will be to final ground elevation or paving grade centered directly over operator nut. Water valves and valve boxes shall be positioned in a manner to allow operability at all times. A continuous locator wire shall be present and operable in all valve boxes.

8.4 Fire hydrants shall be set at bury line at finished grade. Hydrants shall be positioned 3' to 9' from back of curb or edge of any driving surface (measured from the steamer cap nut) or as directed by the DEPARTMENT during plan review.

8.4.1 All public fire hydrants shall be painted Industrial Safety Yellow. All private fire hydrants not maintained by the DEPARTMENT shall be painted Industrial Safety Red. Fire hydrants shall be painted prior to inspection unless otherwise instructed by the DEPARTMENT.

8.4.2 All fire hydrant assemblies shall have an auxiliary gate valve installed at the point of connection serving the hydrant. Hydrant lead lines in excess of 50' shall have an additional auxiliary gate valve installed at the fire hydrant or as designated by the DEPARTMENT during plan review.

8.5 Fire Department Connection (FDC) for each sprinkler or standpipe system shall be located not more than 100' from the nearest public fire hydrant connected to an approved public water supply. The FDC height shall be between 36" and 48" from the finished grade with a 30° bend and a 5" Storz connection. There shall be #10 tracer wire taped every 10 feet on the top of FDC line. Additional fire hydrants may need to be installed as required by the Fire Chief or his designated representative. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that the fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of the fire department

connections and/or fire hydrants shall be approved by the Fire Chief or his designated representative. This fire hydrant will be solely used for the FDC. (**Or per newest Fire Department Ordinance**).

8.5.1 FDC's shall be located on address side of building and shall be approved by the Fire Department's Inspection Division prior to installation.

8.5.2 Butterfly valves are not approved for use in fire suppression systems. Only approved Post Indicator gate valves (P.I.V.) or wall indicator valves shall be utilized and approved. P.I.V. needs to be 30" to 36" above final grade to the sight glass. There shall be #10 tracer wire taped at 10' intervals on top of the fire line. PIV shall to be shown on construction plans.

8.6 Residential Meter boxes shall be set at 3" above proposed final grade or as directed by the DEPARTMENT during plan review. All meter setters inside the box shall not touch the sides of the box and shall be located where the turn-on and turn-off valves are easily accessible and operable by meter personnel. All meter sets shall have a minimum 3' stub-out service line for each service placed in such a manner to minimize disturbing meter box in the process of plumbing connection from pigtail to the customer's service line. All damage to meter boxes shall be the responsibility of the owner or builder after final acceptance has been completed. Meter personnel reserve the right to refuse placement of meters if setters or boxes are damaged, misaligned, or if finished grades have changed. All meter box lids shall have one or two pre-drilled holes, depending on the number of meter setters installed within the meter box. The holes are for use with the DEPARTMENT'S meter reading system. Failure to install predrilled lids will lead to acceptance failure.

8.7 All meter vault plans and installations shall be approved by the DEPARTMENT during plan review. All meter vaults are to be installed by designated CONTRACTOR of the project. **Section 12.18.4**

8.8 All pipe and fittings shall meet the DEPARTMENT'S specifications. All DI pipe shall be cement lined and tar coated, all fittings shall be epoxy coated. Meter by-pass material shall be rigid copper or DI pipe. Valves shall meet specifications herein. Vault depth shall not exceed 5' unless approved by the DEPARTMENT.

8.9 The vault cover shall be removable to allow full access to the vault. Four recessed lifting points shall be provided. An access door shall be installed in the center of the vault. The lid shall have pre-drilled holes for meter capability. Approved doors shall be similar or equal to Bilco or Halladay and shall be a minimum of 36" x 36".

8.10 Water meters shall not be installed within buildings without prior approval by the DEPARTMENT. If approved, meters inside buildings shall meet the following criteria, **Section 8.11,** which shall be furnished and guaranteed by owner of future development prior to approval.

8.11 Meters must have capability via outside of building and accessible to meter personnel, (no obstructions). Meters 4" and larger are to be purchased by OWNER with direction of the DEPARTMENT.

8.12 Sewer stub-outs installed for a domestic sewer connection shall be marked and made visible by installing a metal tee post painted green at the precise location above said sewer line end, at a height of 3' exposed above ground and buried a minimum of 3' below ground.

8.13 All trees planted in large scale projects and subdivisions shall be planted at a minimum of 5' from any water or sewer mains.

8.14 ENGINEER shall contact the DEPARTMENT by email to schedule televising of sewer mains and tracer wire inspections before roadways have been completed and before 1st full inspection is requested. Full CCTV inspection shall be completed and 1st tracer wire inspection shall be completed before site final. ENGINEER shall provide revised "as-built" drawing of utility sheet with sewer profile before testing will be scheduled.

8.15 The OWNER/CONTRACTOR/DEVELOPER shall pay any outstanding (3 or more months) invoice issued by the Water Utilities Office prior to final acceptance of the current project. This includes previous projects, water/sewer line repairs, fire hydrant contracts, discontinue services, replace meter tiles, re-inspection fees, survey fees, etc. – Does not include Utility Bills.

8.16 The DEPARTMENT shall charge for each re-inspection. **Refer to current fee ordinance**.

SECTION 9 GENERAL REGULATIONS FOR CONSTRUCTION PURPOSES

9.1 **Refer also to current Transportation Department Specifications.**

9.1.1 This section outlines minimum construction procedures and standards for the installation of water and sewer extensions.

9.1.2 Any CONTRACTOR/DEVELOPER/CUSTOMER/RESIDENT that requests the use of a hydrant meter will be required to fill out a Contract and pay for a Fire Hydrant Meter at the Water Utilities Office. The CONTRACTOR/DEVELOPER/CUSTOMER/RESIDENT of the City of Bentonville will determine the location for the hydrant meter with the DEPARTMENTS approval. The current contract may also be found online on the City of Bentonville Water Utilities Department website.

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9.2 UNDERGROUND UTILITY NOTIFICATION

9.2.1 It is the CONTRACTOR'S responsibility to notify **"Arkansas One-Call" (1-800-482-8998 or 811)** two days in advance of any excavation. Location of utility requests for surveying purposes will be charged to the requesting party. A notice of at least 2 working days (normal work schedule) should be expected before locates are performed by the DEPARTMENT. **Refer to current fee ordinance**.

9.3 WATER OUTAGES

9.3.1 In the event that the CONTRACTOR must have a water main out of service in order to connect to the water system, the CONTRACTOR shall notify the DEPARTMENT of impending loss of service at least 5 days in advance. All shutdowns shall be coordinated and scheduled by the DEPARTMENT. Notifying customers will be accomplished by means of approved door hanger notices supplied by the DEPARTMENT, however it is the CONTRACTOR'S responsibility to notify the customers a minimum of 24 hours ahead of time. **Section 13.1.2**

9.4 TRENCH DEWATERING

9.4.1 The CONTRACTOR shall install dewatering systems as necessary that will be required to construct the proposed utilities in a manner that will prevent groundwater contamination. Must meet current City of Bentonville Storm Water Regulations. For 12" and larger pipe sizes, ground water encountered shall be prevented from migrating along the trench with either clay or flowable fill mitigation dams and wrapping pipe bedding with filter fabric as approved by the DEPARTMENT, in accordance with geotechnical recommendations.

9.5 LOCATION, ALIGNMENT AND GRADE

9.5.1 The pipe, fittings, valves, fire hydrants, meter boxes, manholes, and other appurtenances shall be constructed to conform to the location, line size and material, and grades specified or as shown on the Plans.

9.5.2 Valves and fire hydrants shall be set with operating stem and nut plumb.

9.5.3 Horizontal and vertical control points will be established along or adjacent to the construction area. It shall be the responsibility of the CONTRACTOR to make necessary measurements from these control points in order to maintain the proper alignment and grade of the structures. The CONTRACTOR shall preserve all stakes and markers established by the ENGINEER.

9.5.4 In a residential or commercial subdivision, the water and sewer mains will be placed at 12' back of curb or 2' behind master plan street right-of-way. The manholes and fire hydrants will be placed on the lot line and water and sewer services will be placed 3' off the lot line. Water services that are on the same side as the water main will be placed at 14' back of curb and the water services across the road from the water main will be placed in the green space centered between the curb and proposed sidewalk. The 1" tubing going to the meter set will be installed without excess tubing wrapping around the meter tile. The sewer services are to extend to the building setback or the back edge of the utility easement. The fire hydrants that are placed on the lot line need to meet the back of curb measurement that is shown on the fire hydrant installation **Details W04 and W05**. The manholes that are street side need to have a final rim elevation that is 4" to 6" above final grade and any manholes that are at the back of lots or along drainage areas need to be 12" above final grade. Please keep in mind that the maximum vertical extension above the cone is 24". If the vertical extension is greater than 24" it will be necessary to take the cone off, extend the walls, re-pour the cone and do a vacuum test on the manhole. Any variation from the above described layout needs to be submitted to the DEPARTMENT for approval during the plan review process.

9.6 PUBLIC TRAVEL

9.6.1 Traffic control shall be in accordance with the City of Bentonville Minimum Standard Specification for Streets.

9.7 SURFACE & SUBSURFACE STRUCTURES LOCATION AND PROTECTION

9.7.1 The DEPARTMENT does not guarantee the accuracy or correctness of locations of subsurface structures. It shall be the responsibility of the CONTRACTOR to satisfy himself as to the actual location and nature of subsurface structures.

9.7.2 The CONTRACTOR shall make necessary exploratory excavations to determine the location of underground structures such as pipes, drains, conduits, and other structures. The CONTRACTOR shall be responsible for contacting the respective utility of such structures before excavating in the vicinity of these structures and shall be guided by their instructions.

9.7.3 The CONTRACTOR shall provide adequate protection and support for all surfaces and subsurface structures or other facilities encountered during the progress of the work. Whenever such structures or facilities are in the same location as the proposed pipeline or appurtenances thereto, the CONTRACTOR shall relocate or reconstruct or cause to be relocated or reconstructed, the structure or facility to the satisfaction of the DEPARTMENT and utility facility owner. Whenever requested by the DEPARTMENT or utility owner, the CONTRACTOR shall provide drawings and other plans for supporting or otherwise safeguarding surface and subsurface structures or other facilities which, in the opinion of the DEPARTMENT, or utility or facility owner, may be damaged as a result of the CONTRACTOR'S work.

9.7.4 The CONTRACTOR shall not stop or impede the flow in any pipe, sewer, surface or subsurface drain without making provisions for diverting the flow to the satisfaction of the DEPARTMENT.

9.7.5 If any utility facility or structure is damaged during the progress of the work, the CONTRACTOR shall immediately notify the appropriate owner. Repairs shall not be made by the CONTRACTOR without the prior approval of the utility facility or structure owner. The CONTRACTOR shall pay utility owners for the cost of repairing, relocating or replacing any facilities damaged by the CONTRACTOR. In addition, the CONTRACTOR shall provide all assistance available to the utility involved in making repairs under emergency conditions.

9.7.6 The CONTRACTOR shall not operate any control valve or fire hydrant in the existing water distribution system without the approval of the DEPARTMENT.

9.7.7 All existing water mains, services, appurtenances and bends shall be properly restrained in such manner so as to prevent displacement before excavating behind these appurtenances.

9.8 PROTECTION OF VEGETATION

9.8.1 The CONTRACTOR shall not remove or disturb any vegetation except that required for the execution of the work.

9.8.2 Unless otherwise specified in these specifications or in the plans, the CONTRACTOR shall replace all sod, shrubs, bushes, trees, and flowers disturbed or removed, that are located upon improved or landscaped public and private property. The CONTRACTOR shall replant vegetation and re-landscape or cause such to be performed throughout the work area as soon as possible after the water lines and appurtenances have been installed. All vegetation damaged during or after removal shall be replaced with healthy vegetation of the same kind or type. All plants shall be replanted in the original location. The CONTRACTOR shall maintain all such replanted vegetation by the application of water, fertilizers and topsoil. The vegetation shall be cultivated to prohibit the growth of foreign vegetation until a “well developed” root system has been established and transplanted vegetation has overcome the "shock" resulting from transplanting. If any vegetation dies or becomes unhealthy, it shall be replaced by the CONTRACTOR. The contour of the ground shall be left as near the original contour as possible.

9.8.3 The CONTRACTOR shall stabilize all areas where ground surface has been disturbed by water and sewer construction activities to as good or better condition.

9.9 EXCAVATION AND PREPARATION OF TRENCH

9.9.1 The CITY INSPECTOR and "Arkansas One-Call System" shall be contacted before excavation shall begin. Also, excavations shall be in accordance with the Arkansas Department of Labor requirements.

9.9.2 All trench excavation side walls greater than 5' in depth shall be sloped, shored, sheeted, braced or otherwise supported by means of sufficient strength to protect the workmen within them in accordance with the applicable rules and regulations established for construction by OSHA and ADL.

9.9.3 Before installation of pipe and appurtenances, the trench bottom shall be graded so uniform support of the pipe and appurtenances are provided. Shallow depressions shall be made in the trench bottom to accommodate bell ends. It is a requirement for bell or coupling holes to be excavated where no part of the load is supported by bells, couplings, or fittings.

9.9.4 All trenches shall be backfilled immediately after proper installation of the pipeline, tracer wire, embedment, and appurtenances. It may be necessary to backfill only a portion of the trench in order to allow adequate curing of concrete thrust blocking.

9.9.5 The trench width may vary and depend upon the depth and the nature of the excavated material encountered. The trench shall be of ample width to permit the pipe to be laid and jointed properly and the backfill to be placed and compacted properly. The minimum width of non-sheeted trench shall be at least 1' greater than the nominal diameter of the pipe. Ledge rock, boulders, large stones, and other rock formation shall be removed to provide a clearance of at least 6" on each side of pipeline and appurtenances up to and including 24” in diameter.

9.9.6 The bottom of the trench shall be prepared so as to provide a uniform and continuous bearing and support for the pipe on solid undisturbed or compacted soil. The trench shall be excavated to at least the depth specified as follows beyond the specified grade when the following described conditions exist:

9.9.7 When the bottom of the trench is at sub-grade and is found to be unstable or includes ashes, cinders, refuse, other organic material, or large pieces of inorganic material, that, in the judgment of the ENGINEERING DEPARTMENT, should be removed, the CONTRACTOR shall remove all such material to the extent required by the ENGINEERING DEPARTMENT

9.9.8 When the excavation is carried below or beyond that specified or required due to conditions described in **Section 9.9.7**, the CONTRACTOR shall backfill the trench to the proper grade with approved backfill material specified by the DEPARTMENT, unless permitted by the DEPARTMENT to install the lines and appurtenances at the undercut grade. The backfill shall be accomplished in accordance with that specified by the DEPARTMENT or elsewhere herein.

9.9.9 The use of trench-digging machinery will be permitted except in places where operations of same will cause damage to trees, buildings, or other existing structures above or below the ground; in which case hand methods shall be employed.

9.9.10 Blasting for excavation will be permitted only after the CONTRACTOR secures the approval of the Fire Department and DEPARTMENT and only when proper precautions are taken for the protection of persons and property. The Fire Department will approve the hours of blasting. Any damage caused by blasting shall be repaired by the CONTRACTOR at their expense. The method of transporting, handling, and storage of explosives and blasting procedure shall conform to Federal Regulations, local and state laws, municipal ordinances and be approved by the Fire Department in advance.

9.9.11 The CONTRACTOR shall comply with all federal, state and local laws or ordinances with respect to obtaining permits, the deposit of bonds and all other provisions of such laws and ordinances.

9.9.12 In order to prevent caving when excavating in sand, gravel, sandy soil, or other unstable material shall be adequately sheeted and braced. Where sheeting and bracing is used, the trench width may be increased accordingly. Trench sheeting shall remain in place until the pipe has been laid and jointed. Where slides or cave-ins occur, the CONTRACTOR shall, at his expense, provide proper bedding and support for the pipe to maintain line and grade.

9.9.13 All excavated material stored on the job site shall be stockpiled in a manner to avoid blocking driveways, streets or sidewalks and will not endanger workers, pedestrians or travelers. Gutters shall be kept clear or other satisfactory provisions shall be made for street drainage. If local conditions permit their re-use, all surface materials suitable for re-use in restoring the surface shall be kept separate from the general excavation material. Excess material and debris shall be removed promptly.

9.9.14 The CONTRACTOR shall maintain all temporary surfaces in good condition until permanent repairs are complete.

9.10 WORK PERFORMED BY DEPARTMENT

9.10.1 The intent of these specifications is for the CONTRACTOR to do all installation of new water and sewer infrastructure. All water and sewer taps to the existing Water Distribution or Wastewater Collection Systems shall be made by the DEPARTMENT as outlined in **Section 11.10**.

9.10.2 If damage occurs to the water or wastewater collection systems during construction, the DEPARTMENT, with its labor forces, will make all repairs to these systems. The CONTRACTOR may be requested to assist in the repairs to reduce charges for damages occurred.

9.10.3 If the DEPARTMENT assists the CONTRACTOR for any reason, the CONTRACTOR shall pay for the cost of this assistance, based on the cost of labor, equipment, materials and overhead.

9.11 CONFINED SPACES

9.11.1 The CONTRACTOR'S attention is called to the requirements for entry into confined spaces as defined by the Current Edition of the OSHA Standard for Permit Required Confined Spaces which is specifically incorporated herein by reference.

9.11.2 CONTRACTOR'S responsibilities for entry into any Permit Required Confined Space are:

(a) CONTRACTOR shall obtain from DEPARTMENT any available information regarding any hazards of entry operations for a Permit Required Confined Space.
(b) When both DEPARTMENT and CONTRACTOR'S personnel are to work in or near a Permit Required Confined Space, CONTRACTOR shall coordinate such work with DEPARTMENT.
(c) CONTRACTOR shall inform DEPARTMENT of type of Permit Required Confined Space Program used by his employees.
(d) CONTRACTOR shall inform DEPARTMENT of any hazards confronted or created in a Permit Required Confined Space.
(e) CONTRACTOR is responsible for having knowledge of and complying with all requirements of OSHA's Standard for Permit Required Confined Spaces.

9.12 PUBLIC EMPLOYEES RIGHT TO KNOW ACT

9.12.1 The CONTRACTOR'S attention is called to the requirements of the Hazard Communication Standard adopted by OSHA and State of Arkansas Act 556 of 1991: Public Employees Chemical Right to Know Act.

9.12.2 The CONTRACTOR is reminded that other obligations are imposed upon employers by the above Standard and Act.

9.13 CLEAN-UP OF JOB SITES

9.13.1 The CONTRACTOR shall remove all materials, equipment, tools, temporary structures, barricades, trees and other vegetation that have been cut or have died as a result of the work from both public and private property along the job site.

SECTION 10 GENERAL INSTALLATION INFORMATION AND PROCEDURES

10.1 HANDLING PIPELINE MATERIALS

10.1.1 The CONTRACTOR shall handle the material with the utmost care and in a manner to prevent damage to the materials, material coating and lining during loading, hauling, unloading, and installation operations. Hooks, chains, or cables shall not come in contact with the exterior/interior of pipeline materials. It is recommended to use approved nylon straps or approved clamps to handle pipeline material. Material damaged shall be replaced at the CONTRACTOR'S expense.

10.1.2 Hooks shall not be in contact with the pipe interior and to the extent possible the interior of the pipeline materials shall be kept free from dirt and foreign matter.

10.1.3 Pipeline materials, especially valves, hydrants and fittings shall be drained and stored in a manner to protect them from damage by freezing. Under no circumstances shall pipe or accessories be dropped or dumped into the trench.

10.1.4 Proper implements, tools and facilities shall be provided and used by the CONTRACTOR for the safe and convenient execution of work.

10.1.5 All foreign matter or dirt shall be removed from the inside of the pipe and appurtenances before lowering into the trench and the pipe interior shall be kept clean during and after laying. A swab shall be kept in the water line as long as the pipe is being laid. Care shall be taken to prevent dirt from entering the joint space. When pipe laying is not in progress, the open ends of the pipe shall be closed by installing a plug or cap of sufficient design to prevent trench water, foreign matter, and dirt from entering the pipeline.

10.1.6 Cutting of the pipe for inserting valves, fittings or closure pieces shall be done in a neat and workmanlike manner without damage to the pipe or pipe lining. Torch cutting is not permitted. All pipes shall be cut at an angle of 90° to the pipe centerline. Cutting at other angles to provide greater deflections at the joints shall not be permitted. Field welding or welding except by the pipe manufacturer shall not be permitted.

10.1.7 Unless otherwise approved or directed by the DEPARTMENT, all pipe shall be laid with bell ends facing the direction of laying; and for lines on an appreciable slope, bells shall face upgrade. Steep slope protection shall be provided in accordance with 10 States Standards.

10.1.8 No pipe shall be laid in water, or when the trench condition or the weather is unsuitable for such work, except by permission of the DEPARTMENT.

10.2 PIPE EMBEDMENT

10.2.1 This section covers materials used for embedment of water and sewer mains. Unless otherwise specified herein or shown on the plans, embedment materials shall be restricted to Class #67 type bedding as modified and described below with a maximum aggregate size of ¾". Installation of bedding shall be 6" under pipe and 6" over pipe. CONTRACTOR'S must provide proof of material to match required specifications.

Crushed aggregate conforming to the ASTM C33, gradation 67 and as follows:
Crushed aggregate sized from maximum ¾" to No. 8 sieves:
100% passing the ¾" sieve (maximum aggregate size ¾")
20 to 55% passing the 3/8" sieve
0 to 10% passing the No. 4 sieve
0 to 5% passing the No. 8 sieve

The required modification of the ASTM C33, gradation 67 is the clarification and potential additional requirement of 100% passing the ¾" sieve.

10.3 COMPACTION

10.3.1 All pipeline backfill shall be placed in layers of appropriate thickness and compacted using a mechanical, hydraulically-powered vibratory trench compactor or other equivalent equipment. All trench backfill (except under paved areas) shall be compacted to 95% (minimum) standard proctor density of that of the adjacent undisturbed soil Trench backfill is subject to density test as deemed necessary. In areas where the trench crosses a street, parking lot or driveway, the material shall be compacted as specified in **Section 10.3.2** to a minimum of 95% of that of the adjacent soils.

10.3.2 SB-2 crushed stone trench backfill where required shall be compacted to 95% modified proctor density (ASTM D1557). A minimum of one compaction test per crossing is required.

10.3.3 Ditch line compaction shall follow immediately after trench backfill. Topsoil shall be placed and shaped leaving the ditch line slightly rounded above existing grade.

10.4 JOINTING PVC & DUCTILE IRON PIPE AND FITTINGS

10.4.1 Prior to jointing the pipe and/or fittings, the plain ends of the pipe and the bells of the pipe and fittings shall be thoroughly cleaned using a soapy water and cloth, removing all foreign materials from the bells, especially the gasket seats. Any burrs or imperfections in that part of the plain end or bell, which will be in contact with the gasket, shall be removed.

10.4.2 The clean rubber gasket shall be inserted in the bell and a thin film of lubricant shall be applied to the inside surface of the gasket. The cleaned plain end shall initially be entered in the bell straight.

10.4.3 The plain end shall be pushed inside the gasket and bell until it strikes the end of the interior of the bell, after which the end of the pipe shall be moved sideways or as specified by the manufacturer's requirements to move it slightly away from home to allow for expansion and to provide flexibility to the completed line.

10.4.4 Pipe lubricants specified by the pipe manufacturer shall be used. No substitutes shall be made.

10.4.5 When connecting the pipe or fittings according to manufacturer's requirements, care shall be exercised to avoid damage to where the pushing device or machine part contacts the pipe. A wood block or suitable pad shall be placed between the pipe and that part of the pushing device which contacts the pipe and/or fittings.

10.4.6 All plain ends that enter a push-on bell shall be beveled as specified by manufacturer requirements. All cut pieces or ends of pipe of other classifications shall be so beveled.

10.5 JOINTING FLANGED PIPE & FITTINGS

10.5.1 The faces of all flanges shall be thoroughly cleaned and all burrs or imperfections removed and brushed with a steel brush.

10.5.2 Gaskets between flanges shall be AWWA approved of 1/16" minimum thickness.

10.5.3 Care shall be taken to prevent strain of the flanges. All bolts and nuts shall be cleaned and lubricated prior to tightening. Bolts on opposite sides shall be tightened alternately to the torque listed in **paragraph 10.6.4** herein.

10.6 JOINTING MECHANICAL JOINT PIPE & FITTINGS

10.6.1 Prior to jointing the pipe and/or fittings, the plain ends of the pipe and the bells of the pipe and fittings shall be thoroughly cleaned using a soapy water and cloth, removing all foreign materials from the bells, especially the gasket seats. When a pipe is being installed in a fitting, the factory bevels shall be removed.

10.6.2 The DI retainer glands shall be placed on the plain end of the pipe or fittings, followed by the rubber gasket, which has been thoroughly cleansed and lubricated with the soapy water.

10.6.3 The plain end of the pipe shall be placed in the bell, to which connection is to be made, and shouldered in back of the bell. The rubber gasket shall be advanced into the bell and seated in the gasket seat; the follower ring shall next be brought into contact with the rubber ring, and all bolts entered and nuts started.

10.6.4 Joints shall be made tight by advancing the nuts with a wrench 180° apart until a tight joint is made. The CONTRACTOR shall provide a "torque wrench" suitable for measuring tension on bolts for at least such a time as the workmen making the joints have gotten the "feel" of the required tension. At no time should handles longer than those supplied by the wrench manufacturer be permitted. The torque range shall be as follows or as directed by the manufacturer:

5/8" bolts	45 - 60 ft. lbs.
3/4" bolts	75 - 90 ft. lbs.
1" bolts	85 -100 ft. lbs.
11/4" bolts	105 -120 ft. lbs.

10.6.5 The rubber gasket and joint bolts of mechanical joint retainer glands shall be installed in accordance with above section. Set screws shall be tightened evenly to approximately 75-foot pounds or as directed by the manufacturer.

10.6.6 The entire follower, retainer gland and all bolts shall be encased in polyethylene material in accordance with **Section 13.11**.

10.7 PIPE DEFLECTION

10.7.1 During the pipe laying operation, deflections at joints shall not exceed the amounts indicated by the manufacturer's recommendations.

10.8 PIPE MATERIAL

10.8.1 For 12" and larger water and sewer pipes with pipe cover exceeding 14', the DEPARTMENT reserves the right to request geotechnical and design calculations, in accordance with AWWA design manuals. The DEPARTMENT shall be immediately notified if field conditions differ from the design and geotechnical.

SECTION 11 WATER DISTRIBUTION SYSTEM GENERAL INFORMATION

11.1 No water main shall be less than 8" in diameter unless prior approval is obtained in writing from the DEPARTMENT. Variances will be considered, on a case-by-case basis for the reduction of water main sizes.

11.2 The minimum cover over water mains 8" and less shall be 4' minimum. Mains larger than 8" shall have a minimum cover of 5' or as approved by the DEPARTMENT. The minimum cover over water services shall be 24" or as approved by the DEPARTMENT. Minimum cover shall be measured

from the ground surface or the surface of the permanent improvement to the top of the barrel of the pipe, whichever is greater. All depths of water mains shall be approved in advance by the DEPARTMENT.

11.3 In any case of signs, fencing, or structures installed near a water line, at least 5’ of separation between the water line and structure must be maintained. In any case of a permanent building installed near a water line, at least 10’ of separation must be maintained. Any deviation in separation minimums must get the approval of the DEPARTMENT prior to installation.

11.4 There shall be a 5’ minimum separation between the outside edge of a public water main, hydrant lead, fire hydrant, water meter, or other appurtenance to the outside edge of all other utilities within the utility easement. Any deviation must have approval from the DEPARTMENT prior to installation.

11.5 Each component within a project, i.e. water valves, fire hydrants, pipe, etc. shall be homogenous throughout the project and by a single manufacturer. All materials shall be domestically made. All utility mains shall be extended to property lines on all stubbed out streets. Any water main within a project that is stubbed out shall terminate at a fire hydrant assembly with a restrained gate valve connected to the downstream side of the tee. The purpose for the stub-out is to allow for connection to the utility without disturbing the existing development.

11.6 Water easements will be a minimum 20' in width or as directed by the DEPARTMENT. Easements shall be dedicated as utility easements unless required to dedicate for the exclusive use of the water mains. Water lines must be located within the center of the easement or as directed by the DEPARTMENT.

11.7 Fire hydrants shall be installed so that no distance shall be greater than 500’ apart within residential areas and 300’ apart in commercial or mixed developments or as directed by the Fire Department during plan review. Placement of fire hydrants in rural areas shall be installed so that no distance shall be greater than 1000’ apart or as directed by the DEPARTMENT. Densely constructed or industrial sites may need to meet criteria set forth by Fire Department requirements. All considerations involving the physical locations of FDC connections shall be regulated by the Fire Department. New construction of buildings must have a working fire hydrant before structure construction begins. Subject to approval from the Fire Department. Fire hydrants placed in subdivisions need to be installed at the lot line to avoid conflicts with driveways. In a situation where a fire hydrant lead is over 50’ an auxiliary gate valve shall be installed at the fire hydrant.

11.8 End of main fire hydrant locations for main extensions shall be approved by the DEPARTMENT during plan review.

11.9 The hydraulic analysis, design flows, residual pressures and static pressure of the proposed mains shall be provided as requested by the DEPARTMENT. Additional design data may be required if, in the opinion of the DEPARTMENT, it is necessary for review prior to approval of the plans.

11.10 Valves should be located not more than 500’ intervals within residential areas and 300' intervals within commercial areas or as required by the DEPARTMENT. Valves shall be provided at each quadrant of intersecting mains so as to enable two directions of flow throughout the designed system during times of maintenance or emergencies. Valves shall be installed in a manner that connects them to all fittings with an anchor coupling.

11.11 All taps 12” or smaller on existing mains shall be performed by the DEPARTMENT. Taps larger than 12” must be completed by a DEPARTMENT approved contractor, at the developer’s expense, following the procedures outlined in this section. Request for taps to be performed by the DEPARTMENT or approved contractor shall be made at least 24 hours in advance.

CONTRACTOR shall provide material for all taps and shall be responsible for excavation and installation of valve and tapping sleeves unless directed otherwise by the DEPARTMENT. CONTRACTOR shall provide two pressure tests prior to execution of the tap. Two Pressure Tests, as defined herein, at 200 psig with no loss for 15 minutes or in areas of higher pressure test to 1 ½ times the operating pressure with no loss for 15 minutes and shall be witnessed and recorded by the CITY INSPECTOR or DEPARTMENT representative. The first pressure test shall be with the valve closed and without a test plug, and the second pressure test shall be with the valve open and a test plug. Testing equipment shall be inspected by CITY INSPECTOR and shall be in proper working order at time of test. Tap locations on pipe sizes 6" to 12" will be no closer than 24" to the back end of the bell or collar of the pipeline and no closer than 24" from the insertion line on the spigot end of the pipeline. Water lines larger than 12" tap locations will be no closer than 36".

11.12 In no case shall a structure that is independently owned be allowed to connect to the same water service of another independently owned structure. Plumbing systems of two independently owned structures or properties shall not be served by the same water meter. Each individually owned plumbing system will have its own water meter to serve water for its domestic or commercial use. Each independently owned property or structure shall have a direct connection to public water and sewer. A private easement is not an acceptable means to access public water or sewer for new structures or lots. Only when approved as part of the zoning for a planned development shall two properties be served from the same 1" service line supplying water to a double meter set installed on the property line of the adjoining properties. These double meter set installations will only be allowed in these approved developments in cases where no lawns exist and/or a community irrigation system is being provided. All water and sewer service lines shall be inspected by the Bentonville Building Inspection Department.

11.13 All water meter boxes and services shall terminate as indicated on the approved plans or as directed by the DEPARTMENT. The DEVELOPER will provide 1" water service piping to each lot with a minimum single meter set and box. All service lines shall be a minimum size of 1". All 1" service lines shall include 10 gauge solid strand copper tracer wire. All service lines installed shall be backfilled with class 67 bedding as outline in **Detail W02.** Service tap locations on pipe sizes 6" to 12" will be no closer than 24" to the back end of the bell or collar of the pipeline. Water lines larger than 12" service line taps will be no closer than 36".

11.14 All water services shall include a meter yoke, meter box, and lid. All meter sets shall have a minimum 3' service "pig-tail" on the customer's side of the meter connection for each water service. The "pig-tail" shall be placed in such a manner to minimize disturbing meter box in the process of plumber connection. Ensure fiber washers are installed in all meter yokes. All 1" tubing installed for new water services will be one piece installation, no couplings or joining appurtenances permitted unless approved by the DEPARTMENT. In such cases that new 1" water services are to be installed across future streets, 2" conduit shall be installed from 1' back of curb to 1' back of curb on the opposite side of the street. The 1" tubing and 10 gauge tracer wire shall be installed within the conduit. Only one service shall be installed in each conduit. Disclaimer: "pig-tail" belongs to property owner and is not the responsibility of the CITY. Any residential lots in new developments that are 6500 square feet or larger will be required to install a double meter set for the lot and provide a 2 hole lid for the meter box.

11.15 For information related to cross-connection control and backflow prevention rules and regulations, refer to the City of Bentonville's Cross Connection Control Program Manual. **Refer to Cross Connection Control Manual – Sections 20 - 27.**

11.16 The utility main that is stubbed out shall terminate at a manhole for a sewer main or a fire hydrant assembly with a restrained gate valve connected to the downstream side of the tee for a water main. The purpose for the stub-out is to allow for connection to the utility without disturbing the existing development.

SECTION 12 WATER DISTRIBUTION SYSTEM MATERIALS

12.1 ALL MATERIALS SHALL BE DOMESTICALLY MADE

12.1.1 These material specifications are intended to set a standard of quality and design for all materials used in the construction of water mains and appurtenances. Materials shall be of types listed in these specifications. Materials not specifically authorized in these specifications are forbidden for use in the system unless prior approval is obtained in writing from the DEPARTMENT prior to construction.

12.1.2 The DEPARTMENT must approve all material prior to installation. All materials shall meet AWWA specifications.

12.2 PIPE

12.2.1 All pipe furnished shall be designed for the distribution of potable water. Lubricant furnished for lubricating joints shall be non-toxic, shall not support the growth of bacteria, shall have no deteriorating effects on the gasket or pipe material, and shall not impart taste or odor to water. The lubricant container shall be labeled with the manufacturer's name. The DEPARTMENT will determine type and size of pipe to be installed within the water distribution system during plan review.

12.2.2 In areas where the static operating water pressure is 150psi or greater or installation of water mains are within 10' of any permanent structure the DEPARTMENT reserves the right to require ductile iron water piping be installed. Request and approval will be made in the plan review process.

12.3 POLYVINYL CHLORIDE (PVC) WATER PIPE (4" – 12") (14" - 48")

12.3.1 PVC pipe in sizes 4" – 12" shall meet the requirements of AWWA C-900 DR-14 and comply with ASTM D1784 pressure classification rated class 305. Pipe joints shall be integrally molded bell ends in accordance with ASTM 3139 with factory supplied elastomeric gaskets meeting ASTM F477.Pipe to bear NSF-61 seal of approval for potable water. The pipe shall be approved by the Underwriter's Laboratories (UL) for use in underground fire protection service. The pipe shall be extruded from PVC meeting the requirements of cell classification 12454-B as defined in ASTM-D-1784, PVC compounds. The pipe shall be manufactured to cast iron size (C.I.) outside dimensions. Pipe shall bear identification markings that will remain legible during normal handling, storage and installation. Marking on pipe shall include the following and shall be applied at intervals of not more than 5':

(a) Nominal size and OD (DR-14)
(b) PVC
(c) Dimension ratio (DR-14)
(d) AWWA pressure class (for example PVC1120 or PC200)
(e) AWWA designation numbers (AWWA C-900)
(f) Manufacturer's name or trademark and production code
(g) Seal (mark) of the testing agency that verified the suitability of the pipe Material for potable water service. (for example NSF-61 or ULFM)

12.3.2 PVC pipe in sizes 14" – 60" shall meet the requirements of AWWA C-900 DR-21 and comply with ASTM D 1784 pressure classification rated class 200.

12.4 **DUCTILE IRON PIPE (DI)**

12.4.1 The pipe shall have a cement mortar lining and seal coat in accordance with ANSI/AWWA C104 A21. The pipe and flanges shall conform to ANSI/AWWA C111/A21, Class 50 rated at 350 psi unless otherwise specified. Tapping DI pipe shall conform to ANSI/AWWA C600.

12.5 **DUCTILE IRON PIPE 4" - 54"**

12.5.1 DI pipe shall conform to ANSI/AWWA C104/A21 and shall have a cement mortar lining and seal coat conforming to ANSI/AWWA C104/A21. Joints shall conform to ANSI/AWWA C111/A21 and may be mechanical joint or push-on joint unless otherwise specified. The minimum thickness class shall be Class 50 rated at 350 psi unless otherwise specified.

12.6 **CROSS-LINKED POLYETHEYLENE PRESSURE TUBING (PEX)**

12.6.1 Cross-linked Polyethylene Pressure Tubing (PEXa) shall be type A and conform to ANSI/AWWA C904 with an SDR rating of 9 and a MINIMUM pressure class rating of 200 psi. PEXa tubing shall also be certified to standards ASTM F876, NSF 14 and NSF 61, and bear a standard materials designation code of 3306. Shall be standard CTS O.D. and compatible with ANSI/AWWA C800 fittings.

12.7 **COATED COPPER PIPE**

12.7.1 **Coated** copper service pipe shall be Type "K", soft tempered, seamless, for underground installation, in accordance with ASTM B88 and Federal Specifications WW-T-799. Pipe shall be supplied witha minimum 25 mil polyethylene coating. Coated copper pipe shall meet or exceed NSF-61 requirements.

12.8 **ENCASEMENT PIPE**

12.8.1 Smooth Wall Steel Encasement Pipe - Pipe shall conform to ASTM A-139, ASTM A-21.11 or AWWA C200. The metal thickness shall be as shown in the Proposal or Plans.

12.8.2 Casing spacer systems shall be manufactured in two pieces, made from heavy gauge T-304 stainless steel with Polymer Plastic Runners (Teflon). Spacers shall be a Cascade Casing Spacer manufactured by Cascade Waterworks Manufacturing Company or equal conforming to ASTM ratings, approved by AWWA and the DEPARTMENT. Casing and utility pipes shall be sealed with synthetic rubber end seals. **Detail GWS01**.

12.8.3 Any bell located within an encasement pipe shall be restrained by an approved method.

12.8.4 Encasement for service lines crossing city streets shall be HDPE SDR9 tubing or schedule 40 pvc, suitable for underground use. End seals or other acceptable means of preventing service tubing from contacting end of conduit and preventing debris from entering the conduit shall be provided. 1-inch service lines shall require 2-inch encasement, and 2-inch service lines shall require 4-inch encasement.

12.9 **FITTINGS**

12.9.1 DI fittings shall be designed for working pressure of at least 350 psi, shall be DI and shall conform to ANSI/AWWA C153 A21. Joints shall be mechanical joint conforming to ANSI A21.11. All fittings shall be furnished with gaskets and mechanical joint fittings shall be furnished with bolts, nuts and retainer glands. All fittings shall be ANSI/AWWA C550 AND C116 6-8 mil Nominal Thickness Fusion Bonded Epoxy Coated inside and out. Fittings shall be manufactured by U.S.

Pipe “TRIM TYTE”, Tyler, Star Pipe Products, or approved equal. Any alternate manufacturer shall require DEPARTMENT approval prior to installation.

12.9.2 Mechanical Joint Retainer Glands shall be installed on all water line valves bends and couplings. Mechanical Joint Retainer Glands for DI shall be made from DI and shall be designed for a working pressure of at least 200 psig. The set screws shall be extended through the outer most part of the gland. Glands shall be designed to standard mechanical joint fittings (AWWA C111). The minimum number and minimum size set screws shall be as follows, or approved equal. Any alternate manufacturer shall require Department approval prior to installation:

Size Gland	Size Set Screw	Number of Set Screws
4"	1/2"	4
6"	5/8"	6
8"	5/8"	9
10"	5/8"	16
12"	5/8"	16
16"	5/8"	24
20"	5/8"	28
24"	5/8"	32

DESCRIPTION	SIZE	CATALOG NUMBER	MANUFACTURER
Gland Retainer (Series 1400)	18”	UFR1400-D18	Ford
Gland Retainer (Series 1100)	18”	1118	EBBA
Gland Retainer (Series 1400)	12”	UFR1400-D12	Ford
Gland Retainer (Series 1100)	12”	1112	EBBA
Gland Retainer (Series 1400)	8”	UFR1400-D8	Ford
Gland Retainer (Series 1100)	8”	1108	EBBA
Gland Retainer (Series 1400)	6”	UFR1400-D6	Ford
Gland Retainer (Series 1100)	6”	1106	EBBA
Gland Retainer (Series 1400)	4”	UFR1400-D4	Ford
Gland Retainer (Series 1100)	4”	1104	EBBA

12.9.3 Mechanical Joint Retainer Glands for PVC shall be made from DI and shall be designed for a working pressure of at least 200 psi. The set screws shall be extended through the outer most part of the gland. Glands shall be designed to standard mechanical joint fittings (AWWA C111).

DESCRIPTION	SIZE	CATALOG NUMBER	MANUFACTURER
Gland Rtnr.C900 Circle-Lock	18”	UFR1500-C-18	Ford
Gland Retainer (Series 2000 PV)	18”	2018	EBBA
Gland Retainer C900 Circle-Lock	16”	UFR1500-C-15	Ford
Gland Retainer (Series 2000 PV)	16”	2016	EBBA
Gland Retainer C900 Circle-Lock	12”	UFR1500-C-12	Ford
Gland Retainer (Series 2000 PV)	12”	2012	EBBA
Gland Retainer C900 Circle-Lock	8”	UFR1500-C-8	Ford
Gland Retainer (Series 2000 PV)	8”	2008	EBBA
Gland Retainer C900 Circle-Lock	6”	UFR1500-C-6	Ford
Gland Retainer (Series 2000 PV)	6”	2006	EBBA
Gland Retainer C900 Circle-Lock	4”	UFR1500-C-4	Ford
Gland Retainer (Series 2000 PV)	4”	2004	EBBA

12.9.4 Swivel hydrant adapters, anchor couplings, and Tees shall be designed for a working pressure of at least 250 psig and to fit standard mechanical joint fittings (ANSI/AWWA C111 A21). One end of the straight anchor coupling and the branch of the tee shall be provided with a gland that may be rotated 360° on the fitting. Lengths of swivel adapter shall be as specified on plans and conform to standard manufactured lengths.

12.10 TAPPING SLEEVES (4" TAP & LARGER)

12.10.1 Tapping Sleeves shall be stainless steel. They shall be designed for a working pressure of at least 200 psig. Steel sleeves shall be stainless steel or coated with high build, Thermo-Set Epoxy. A test plug shall be furnished through the body for hydrostatic pressure testing. The outlets shall conform to ANSI B16.1, Class 125 flanges designed to accept tapping valves described herein. All bolts shall be of corrosion resistant alloy. Sleeves may be designed for a water tight seal by the use of mechanical followers or by the use of a gasket placed in a recess between the sleeve body and the pipe barrel. Only sleeves with mechanical followers or full circle gaskets may be used. If the known working pressure of the pipe to be tapped is greater than 200 psig the DEPARTMENT may require a MUELLER H-615 Series Tapping Sleeve.

DESCRIPTION	SIZE	CATALOG NUMBER	MANUFACTURER
Tapping Sleeves:	Stainless Steel w/Carbon Steel Flange for AC		
Sleeve	16 x 6	Fast-1900-6A 18.60-1900 OD Rough Barrel AC	Ford Meter
Sleeve	16 x 8	Fast-1900-8A 18.60-1900 OD Rough Barrel AC	Ford Meter
Sleeve	16 x 12	Fast-1900-12A 18.60-1900 OD Rough Barrel AC	Ford Meter
Sleeve	12 x 12	FAST-1440-12A	Ford Meter
Sleeve	12 x 8	FAST-1440-8A	Ford Meter
Sleeve	12 x 6	FAST-1440-6A	Ford Meter
Sleeve	8 x 8	FAST-945-8A	Ford Meter
Sleeve	8 x 6	FAST-945-6A	Ford Meter
Sleeve	6 x 6	FAST-750-6A	Ford Meter
Tapping Sleeves:	Stainless Steel w/Carbon Steel Flange for CI/C900		
Sleeve	24 x 4	Fast-2600-4A	Ford Meter
Sleeve	24 x 6	Fast-2600-6A	Ford Meter
Sleeve	24 x 8	Fast-2600-8A	Ford Meter
Sleeve	24 x 12	Fast-2600-12A	Ford Meter
Sleeve	18 x 6	Fast-1992-6A	Ford Meter
Sleeve	18 x 8	Fast-1992-8A	Ford Meter
Sleeve	18 x 12	Fast-1992-12A	Ford Meter
Sleeve	16 x 8	FAST-1780-8A	Ford Meter
Sleeve	16 x 6	FAST-1780-6A	Ford Meter
Sleeve	12 x 12	FAST-1350-12A	Ford Meter
Sleeve	12 x 8	FAST-1350-8A	Ford Meter
Sleeve	12 x 6	FAST-1350-6A	Ford Meter
Sleeve	8 x 8	FAST-945-8A	Ford Meter
Sleeve	8 x 6	FAST-945-6A	Ford Meter
Sleeve	6 x 6	FAST-730-6A	Ford Meter
Sleeve	4 x 4	FAST-620-44A	Ford Meter

Tapping Sleeves: Stainless Steel

Sleeve	4”	SST OR SSTIII	Romac
Sleeve	6”	SST OR SSTIII	Romac
Sleeve	8”	SST OR SSTIII	Romac
Sleeve	10”	SST OR SSTIII	Romac
Sleeve	12”	SST OR SSTIII	Romac
Sleeve	16”	SST OR SSTIII	Romac
Sleeve	18”	SST OR SSTIII	Romac
Sleeve	24”	SST OR SSTIII	Romac

12.11 SLEEVES OR COUPLINGS

12.11.1 Sleeves shall be iron with mechanical joint followers. Couplings shall be steel or iron with gasketed ends. They shall be designed for a working pressure of at least 200 psig and sized to properly fit the type and class of pipe specified. All bolts shall be of corrosion resistance alloy. Steel couplings shall be coated internally and externally with high build, high strength, Thermo-Set epoxy coating. The Thermo-Set epoxy coating shall be 8 - 10 mils DFT and free of voids. Or approved equal, prior to construction.

DESCRIPTION	SIZE	CATALOG NUMBER	MANUFACTURER
Transition Couplings:			
Comp Coup AC/CI	16 x 12	442-19201780-400	Smith-Blair
Comp Coup AC/CI	12 x 12	442-14401350-400	Smith-Blair
Comp Coup AC/CI	8 x 12	442-09850945-400	Smith-Blair
Comp Coup AC/CI	6 x 12	442-07650722-400	Smith-Blair

12.12 TAPPING SADDLES OR SLEEVES (FEMALE IRON PIPE OR AWWA CC OUTLET)

12.12.1 Tapping Saddles/Sleeves shall be made from iron, bronze, steel or stainless steel and designed for a working pressure of at least 200 psig. Outlets shall be ANSI B16.1, Class 125 flanged tapping outlets, or as specified. Watertight seal shall be accompanied by the use of a gasket placed in a recess between the sleeve body and pipe barrel. The use of these Strap Saddle/Sleeves is restricted to taps where the branch is at least one size smaller than the run. Coatings on steel sleeves/saddles shall be as specified in **Paragraph 12.10** above.

DESCRIPTION	SIZE	CATALOG NUMBER	MANUFACTURER
Service Saddle, C.I., D.I., A.C.			
Saddle	24 x 2 IP Double Strap	FC202-2650xIP7	Ford Meter
Saddle	18 x 2 IP Double Strap	FC202-2050xIP7	Ford Meter
Saddle	16 x 2 IP Double Strap (CI)	FC202-1840xIP7	Ford Meter
Saddle	16 x 2 IP Double Strap (AC)	FC202-1925xIP7	Ford Meter
Saddle	12 x 2 IP Double Strap	FC202-1438xIP7	Ford Meter
Saddle	12 x 2 PVC Only	FC202-1320-IP7 FOR C900	Ford Meter
Saddle	8 x 2 IP Double Strap	FC202-979xIP7	Ford Meter
Saddle	8 x 2 PVC Only	FC202-905-IP7 FOR C900	Ford Meter
Saddle	6 x 2 IP Double Strap	FC202-760xIP7	Ford Meter
Saddle	6 x 2 PVC Only	FC202-690-IP7 FOR C900	Ford Meter
Saddle	4 x 2 IP Double Strap	FC202-526xIP7	Ford Meter

Saddle	24 x 1 CC Double Strap	FC202-2650xCC4	Ford Meter
Saddle	18 x 1 CC Double Strap	FC202-2050xCC4	Ford Meter
Saddle	6 x 1 CC Double Strap (CI)	FC202-1840xCC4	Ford Meter
Saddle	16 x 1 CC Double Strap (AC)	FC202-1925xCC4	Ford Meter
Saddle	12 x 1 CC Double Strap	FC202-1438xCC4	Ford Meter
Saddle	12 x 1 PVC Only	FC202-1320-CC4 FOR C900	Ford Meter
Saddle	8 x 1 CC Double Strap	FC202-979xCC4	Ford Meter
Saddle	8 x 1 PVC Only	FC202-905-CC4 FOR C900	Ford Meter
Saddle	6 x 1 CC Double Strap	FC202-760xCC4	Ford Meter
Saddle	6 x 1 PVC Only	FC202-690-CC4 FOR C900	Ford Meter
Saddle	4 x 1 CC Double Strap	FC202-526xCC4	Ford Meter
Saddle	3 x 1 CC Double Strap	FC202-425xCC4	Ford Meter
Saddle	2 x 1 CC Double Strap	FC202-250xCC4	Ford Meter

Service Saddle with nylon coating:

Saddle	4 x 2 CC Double Strap	202NS	Romac
Saddle	6 x 2 CC Double Strap	202NS	Romac
Saddle	8 x 2 CC Double Strap	202NS	Romac
Saddle	10 x 2 CC Double Strap	202NS	Romac
Saddle	12 x 2 CC Double Strap	202NS	Romac
Saddle	16 x 2 CC Double Strap	202NS	Romac
Saddle	18 x 2 CC Double Strap	202NS	Romac
Saddle	24 x 2 CC Double Strap	202NS	Romac
Saddle	4 x1 CC Double Strap	202NS	Romac
Saddle	6 x1 CC Double Strap	202NS	Romac
Saddle	8 x1 CC Double Strap	202NS	Romac
Saddle	10 x1 CC Double Strap	202NS	Romac
Saddle	12 x1 CC Double Strap	202NS	Romac
Saddle	16 x1 CC Double Strap	202NS	Romac
Saddle	18 x1 CC Double Strap	202NS	Romac
Saddle	24 x1 CC Double Strap	202NS	Romac

12.13 SERVICE FITTINGS

12.13.1 Water service fittings shall be those manufactured by the following companies, listed below, or approved equal. The screws and/or nuts shall be of corrosion resistant alloy and shall be of Hex Head configuration. Any deviation must have approval from the DEPARTMENT prior to installation.

12.13.2 Service fittings shall only be used as specified to connect the service line to the tap and meter setter or u-branch. No additional fittings shall be used unless specifically approved in writing by the DEPARTMENT. In no instance shall fittings be used to splice or lengthen a service line. The service line shall be one continuous piece of tubing from tap to setter.

12.13.3 Thermoplastic insert stiffeners shall be used with all compression fittings installed on PEX service lines. In no case shall the stiffener extend past the compression cap of the fitting when fully tightened. Stainless steel insert stiffeners shall not be used in any circumstances.

12.13.4 Corporation and curb stops shall conform to AWWA C800 (curb stops shall have 360° rotation of Tee Head) and shall be those manufactured by the company specified, or approved equal, as follows:

DESCRIPTION	SIZE	CATALOG NUMBER	MANUFACTURER
300 Ball Type Corporation Valve	1”	B-25008N	Mueller
		74701BQ 1	A.Y. McDonald
Valve Ball	1”	FB11-444NL	Ford
		76101 1	A.Y. McDonald
Valve Ball	2”	B-11-777SWM-NL	Ford
		76101W 2	A.Y. McDonald

12.13.5 PEX and Copper pipe fittings shall conform to AWWA C800 and shall be those manufactured by the listed manufacturers or approved equal, as follows. Part numbers are provided below allowing the service line to connect to the meter setter or u-branch straight in, at a 45 degree angle, or at a 90 degree angle to minimize deflection of the service line and limit the potential for leaks. The 45 degree connection shall be the standard installation, unless otherwise approved by BWU during plan review or installation of the service.

DESCRIPTION	SIZE	CATALOG NUMBER	MANUFACTURERS
U-Branch	1”x¾”x7-½”	H-15365N	Mueller
		708UFM	A.Y. McDonald
CTS x Male Adapter, Straight	1” x ¾”	H-15428N	Mueller
		74753Q	A.Y. McDonald
CTS x Male Adapter, Straight	1”x1”	H-15428N	Mueller
		74753Q	A.Y. McDonald
CTS x Male Adapter, Straight	2”x2”	H-15428N	Mueller
		74753Q	A.Y. McDonald
CTS x Male Adapter, 45	1” x ¾”	N/A	Mueller
		74750PQ	A.Y. McDonald
CTS x Male Adapter, 45	1”x1”	H-15529N	Mueller
		74750PQ	A.Y. McDonald
CTS x Male Adapter, 45	2”x2”	H-15529N	Mueller
		74750PQ	A.Y. McDonald
CTS x Male Adapter, 90	1” x ¾”	H-15531N	Mueller
		74779MQ	A.Y. McDonald
CTS x Male Adapter, 90	1”x1”	H-15531N	Mueller
		74779MQ	A.Y. McDonald
CTS x Male Adapter, 90	2”x2”	H-15531N	Mueller
		74779MQ	A.Y. McDonald

12.13.6 The following meter setters and meter connection fittings shall conform to AWWA C800 and be those manufactured by the following companies, or approved equal:

DESCRIPTION	SIZE	CATALOG NUMBER	MANUFACTURER
Meter Set w/o Dual Check*	5/8"x¾"x7"	B-2404FN	Mueller
		20-207WXLL 33	A.Y. McDonald
Meter Set w/o Dual Check*	1" x 10"	B-2404FN	Mueller
		20-410WXDD 44	A.Y. McDonald
Meter Set w/o Dual Check	2" X 17"	720R712KWFF775	A.Y. McDonald
(telescoping)**		VBB77-12HB-11-77-EXP-NL	FORD
Meter Set w/o Dual Check	2" X 17"	720B712WWFF775	A.Y. McDonald
(non-telescoping)		VV7712B-1177NL	FORD

*All 5/8" and 1" meter sets shall bebe installed with Mueller End Connection # H-14222N and Mueller End Connection # H-14227N or A.Y. McDonald equal. A fiber washer Mueller # H-48234 or A.Y. McDonald equal shall be set in each end connection of the meter set.

** All new installations of 2" services by contractors shall be the telescoping setter unless approved in writing by the DEPARTMENT during plan review or construction.

12.13.7 Section 12.13 specifically lists all fittings which are allowed for use by contractors in installation of new service lines by part number and size. BWU reserves the right to use additional fittings meeting the general requirements of this section for maintenance and repair of the existing system as necessary. Brass nipples, tees, bell reducers, ells, collars, etc. will be 150# SCH 40 Red Brass with iron pipe threads.

12.14 GATE VALVES

12.14.1 GATE VALVES - 4" THROUGH 18" WITH RESILIENT SEAT

12.14.2 Resilient seat gate valves 4" through 18" shall be designed for a working pressure of 250 psig. Valves shall conform to AWWA C515 (Thin Wall or Lightweight Ductile Spec) with non-rising stem, O-ring stem seals and 2" square operating nut. Valves shall open when the operating nut is turned to the left (counterclockwise). Valve ends shall be as specified. The resilient seat may be bonded or mechanically attached to the gate. All interior metal surfaces shall be coated with a two-part thermosetting epoxy. Gate valves larger than 18" need to be submitted to the DEPARTMENT for approval prior to installation.

12.14.3 Epoxy Coating shall be 8-mils DFT and free of voids.

12.14.4 Tapping valves shall have full size flow way accepting standard size shell cutter.

12.14.5 Valves conforming to these specifications will be accepted from the following manufacturers:

American Flow Control Model # 2500
Clow Valve Company, Model 2638
Mueller Company, Model A2361

12.15 BUTTERFLY VALVES

12.15.1 Butterfly valves shall conform to AWWA C504, having the following features and be approved by the DEPARTMENT prior to installation:

12.15.2 Class 150B

12.15.3 Suitable for complete buried service. Exterior of valve shall be epoxy coated.

12.15.4 Disc may be made from any of the materials as specified in AWWA C504. However, discs made from material other than bronze or stainless steel shall be coated with epoxy material in accordance with **Section 12.15.9**. All other interior surfaces which are not stainless steel or bronze shall also be coated with epoxy material.

12.15.5 Valve resilient seats shall be BUNA-N bonded into a self-retaining recess in the body or a natural rubber molded to an 18-8, Type 304 stainless steel retaining ring secured to the disc by self-setting screws. If the set is attached to the disc, the mating surface to the resilient seat shall be 304 or 316 stainless steel.

12.15.6 Stainless steel shafting. "O-Ring" or split-V shaft seals. Bronze, nylon or Teflon bearings and a "Manual Operator" totally enclosed for buried service shall include the following:

(a) 2" x 2" operating nut
(b) Open counter-clockwise
(c) Operators of the traveling nut type shall not have u-joints on the rods.
(d) On operators composed of worm gears; worm gears may be either bronze or DI and the worms shall be composed of hardened steel.
(e) The operator shall satisfy the valve operating torque requirements for Class 150B valves and the operator input requirements of AWWA C504.

12.15.8 Valve ends shall be as specified. If flange ends are specified, they shall conform to Class 125, ANSI B16.1.

12.15.9 Epoxy Coating for Valve Disc. Before application of coating material, all surfaces of the disc shall be thoroughly cleaned to remove dirt, grease, oil and any other substances; all sharp angles, protrusions or irregularities which would interfere with proper coating coverage shall be removed; and the entire surface grit blasted to white metal in accordance with SSPC Specification SP5 resulting in an anchor pattern of at least 1 mil. Thermo-set epoxy material shall be applied to the sand-blasted surfaces before the white metal begins to oxidize (darken in color). The thermoset epoxy shall be approved for exposure to fluids for human consumption by the Federal Food and Drug Administration. The final DFT shall be at least 8 mils DFT and free of voids. The disc shall be post-cured for a sufficient period of time to assure full polymerization. Polymerization shall be checked by a direct impact test at 60-inch-lb. with no cracking or chipping of the coating. The DFT shall be checked using an accurate magnetic DFT gauge. The entire coated surface shall be checked for voids using a wet sponge type holiday detector. Any area where the DFT is found to be less than 8 mils or where voids were detected shall be re-coated and re-checked. Valves shall be packed for shipment in such manner that the disc coating is protected from damage.

12.16 AIR RELEASE VALVES

12.16.1 Air Release Valves shall be APCO No. 200-A, or approved equal, or as specified.

12.17 VALVE BOXES, LIDS AND EXTENSIONS

12.17.1 Valve boxes shall be Tyler 6850 series or equal with 5 ¼" shafts. Length variable 10 ¼" OD bottom flange, 8" ID Bottom, 7 3/16" OD top, 6 ¾" ID top of 2 section valve box.

12.17.2 Valve box lids shall have a 7 5/16" outside diameter with 6 ½" inside diameter for 5 ¼" valve boxes. The lids shall be marked with "WATER" unless located at the tap for a fire line where a post indicator may not be installed. In this case the lid shall be marked "FIRE" and be painted safety red. The "FIRE" lid shall be locking and require only a wrench to open.

12.17.3 Extension shaft shall be required on any valve that exceeds 4' in depth. Valve stem extensions shall be adequate to transmit full torque required to open valve, and shall be secured to the valve operating nut by set screws not clips. The top of the extension shaft shall be a 2" square AWWA nut. Extensions shall be provided to bring the operating nut to within 4' of grade and have disc attached to hold operating nut in the center of valve box and shall be firmly attached to the valve.

12.17.4 Valve boxes in greenspace shall be surrounded by a precast concrete valve pad at ground level. Pads shall be 24" in diameter with a minimum thickness of 2" at the outside edge and shall be constructed of reinforced concrete with a minimum compressive strength of 4,000 psi. The space between the valve box and the pad shall be grouted with a non-shrink grout.

12.17.5 Valve boxes in or directly adjacent to hardscape where a circular pad would not be suitable for use or would require modification for use shall be surrounded by a cast in place concrete valve pad at finish grade. Pads shall be 18" square pads with a minimum thickness of 4" and shall be constructed of reinforced concrete with a minimum compressive strength of 4,000 psi. A 3/8" expansion joint or other means of isolating the pad from adjacent surfaces shall be provided as necessary.

12.18 METER BOXES, VAULTS AND LIDS

12.18.1 Water meters 5/8" and 1" shall be installed in 18" Carson Industries Oldcastle Plastic Meter Box Body Part #C22002001that are domestically manufactured, or as approved by the DEPARTMENT. Covers shall be cast iron touch read covers, East Jordan #32197099 (single set), or #32197200 (double set) that are domestically manufactured, or as approved by the DEPARTMENT.

12.18.2 Water meters 5/8" and 1" that are installed in non-deliberate and incidental traffic shall be installed with a load bearing meter tile. Water meter installations that fit this criteria will use the DFW Plastics #DFW1800F-18-1ET load rated meter tile. Prior approval for water meters installed in potential traffic loaded areas shall be obtained from the DEPARTMENT during the plan review process.

12.18.3 2" meters shall be installed in 30" outside diameter x 36" deep HDPE meter boxes, East Jordan 38003036, that are domestically manufactured, or as approved by the DEPARTMENT. Covers shall be cast iron touch read covers, East Jordan #32143006 with #32243000 outer ring, that are domestically manufactured, or as approved by the DEPARTMENT. Meter box and outer ring may be ordered together as East Jordan #32243000A05.

12.18.4 All meter vault plans and installations shall be approved by the DEPARTMENT prior to the start of construction. Meter vaults shall not be subject to flooding and shall be watertight to prevent intrusion of water and dirt. The walls of the vault shall extend above the finished grade a minimum of 3" to prevent intrusion of water or dirt. Vault to be installed by CONTRACTOR at OWNER'S expense. **Detail W12.**

12.19 FIRE HYDRANTS

12.19.1 All fire hydrants furnished shall be dry barrel hydrants in conformance with AWWA C502, latest revision, for "Dry Barrel Fire Hydrants", and shall be designed for a 250 psig maximum working pressure. All fire hydrants shall be equipped with a safety stem coupling and flange, which are intended to fail upon vehicle impact without damage to the stem or main valve. All fire hydrants shall conform to AWWA C502, the following specifications, and shall be the Traffic Model Fire Hydrant:

Maximum Working Pressure	250 psig
Size of Valve Opening	Minimum 5"
Diameter of Inlet Connection	6"
Type of Inlet Connection	Mechanical Joint
Number & Size of Hose Connections	2 - 2 1/2", 1 - 4 1/2"
Nozzle Arrangement	All in same place
Nozzle Thread ASA	Standard
Nozzle Cap Chains	Three
Nozzle Cap Washers	Rubber
Barrel	Ductile Iron Pipe
Operating Threads	Oil or Grease Lubricated Seals
Lubrication Chamber	Oil or Grease
Seat Rings	Bronze to Bronze
Direction to Turn to Open	Left (Counter-Clockwise)
Shape & Size of Operating & Nozzle Cap Nut	5-Sided, 1 1/2" from flat to point
Operating Nut	Bronze
Hydrant Shoe	Epoxy Coated
Color above ground - barrel and dome	Industrial Safety Yellow
Color, Nozzle Caps & Top Nut, including shield	Industrial Safety Yellow

12.19.2 Seat must be removable, using a short, lightweight wrench which will fit all depths of bury.

12.19.3 The hydrant shall have a 6" mechanical joint inlet in conformance to the dimensions shown in ANSI/AWWA C110 A21, latest revision. The lead pipe from the valve to the fire hydrant shall be an approved Mechanical Joint Swivel Anchor Coupling 6” x 13” Tyler 084150A CL 153 or approved equal for direct connections, or retainer glands as specified by type throughout these specifications. A fire hydrant anchor tee will be required for new main installation as indicated by the DEPARTMENT.

12.19.4 All fire hydrants shall be equipped with a two-piece barrel having a flange at the required elevation to meet the height requirement (18” to 24” from final grade) designated in **Detail WO4**.

12.19.5 All fire hydrant installations shall have 6” gate valve with tracer wire, valve boxes and valve box pads meeting all provisions specified elsewhere in these specifications. Auxiliary gate valves are necessary for fire hydrant leads longer than 50’.

12.19.6 All concrete used for fire hydrant blocking shall be in conformance with the concrete **Section 12.24** of these specifications.

12.19.7 Fire hydrants conforming to these specifications will be accepted from the following manufacturers:

Mueller Super Centurion 250
Clow Medallion.

12.19.8 If a fire hydrant needs to be raised only 1 extension will be approved and all parts shall be manufactured by the same company as the fire hydrant. Generic extension parts shall not be used.

12.20 POLYETHYLENE TUBING MATERIAL FOR PIPE ENCASEMENT

12.20.1 Polyethylene material for the encasement of cast IP (gray or ductile) shall conform to ANSI A21.5 (AWWA C105).

12.20.2 Tape for field application shall be Polyken #900, or Scotchrap #50, or equal, at least 2" wide.

12.21 LOCATOR WIRE

12.21.1 All water mains and sewer force mains, including DI pipe, PEX and copper water services, or other appurtenances installed shall have single #10 gauge type TW (single strand) insulated copper locator wire, on top of pipe and fastened securely with tape every 10' and buried with it. This locator wire shall be installed in conjunction with the main at the same depth as the water main or service.

12.21.2 Locator wire shall not be connected in any way to main or any other underground metal (except other tracer wires). Installation of locator wire shall be tested one time before the first site final. Tracer wire shall be tested after curbs are installed and prior to asphalt. **Section 8**

12.21.3 Wire shall be accessible at all valve boxes and meter boxes and shall extend a minimum of 6" above the valve or meter box, at the main or service, connect all locator wires together so that a continuous electrical path is ensured. Tracer wire shall be installed through the outside of the valve box bottom section then inserted through the inside of the top section of the valve box. A minimum of 6" to maximum of 12" of tracer wire is required to be extended beyond the top of the valve box. **Detail W07.**

12.21.4 To connect locator wires, the wires shall be spliced using a split bolt connector (Blackburn 9H or Kearney KS90) or equal, then covered with electrical plastic tape (Type 3M Scotch 33) so that a waterproof joint is made.

12.22 CONCRETE MATERIAL SPECIFICATIONS

12.22.1 Concrete shall have a 28-day compressive strength of at least 4,000-psi and shall contain not more than six (6) gallons of water per sack of cement, including the water in the aggregates, and not less than six (6) sacks of cement per cubic yard of concrete. A copy of all tickets from concrete company shall be presented to the DEPARTMENT.

12.22.2 Portland cement conforming to ASTM C150, Type 1, shall be used unless the DEPARTMENT approves the use of other types.

12.22.3 Water used shall be clean and free from injurious amounts of oil, acids, alkalis, salt, organic matter, or other deleterious substances.

12.22.4 Fine aggregate shall consist of clean, sound, properly graded sand conforming to ASTM Standard C33 uniformly graded from 100% passing the 3/8" sieve to not more than 8% passing the Number 100 sieve.

12.22.5 Coarse aggregate shall consist of crushed stone, gravel, or other inert material of similar characteristics, having clean, hard, strong, durable, uncoated particles with not more than 5% by weight of soft fragments, ¼ % by weight of clay lumps, and 1% by weight of material removed by decantation, except that when the material removed by decantation consists essentially of crushed

dirt the maximum amount permitted may be increased to 1 ½ % by weight. Aggregate shall conform to ASTM Standard D289. Coarse aggregate may be either of two sizes, 1 ½" and smaller or ¾" and smaller, and shall be graded within the following requirements.

12.23 **PERCENT RETAINED BY WEIGHT**

Maximum size mesh screen (sq. mesh)	0 - 3
Half-Maximum size mesh screen (sq. mesh)	30 - 65
No. 4 Sieve	94 - 100

12.23.1 In no case shall the maximum size aggregate exceed 1/3 of the design thickness of any part of a structure. Coarse aggregate for exposed aggregate surfaces shall be as follows:

Total Retained on 1 1/2" Sieve	- 0 %
Total Retained on 3/4" Sieve	25 - 60%
Total Retained on 3/8" Sieve	70 - 90%
Total Retained on #4 Sieve	95 - 100%

12.24 **CONCRETE PROPORTIONS AND CONSISTENCY**

12.24.1 The proportions of the concrete shall produce a mixture that will work readily, with the placement method most used, into the corners and angles of the forms and around reinforcement. Segregation of materials in the mixture shall not be permitted nor the collection of excess free water on the surface.

12.24.2 The slump of the concrete shall be the minimum that is practicable. When vibrators are used to consolidate the concrete, the slump shall not exceed 4"; otherwise, the slump shall not exceed 6".

12.24.3 The methods of measuring concrete materials shall be such that the proportions can be accurately controlled and easily checked. Measurement of materials for ready-mixed concrete shall conform to Specifications for Ready-Mixed Concrete (ASTM C94).

12.24.4 Ready-mix concrete shall be required and shall conform to ASTM Standard C94 and to applicable portions of these specifications for on-site mixing. The concrete shall be delivered and placed within 1-hour after all materials, including mixing water, shall have been placed in the mixing drum. The CONTRACTOR shall obtain from the supplier of the ready-mixed concrete, the supplier's agreement to inspection by the DEPARTMENT, to the full extent deemed necessary by the DEPARTMENT.

12.25 **CONCRETE TESTING**

12.25.1 As the placement of concrete progresses, the DEPARTMENT may take samples of the concrete for testing. The CONTRACTOR shall provide whatever assistance required by the DEPARTMENT in collecting and preparing samples for testing. Sampling shall be in accordance with ASTM Standard C172.

12.25.2 An independent laboratory in accordance with ASTM Standard C143 shall conduct slump tests.

12.25.3 Compression test specimen shall be prepared and cured in accordance with ASTM Standard C31. Specimens shall be tested in accordance with ASTM Standard C39.

12.25.4 All reinforcing bars shall be "Billet-Steel Concrete Reinforcement Bars" conforming to ASTM Designation A15 or "Rail-Steel Concrete Reinforcement Bars" conforming to ASTM Designation A16. Billet-Steel bars shall be intermediate grade with minimum yield point of 60,000 psi.

12.25.5 All reinforcing bars shall be deformed bars. Deformation shall comply with "Minimum Requirements of the Deformation of Deformed Steel Bars for Concrete Reinforcement - ASTM Designation A305".

12.25.6 When the volume of concrete required at the work site is less than 1/3 cubic yard, mixing may be accomplished by hand tool methods. The concrete shall be mixed in a clean, watertight vessel to the extent necessary to assure that the cement; aggregate and water are thoroughly integrated. The mix shall be at least 1 part Portland cement to 2 parts coarse aggregate, as specified in **Section 12.22.5** and 2 parts sand, as specified in **Section 12.22.4**. Only that amount of water required to provide a stiff, workable mix shall be used. The strength requirements specified in **Section 12.22.1** herein, apply.

SECTION 13 INSTALLATION CRITERIA FOR WATER MAINS AND APPURTENANCES

13.1 CONNECTIONS TO WATER DISTRIBUTION SYSTEM

13.1.1 All connections to or any operations of appurtenances to the existing distribution system must be accomplished in the presence of the CITY INSPECTOR or DEPARTMENT representative.

13.1.2 In cases where completing the connection will disrupt service to customers, the CONTRACTOR shall notify the DEPARTMENT at least 5 days in advance of the work. The customers whose service will be disrupted shall be notified by the CONTRACTOR a minimum of 24 hrs prior to disruption of services. The CONTRACTOR shall plan the work so that disruption of service is held to a minimum. The schedule shall be approved by the DEPARTMENT. **Section 9.3.1**

13.1.3 After connections have been completed, the valves shall be tightly closed. All valve operation shall be performed by the CITY INSPECTOR or DEPARTMENT personnel. At no time shall the CONTRACTOR operate valves or fire hydrants within the water distribution system.

13.1.4 A minimum horizontal distance of 10' should be maintained between water lines, and sewer lines, including edges of manholes or other sources of contamination. Water lines and sewer lines shall not be laid in the same trench except on the written approval of the ADH. Water mains necessarily in close proximity to sewers must be placed so that the bottom of the water line will be at least 18" above the top of the sewer line at its highest point. If this distance must unavoidably be reduced, the water line or the sewer line must be encased in watertight pipe with sealed watertight ends extending at least 10' either side of the crossing Where a water line must unavoidably pass beneath the sewer line, at least 18" of separation must be maintained between the outside of the two pipes in addition to the preceding encasement requirement. Exceptions to this must be approved in writing by the ADH.

13.2 INSTALLATION OF VALVES

13.2.1 Valves shall be joined in accordance with the methods of jointing pipe as specified elsewhere herein. Valve stems shall be plumb and there shall not be any obstructions which will prohibit the installation of valve boxes directly over the stem. For dead-end lines, concrete anchor collars shall be provided around an adjoining length of pipe for all valves. Mechanical joint retainer glands shall be installed on all valves with mechanical joint ends. Valves shall be installed and anchored on all sides of any Cross or Tee application. All valves shall be firmly supported on well compacted approved bedding and completely wrapped in polyethylene tubing material as specified in **Section 13.11**.

13.2.2 Valve boxes shall be installed over the operating nut of each valve and be of adequate length to reach the finished grade. The box cover shall be flush with the final grade. Tracer wire shall be installed through the outside of the valve box bottom section then inserted through the inside of the top section

of the valve box. A minimum of 6” to maximum of 12” of tracer wire is required to be extended beyond the top of the valve box. **Detail W07.**

13.2.3 When the distance between the valve operating nut and the finished surface exceeds 4', a valve stem extension shall be provided. The stem shall be round steel bar stock or steel pipe with a 2” square bar steel operating nut (except 2” valve) attached to the upper end. The stem extension shall be of adequate length to reach from the valve operating nut to a point within 4’ of the final grade. A box wrench, 2 1/8" ID square, made from high grade steel 3/16“ thick shall be welded * to the lower end of the stem extension which will fit over the valve operating nut. A round center guide made from 3/16” or 1/4” steel plate shall be placed on the valve stem extension approximately 6” from the upper end. The diameter of the guide shall be slightly less than the ID of the valve box. The guide shall be affixed to the stem extension in such a way that it can rotate freely on the stem. A bituminous coating shall be applied to all stem extension pieces.

13.2.3.1 ***NOTE**: Welds on stem extensions (top and bottom nut) shall be 1/8" - 3/16" fillet weld around full circumference, small - large valve stem extension.

13.2.4 Valve stem extensions shall be manufactured by Clow, or equal. Shop drawings shall be submitted to the DEPARTMENT for approval prior to installing the stem extension pieces.

13.3 INSTALLATION OF TAPPING SLEEVES & TAPPING SADDLES

13.3.1 The pipe shall be free of dirt and other debris before attaching tapping sleeve or tapping saddle. That part of the pipe barrel, which will be in contact with the gasket of tapping saddles, shall be smooth.

13.3.2 Tapping saddles or sleeves shall be bolted securely to the pipe. The face of the outlet shall be plumb. Mechanical joint glands for tapping sleeves shall be installed in accordance with **Section 12.9.3** herein. The strap bolts for tapping saddles shall be alternately tightened "snug" and then alternately tightened to a torque as required by manufacturer’s requirements.

13.3.3 The tapping valve shall be bolted securely to the tapping sleeve or tapping saddle outlet flange. The tapping valve shall be supported by concrete cap blocks to remove weight from the valve and sleeve or saddle.

13.3.4 After installation of the tapping sleeve or saddle and the tapping valve, the assembly shall be hydrostatically tested at 200 psi for 15 minutes by introducing water through the sleeve or saddle test tap.

13.3.5 All tapping sleeves shall have poured-in-place concrete thrust blocking installed after pressure testing prior to tapping. **Detail GWS02**.

13.3.6 Polyethylene material shall be placed in accordance with **Section 13.11** herein.

13.4 FIRE HYDRANT INSTALLATION

13.4.1 All fire hydrants must have placement approval from the DEPARTMENT.

13.4.2 Hydrants shall be thoroughly cleaned before setting, removing all dirt and foreign matter from the barrel and bottom section up to the main valve. The main valve shall be in the "closed" position and the waste outlet shall be free of any obstructions.

13.4.3 Hydrants shall be located a safe distance from driveways, roadways and sidewalks and in a manner to provide complete accessibility. They shall stand plumb with nozzles at proper elevation and the

steamer/pumper nozzle pointed perpendicular to traffic when hydrant is adjacent to a street, roadway or parking lot drive or toward the protected building unless otherwise directed by the DEPARTMENT**. Detail W04**.

13.4.4 The large diameter nozzle shall be at right angles to the street or fire lane, with the nozzle cap at a minimum of 3' to maximum of 9' from back of curb or edge of any driving surface (measured from the steamer cap nut) or as directed by the DEPARTMENT. Under no conditions will fire hydrants be allowed in the sidewalk or radius, unless otherwise directed by the DEPARTMENT. Fire hydrants placed in subdivisions need to be installed at the lot line to avoid conflicts with driveways.

13.4.5 The CONTRACTOR shall, if necessary, rotate the hydrant barrel or nozzle section at the flanged joint to obtain the desired nozzle position as specified by the DEPARTMENT.

13.4.6 The fire hydrant shoe shall be supported firmly on the bottom and shall be well braced against unexcavated earth with formed and poured concrete blocking on the backside. If considered necessary by the DEPARTMENT, the fire hydrant shall be tied to the branch pipe with suitable rods or clamps. Rods or clamps are to be furnished by the CONTRACTOR without additional compensation.

13.4.7 All mechanical joint fittings shall be properly protected by polyethylene tubing as described in **Section 13.11**.

13.4.8 A drainage bed shall be provided under and around the base of the hydrant of at least 6 cubic feet in volume and extending at least 6" above the weep hole drain outlet and shall consist of Class #67 gravel. As defined in **Section 10.2.1**. Under no circumstances shall the waste outlet on the hydrant or the drainage bed be connected to sewer or storm drainage.

13.4.9 Backfilling and tamping around hydrant barrels shall be continuous in operation.

13.4.10 After installation, it is required that all fire hydrants shall be covered with a water resistant sack to indicate out-of-service. These may be removed after the CITY INSPECTOR or DEPARTMENT has placed the line in service.

13.5 CONCRETE PLACEMENT & FINISHING

13.5.1 All placement of concrete must be in the presence of the DEPARTMENT or representative. The CONTRACTOR is cautioned that he may be required to remove, without compensation, any concrete placed in the absence of the DEPARTMENT or representative.

13.5.2 Equipment for chuting, pumping and pneumatically conveying concrete shall be of such size and design as to ensure a practically continuous flow of concrete at the delivery end without separation of materials. All concrete in reinforced walls and columns shall be poured through tremies unless otherwise permitted by the DEPARTMENT. The free fall of concrete shall be 5' maximum.

13.5.3 Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to re-handling or flowing. The placing of concrete shall be carried on at such a rate that concrete is at all times plastic and flows readily into the spaces between the bars. Concrete that has been contaminated by foreign material shall not be used, nor shall re-tempered concrete be used.

13.5.4 When placing is once started, it shall be carried on as a continuous operation until placement of the panel or section is complete.

13.5.5 In placing concrete, care shall be taken that the freshly placed mass is so placed and vibrated that there is no tendency for the coarse aggregate to segregate from the mortar, that no rock pockets are left, that the concrete flows readily around the steel and into the extremities of the forms, and the whole freshly-placed mass becomes a plastic jelly-like mass but without free water in appreciable quantity on its surface. No concrete shall be poured without vibration with mechanical or magnetic internal vibrators.

13.5.6 Water shall be removed from place of deposit before concrete is placed unless otherwise permitted by the DEPARTMENT.

13.5.7 Concrete placed directly on the ground shall be placed in the forms on a compacted moist sub-grade and shall be vibrated until mortar covers the entire surface. Vibrating shall be given special attention in order to prevent voids in the concrete.

13.5.8 Concrete after placement and finishing shall be protected from damage while curing. Provisions shall be made for maintaining concrete in moist condition for a period of at least 72 hours after placement.

13.5.9 After removal of forms and finishing, as specified elsewhere herein, backfill shall be placed around the structure and thoroughly compacted.

13.5.10 Forms shall be constructed before placement of any concrete * unless otherwise authorized by the DEPARTMENT.

13.5.10.1 ***NOTE**: Concrete utilized for thrust blocking to be poured against undisturbed earth.

13.5.11 Forms shall conform to shapes, lines, and dimensions of the members as specified on the Plans, or as required to conform to the original shape and dimensions in the case of replacement structures, and shall be sufficiently tight to prevent leakage of mortar. They shall be properly braced or joined together so as to maintain position and shape. They may be constructed of any material with sufficient strength, which will provide the finished work a satisfactory surface and alignment.

13.5.12 Forms shall be removed in such a manner as to insure the complete safety of the structure. When the structure is supported on shores, the removable floor forms, beams and girder sides, and column and similar vertical forms may be removed after 72 hours, providing the concrete will not be injured. In no case shall supporting forms or shoring be removed until members have acquired sufficient strength to support their weight and imposed loads safely.

13.5.13 Forms shall be coated with a form oil before placement of reinforcing steel or concrete. Excessive coating material shall not be allowed to form or stand in puddles in the forms nor allowed to come in contact with concrete against which fresh concrete or reinforcing bars will be placed.

13.6 CONCRETE REINFORCEMENT

13.6.1 At the time concrete is placed, metal reinforcement shall be free from rust scale or other coatings that will destroy or reduce the bond. All bars shall be shop bent, unless otherwise permitted by the DEPARTMENT. No bars partially embedded in concrete shall be field bent except as shown on Plans or as specifically permitted by the DEPARTMENT. Field bonding of rail steel bars will not be permitted.

13.6.2 Metal reinforcement shall be accurately placed according to the Plans or as specified herein and adequately secured in position by concrete, metal, or other approved chairs, spacers or ties.

13.6.3 No splices of reinforcement shall be made except as shown on the Plans, or as specified, or as authorized by the DEPARTMENT. All welding shall conform to the American Welding Society's Recommended Practices for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction (AWS D12.1), unless otherwise authorized by the DEPARTMENT. All laps and splices shall be in accordance with ACI 318, using f'_c = 3,000 psi and f_y = 60,000 psi unless otherwise shown on the Plans.

13.6.4 The reinforcement shall be protected by the thickness of concrete indicated in the Plans. Where not otherwise shown, the thickness of concrete over the reinforcement shall be as follows:

(a) Where concrete is deposited against the ground without the use of forms not less than 3", except wire mesh reinforcement for concrete slabs which may be within 1 ½" of the ground.
(b) Where concrete is to be exposed to the weather or to the ground but placed in forms not less than 2" for bars larger than No. 5 and 1 ½" for No. 5 bars or smaller.
(c) In slabs and walls not exposed to the ground or to the weather - not less than ¾".
(d) In all cases - at least equal to the diameter of the bars.

13.7 CONCRETE COLD-WEATHER REQUIREMENTS

13.7.1 Concrete may be placed when the ambient temperature is at least 35°F and rising, and the concrete is not likely to be subjected to freezing temperatures before final set has occurred. Concrete shall not be placed when the ambient temperature is 40°F and falling,or when the concrete is likely to be subjected to freezing temperatures before final set has occurred. Concrete footings or slabs shall not be placed over frozen ground. The temperatures of the concrete when placed shall not be less than 45°F. Heated materials shall be free of ice, snow and frozen lumps before entering the mixer. Methods and equipment for the heating of materials shall be subject to the DEPARTMENT'S approval. Suitable means shall be provided for maintaining the concrete at a temperature of at least 45°F for not less than 96 hours after placing.

13.7.2 Any and all concrete damaged by freezing shall be removed to the satisfaction of the DEPARTMENT, and replaced, all at the expense of the CONTRACTOR.

13.8 CONCRETE HOT-WEATHER REQUIREMENTS

13.8.1 In hot weather, suitable precautions shall be taken to avoid drying of the concrete prior to finishing operations. Use of windbreaks, sunshades, fog sprays, or other devices shall be provided as directed by the DEPARTMENT.

13.8.2 Concrete deposited in hot weather shall not have a placing temperature that will cause difficulty from loss of slump, flash set, or cold joints. Concrete temperatures shall be less than 90°F unless higher temperatures are permitted by the DEPARTMENT.

13.8.3 The use of additives shall be prohibited unless written approval of its use has been secured, in advance, from the DEPARTMENT.

13.9 CONCRETE THRUST BLOCKS & ANCHOR COLLARS

13.9.1 Concrete thrust blocks and anchors shall be provided along the pipeline in accordance with the construction details, plan sheets, or as directed by the DEPARTMENT. The concrete shall have a 28 day compressive strength of 4,000-psi.

13.9.2 Concrete for thrust blocks shall be placed against undisturbed soil. The excavation shall be hand shaped and free of loose material. Forms shall be used to confine the concrete in areas other than that part that is in contact with undisturbed soil in the direction of the thrust.

13.9.3 No concrete shall be placed around any part of a joint or placed so that it interferes with the removal of any joint accessories such as bolts, followers, threads, collars, couplings, etc. Fire hydrant weep hole drain outlets shall not be restricted.

13.9.4 The top of the concrete thrust block or anchor collar shall be struck off with a wood straight edge or float.

13.9.5 Admixtures are not to be used without the approval of the DEPARTMENT.

13.9.6 All placement of concrete must be in the presence of the CITY INSPECTOR or DEPARTMENT representative. The CONTRACTOR is cautioned that he may be required to remove, without compensation, any concrete placed in the absence of the CITY INSPECTOR or DEPARTMENT representative.

13.9.7 Backfill over concrete thrust blocks or anchor collars shall not be placed before the concrete has attained initial set.

13.9.8 No thrust blocks shall be less than 12" thick between the pipeline or appurtenances and undisturbed soil in the direction of thrust.

13.9.9 The excavation shall be free of water before concrete is placed. Steel reinforcement, as specified on the plans, shall be placed in accordance with **Section 13.6** herein.

13.9.10 The pipe or appurtenances shall be cleaned before placing concrete when the concrete is to be in direct contact with the pipe or appurtenance. Polyethylene plastic shall cover all pipes or appurtenances subject to direct contact with concrete.

13.9.11 The area of contact of the thrust blocks and anchor collars shall be sufficient to resist the thrust. This area will vary depending on the safe bearing value of the soil. Suggested safe soil bearing values are as follows:

TYPE OF SOIL	SUGGESTED SAFE BEARING VALUES (TONS\SQ.FT.)
Solid Rock	25
Hard Slate	6
Medium Shale	4
Soft Shale	2
Dry Clay Gravel	4
Soft Clay	1.5
Dry Sand or Loam	2.5
Wet Clay	0.75

13.9.12 The above values are approximate and will vary considerably and are intended to be used only as a reference. The CONTRACTOR is responsible for determining the soil bearing value or taking other action to assure that the bearing area is adequate to restrain the pipe or appurtenances.

13.9.13 Where the soil is unstable or in the case of recent fill areas, the following procedures shall apply either individually or in a combination:

(a) Thrust blocks shall be of adequate size to restrain pipe or appurtenances by mass alone without depending on horizontal bearing of the soil.
(b) The excavation shall extend deep enough to contact firm soil and the block brought up to the pipe or appurtenances and constructed so that the block acts as a beam and will provide restraint required. Such block shall be reinforced with steel reinforcing bars. **Detail GWS04**.
(c) Anchor blocks shall be constructed in a firm soil and tie rods extended to the pipe or appurtenances. **Detail GWS04**.

13.9.14 Thrust blocks for vertical bends shall be adequate to resist the thrust by mass alone when the thrust is upward.

13.9.15 Thrust blocks and anchor collars shall be adequate to restrain the pipeline and appurtenances at the specified test pressure. The following table lists the resultant thrust at certain fittings at a pressure of 100 psi. In order to determine the thrust at the test pressure these values are to be multiplied by a factor equal to the test pressure divided by 100.

13.10 PRESSURE TABLE

Thrust per 100 psi Pressure

Pipe Diameter	Tees Sq. Ft.	90 Bend Sq. Ft.	45 Bend Sq. Ft.	22½ Bend Sq. Ft.	11¼ Bend Sq. Ft.
4"	1.0	1.0	1.0	1.0	1.0
6"	1.5	2.0	1.0	1.0	1.0
8"	2.5	3.5	1.8	1.0	1.0
12"	6.0	8.0	4.0	2.0	1.5
16"	10.0	14.2	7.0	4.0	3.0
18"	21.0	21.0	12.0	6.0	4.0

13.10.1 Concrete thrust blocks or anchor collars that fail to restrain the pipe or appurtenances shall be replaced by the CONTRACTOR at his expense.

13.11 INSTALLATION OF POLYETHYLENE PROTECTION MATERIAL

13.11.1 Polyethylene material ANSI A21.5 (AWWA C105), shall be in tubing form or in the form of flat sheet or rolls, as specified herein, shall be placed around all mechanical joints of pipe and fittings; all valves and fire hydrants with mechanical joint ends and all saddles, sleeves, and couplings, tapping saddles and any other appurtenances with exposed bolts.

13.11.2 Pipe-shaped appurtenances - bends, reducers, offsets and other pipe-shaped appurtenances shall be covered with polyethylene in the same manner as the pipe.

13.11.3 Odd-shaped appurtenances - valves, tees, crosses and other odd-shaped pieces which cannot practically be wrapped in a tube, shall be wrapped with a flat sheet or split length of polyethylene tube. The sheet shall be passed under the appurtenance and brought up around the body. Seams shall be made by bringing the edges together, folding over twice, and taping down. Tape polyethylene securely in place at valve stem and other penetrations.

13.11.4 Where specified in the Plans, DI pipe and appurtenances shall be completely encased in polyethylene tubing material. It is not the intent that the material form an enclosure that is absolutely air or water tight, but to prevent pipe to soil contact.

13.11.5 Polyethylene tubing, when required, shall be applied to water lines by one of the following methods:

(a) Method "A" - Cut polyethylene tube to a length approximately 2' longer than the length of the pipe section. Slip the tube around the pipe centering it to provide a 1' overlap on each adjacent pipe section, and bunching it accordion fashion lengthwise until it clears the pipe ends. Lower the pipe into the trench and make up the pipe joint with the preceding section of pipe. A shallow bell hole must be made at joints to facilitate installation of the polyethylene tube. After assembling the pipe joint, take bunched polyethylene from the preceding length of pipe, slip it over the end of the new length of pipe and secure in place. Then slip the end of the polyethylene from the new pipe section of the end of the first wrap until it overlaps the joint at the end of the preceding length of pipe. Secure the overlap in place. Take up the slack width to make snug, but not tight, fit along the barrel of the pipe, securing the fold at quarter points with tape.

(b) Method "B" - Cut polyethylene tube to a length approximately 1' shorter than the length of the pipe section. Slip the tube around the pipe, centering it to provide 6" of bare pipe at each end. Make polyethylene snug, but not tight; secure ends. Before making up a joint, slip a 3' length of polyethylene tube over the end of the preceding pipe section, bunching it accordion fashion lengthwise. After completing the joint, pull the 3' length of polyethylene over the joint, overlapping the polyethylene previously installed on each adjacent section of pipe by at least 1'; make snug and secure each end.

13.11.6 Openings in Tubing Material - openings for branches, service taps, blow-offs, air valves, and similar appurtenances shall be made by making a x-shaped cut in the polyethylene and temporarily folding the film back. After the appurtenance is installed, tape the slack securely to the appurtenance and repair the cut, as well as any other damaged areas in the polyethylene with tape.

13.11.7 Junctions between Wrapped and Unwrapped Pipe - Where polyethylene wrapped pipe joins a pipe, which is not wrapped, extend the polyethylene tube to cover the unwrapped pipe a distance of at least 2' and secure the end.

13.11.8 The polyethylene material shall be secured around the pipe and appurtenances by at least 3 circular wraps of tape. Tape for field application shall be Polyken #900, or Scotchrap #50, or equal, at least 2” wide.

13.11.9 All tongs, cables or chains that are used for lifting pipe and appurtenances that have been encased in polyethylene material shall be adequately padded to prevent damage to the material.

13.11.10 Repair any rips, punctures, or other damage to the polyethylene with tape or with a short length of polyethylene tube cut open, wrapped around the pipe and secured in place.

13.11.11 Polyethylene material shall be stored on the job site in such a manner that it is not exposed to direct sunlight. Exposure during installation shall not exceed 48 hours.

13.11.12 Backfill material shall be the same as specified for pipe without polyethylene wrapping. Special care shall be taken to prevent damage to the polyethylene wrapping when placing backfill. Backfill material shall be free from cinders, refuse, boulders, rocks, stones and/or other material that could damage polyethylene.

13.12 METER CONNECTIONS

13.12.1 All meter sets shall be provided with approved washers at both ground union connections.

13.12.2 All fittings shall be sealed using approved pipe sealant or Teflon tape.

13.13 FILLING WATER LINES

13.13.1 After the water lines and appurtenances have been installed, all concrete thrust blocking has cured adequately and upon approval of the CITY INSPECTOR or DEPARTMENT, the water lines shall be filled with water.

13.13.2 In order to prevent circulation of water through the new water lines back into the distribution system, only one valve shall be opened to allow water to flow into the new water lines. This valve will be tightly closed after the filling operation has been completed.

13.13.3 The valve operated to fill the water lines shall be operated slowly and shall not be fully opened. All water valve and fire hydrant operation shall be performed by the CITY INSPECTOR or DEPARTMENT representative.

13.13.4 All air shall be expelled from the pipeline by opening fire hydrants and/or other openings installed at the pipeline crests by the CONTRACTOR. The location and number of such openings shall be as shown on the Plans or as directed by the DEPARTMENT.

13.14 HYDROSTATIC PRESSURE AND LEAKAGE TESTS

13.14.1 All water lines and appurtenances shall be tested by a hydrostatic pressure testafter all trenching or boring has been completed in area of water main or water services, this includes the installation of electric conduit. The hydrostatic test pressure shall not be less than 1.25 times the stated anticipated maximum sustained working pressure of the pipeline measured at the highest elevation along the test section and not less than 1.5 times the stated sustained working pressure at the lowest elevation of the test section, in accordance with AWWA standards. In no case shall the test pressure exceed the rated working pressure for any joint, thrust restraint, valve, fitting, or other connected appurtenance of the test section. The ENGINEER shall specify the appropriate minimum test pressure on the utility plan.

13.14.2 After the water lines or isolated sections of the pipeline have been filled with water, the pressure shall be increased to the test pressure by means of a pump. The leakage test shall be in accordance with the AWWA Manual of Water Supply Practice. The manual shall be chosen based on pipe material being tested. Concrete Pressure Pipe (M9), Steel Pipe (M11), PVC Pipe (M23), Ductile-Iron Pipe (M41), and PEX Pipe (M55).

13.14.3 The CONTRACTOR shall furnish a pump with meter on discharge side of pump and a 4” gauge in 2 lb. increments, and all labor for conducting the tests.

13.14.4 The duration of the hydrostatic leakage test shall be 2 hours or as specified by the CITY INSPECTOR or DEPARTMENT representative.

13.14.5 The source of water for the pump suction shall be potable water from the DEPARTMENT’S distribution system. The vessel used must be approved by the CITY INSPECTOR or DEPARTMENT representative.

13.14.6 All interior valves including valves on fire hydrants and other appurtenances shall be open during all tests.

13.14.7 The maximum leakage per hour for DI and PVC shall be as calculated from the following formula (All rubber gasket or 0-ring joints):

$$L = \frac{SD\sqrt{\quad}(P)}{148{,}000}$$

L = allowable leakage, (gallons per hour)
S = Length of pipe tested, in feet
D = nominal diameter of pipe, (inches)
P = average test pressure during leakage test, (psig)

13.14.8 After the specified test pressure has been applied the entire pipeline shall be checked in the presence of the CITY INSPECTOR or DEPARTMENT representative. After the CONTRACTOR has taken the necessary action to repair or replace any part of the pipeline or appurtenances where leaks were apparent or if no leaks were apparent, the water lines shall be subjected to a leakage test at the pressure specified with a meter inserted in the test pump discharge line.

13.14.9 If any test of pipe laid discloses leakage greater than the allowable leakage as calculated from above formula or table, the CONTRACTOR shall, at his expense, locate the leak or leaks and perform whatever work and/or replace whatever material that is required in order to remedy the defect and stop the leak. After corrective work has been completed, the section of line replaced or repaired shall be re-tested. All corrective work must be approved by the DEPARTMENT.

13.14.10 Prior to the pressure test, the ENGINEER shall present an allowable leakage report to the CITY INSPECTOR.

13.15 DISINFECTING WATER LINES AND APPURTENANCES

13.15.1 Disinfection of water lines shall be performed in accordance with AWWA C651.

13.15.2 The CONTRACTOR shall construct blow-offs and sample points, as shown on the Plans or as directed by the CITY INSPECTOR or DEPARTMENT. Temporary blow-offs shall be utilized as sample points. Openings for sample points shall be 1" with polyethylene riser pipe that extends well above the surface, **Detail W01**. The lines shall not be considered acceptable until 2 consecutive samples are negative of bacteria. Water samples are only taken on Monday's, Tuesday's, Wednesday's and Thursday's.

13.15.3 The continuous feed method is the only acceptable method for disinfection and sterilization. The DEPARTMENT shall approve any method other than the continuous feed method. The continuous feed method using liquid chlorine or granulated minimum of 60% available chlorine calcium hypochlorite. Liquid chlorine shall be used only when the CONTRACTOR has suitable equipment available and employees who are familiar with the physiological, chemical and physical properties and who are properly trained and equipped to handle any emergency that may arise. If, in the opinion of the CITY INSPECTOR or DEPARTMENT, the equipment is inadequate or the personnel are not qualified, this method shall not be used.

13.15.4 When the continuous feed method is to be used, the pipelines and appurtenances shall be thoroughly flushed prior to disinfecting. The flushing plan shall be approved by the CITY INSPECTOR or DEPARTMENT. The DEPARTMENT may halt or reduce flushing when required.

13.15.5 The operation of valves or fire hydrants for this method shall be performed by the CITY INSPECTOR or DEPARTMENT Representative.

13.15.6 The CONTRACTOR is reminded that chlorine is a powerful oxidant and reacts readily with foreign substances. All chlorine compounds shall be handled and stored in accordance with manufacturer's recommendations. Breathing of chlorine gas can be fatal. Hypochlorite solutions should not come into contact with skin or clothing. Containers used for mixing hypochlorite solution shall be clean and dry.

13.15.7 When the continuous flow method is used, the final concentration of chlorine inside the main shall be 50 parts per million and remain at this strength for a period not less than 24 hours. Calcium hypochlorite shall contain minimum 60% available chlorine by weight in granular form.

13.15.8 During application of any chlorine solution, The CITY INSPECTOR or DEPARTMENT Representative shall be present to operate valves to ensure that the solution does not flow back into the distribution system.

13.15.9 The procedure for disinfecting by the continuous flow method shall be as follows:

(a) The flow through the pipeline and the solution flow shall be regulated so that the required concentration of chlorine is attained. The flow through the main shall be measured by using a pitot gauge or meter.
(b) The introduction of the solution shall be continuous until the desired concentration is attained throughout the pipeline system. The concentration shall be checked by the Drop Dilution Method.
(c) After the required concentration has been attained all internal valves shall be operated in order to assure that the solution comes in contact with all appurtenances.
(d) The solution shall remain in the pipeline system for 24 hours after which the pipelines shall be thoroughly flushed. The chlorine concentration shall be checked before flushing. If the concentration is less than 25 parts per million, the disinfecting procedure shall be repeated if directed by the CITY INSPECTOR or DEPARTMENT representative. Extreme caution shall be taken to ensure solution does not run into a stream or pond.

13.15.10 If any of the samples collected are positive of bacteria, the disinfecting procedures shall be repeated as directed by the DEPARTMENT until negative samples are collected and approved by the ADH.

13.15.11 The cost of continuous sampling and flushing of water may be charged to the CONTRACTOR.

13.16 CLEANING LARGE PIPELINES

13.16.1 Before disinfection, hydrostatic pressure and leakage testing **- Sections 13.14 & 13.15**, water lines 16” in diameter and larger or any other water line required by the DEPARTMENT shall be cleaned by forcing a resilient high density Polyurethane foam "cleaning pig" through each segment of the pipeline by water pressure to remove any dirt or other foreign matter from the pipeline. The "pig" shall be Style III, Type C (blue, plain criss-cross), manufactured by Knapp, Inc., Houston, Texas, or equal, in good condition and shall be at least 2% larger in diameter than the ID of the pipeline being cleaned.

13.16.2 The "pig" shall be inserted in the first length of pipe installed in each segment of pipeline. After installation of the pipeline segment to be cleaned, the pipeline shall be filled at a point downstream of the "pig". The "pig" shall be forced through the pipeline by applying water pressure to the rear of the "pig" and opening blow-off valves or fire hydrants downstream of the "pig". Valve at blow-off points shall be closed immediately prior to the "pig" passing.

13.16.3 Based on past experience, the "pig" will negotiate bends and tees in the pipeline and may also be forced through the pipeline backward after a pass forward. Openings in the pipeline, as shown on the Plans for removing the "pig", are based on this assumption. If the CONTRACTOR is unable to

clean the pipeline, utilizing the openings provided, additional openings shall be provided by the CONTRACTOR, upon approval of the DEPARTMENT, at the expense of the CONTRACTOR.

13.16.4 If the need for more than one pass of the "pig" through the pipeline is indicated, the CONTRACTOR shall make additional passes as directed by the DEPARTMENT.

13.16.5 Drainage at blow-off points shall be provided so as not to create a nuisance and to avoid property damage.

SECTION 14 WASTEWATER COLLECTION SYSTEM GENERAL INFORMATION

14.1 No gravity sewer main conveying raw sewage shall be less than 8” in diameter unless prior approval is obtained from the DEPARTMENT and the ADH.

14.2 There shall be a 5’ minimum separation between the outside edge of a public sewer main to the outside edge of all other utilities within the utility easement. There shall be a 3’ minimum separation from the outside edge of a manhole barrel to the outside edge of any other utility within the utility easement. Any deviation must have approval from the DEPARTMENT prior to installation. Sewer STEP systems are prohibited in the City of Bentonville. There shall be no case that a property has an active septic tank directly or indirectly tied to the public sewer system.

14.3 Where the difference in invert elevation between two pipes entering a manhole is 2' or more, and no alternative exists, a drop connection shall be utilized as shown on the standard detail sheets. Internal drop connections may be utilized if top to invert elevation is greater than 15’ with the DEPARTMENTS approval. For new manholes and pipes 8” and larger, drop manholes shall have a larger inside dimension than specified as directed by the DEPARTMENT. External drop connections are not permitted for manholes greater than 13’ deep.

14.4 The minimum earth cover for sanitary sewer mains shall not be less than 36” from final grade unless there is prior approval from the DEPARTMENT.

14.5 In any case of signs, fencing or structures installed near a public sewer main, at least 5’ of separation must be maintained. In any case of a permanent building built near a public sewer main at least a 10’ separation must be maintained. Any deviation in separation minimums must get approval from the DEPARTMENT prior to installation or construction.

14.6 Sewer pipe material shall be of the types listed in these specifications. Materials not specifically authorized in these specifications are forbidden for use in the system unless otherwise approved by the DEPARTMENT in writing.

14.7 For maintenance purposes, an access road shall be provided for all off-site sanitary sewer manholes. For the purpose of this section, off-site manhole refers to manholes which are not located within 25’ of a public street.

14.8 Access roads shall be a minimum of 12’ wide and located within a minimum 20’ wide utility and/or access easement. Street curb sections shall be modified to allow access for large vehicles including adequate turning radii. Turning radii shall also be provided to accommodate Department vehicles at any change of direction. Turn-arounds shall be provided at dead-end access roads which change direction and at any point where the slope of the road increases to 10% or steeper. Access roads with slopes up to 10% shall be minimum 6” of ARDOT Class 7 granular base compacted to 95% of standard proctor maximum dry density. Access roads steeper than 10% shall include a minimum 2” thick asphalt surface course in addition to the 6” of granular base mentioned above. Asphalt surface course shall meet the requirements of the current City of Bentonville’s Minimum Standards for Streets. A rigid pavement section with equivalent structural number will

be allowed on sections steeper than 10%. Erosion and storm water controls shall be installed to prevent erosion and other road impairment.

14.9 The utility main that is stubbed out shall terminate at a manhole for a sewer main or a fire hydrant assembly with a restrained gate valve connected to the downstream side of the tee for a water main. The purpose for the stub-out is to allow for connection to the utility without disturbing the existing development.

14.10 Location of main extensions to service parcels of property shall be planned so as to minimize the length of building sewer, which must be maintained by the property owner. If sewer stub-outs are provided for each lot in a new development, said stub-out shall be placed on the lowest elevation corner of property.

14.11 In no case shall a residential building be allowed to connect to the same sewer service or building sewer of another private residential building. Each building structure shall have a separate sewer line service from the point of the utility source and in no case be interconnected with the plumbing system of another privately owned property.

14.12 All gravity sewer main extensions without regard to length shall terminate in a standard manhole. Manholes are to be spaced no greater than 400' and shall occur at all changes in direction or grade.

14.13 Sewer easements will be a minimum 20' in width. Easements shall be dedicated as utility easements unless required to dedicate for the exclusive use of the sewer lines. Sewer lines must be located within the center of the easement or as directed by the DEPARTMENT. Recorded utility easement shall be provided to the DEPARTMENT. There shall be a 5’ minimum separation between the outside edge of a public sewer main to the outside edge of all other utilities within the utility easement. Any deviation must have approval from the DEPARTMENT prior to installation. Recorded utility easement shall be provided to the DEPARTMENT.

14.14 Sewer services shall terminate at the building setback or easement. Services shall be located from lot lines as directed by the DEPARTMENT. Placement of service stub-outs should be located on lowest elevation lot corner. Termination of all stub-outs shall be clearly marked 36” above ground with a single 6’ T-Post (painted green) driven in the ground at a minimum of 36”. GPS coordinates for the end of each service shall be provided in a chart on the final as-builts plans. **Section 5**.

14.15 All efforts shall be made to design sewer systems that are accessible for future maintenance. Manholes should be located on or near streets in order to minimize difficulty of routine maintenance and all efforts should be made to eliminate manholes in ditches or drainage areas. Prior approval to locate manholes in surface runoff areas, such as drainage ditches, shall be approved by the DEPARTMENT prior to construction. All manholes located in drainage areas shall be equipped with watertight manhole rings and covers.

14.16 Access to sewer easements shall be reviewed on a case by case basis during plan review.

14.17 Sewer service lines from buildings to sewer mains shall be placed so as not to cross driveways, walks and so as to avoid permanent objects over them.

14.18 The DEPARTMENT shall perform all 4” taps on existing main lines. All 4” services tying into existing sewer infrastructure shall tie into sewer main lines and not manholes. The tap must be located no closer than 18” to the back end of the bell or collar of the pipeline and no closer than 18” to the insertion line on the spigot end of the pipeline. The excavation for a sewer tap must be safe for entry by City Crews and provide at a minimum 12” clear around the tap location in all directions.A 24 hour notice is required for sewer taps.

14.19 All services 6” and larger must tie into a manhole. All expenses for tying sewer services into existing manholes or constructing a new manhole on an existing sewer main for service access are at CONTRACTORS cost. All connections to existing manholes must be completed in accordance with requirement throughout this specification.

14.20 All customers are solely responsible for the maintenance and repair of their property’s sewer privately owned service beyond the connection to the city’s public sanitary sewer main or manhole, including clearing of any blockages within the service line. The City is responsible only for the public sewer main and the service tap connection; However, reserves the right to access and inspect private sewer services to ensure compliance with applicable specifications and codes in order to protect the integrity of the public sewer system.

14.21 Minimum Slope for Sewer Line Installation Table

Nominal Sewer Main Size	Minimum Slope in Feet Per 100 Feet (m/100 m)
8 inch (200 mm)	0.40
10 inch (250 mm)	0.28
12 inch (300 mm)	0.22
14 inch (350 mm)	0.17
15 inch (375 mm)	0.15
16 inch (400 mm)	0.14
18 inch (450 mm)	0.12
21 inch (525 mm)	0.10
24 inch (600 mm)	0.08
27 inch (675 mm)	0.067
30 inch (750 mm)	0.058
33 inch (825 mm)	0.052
36 inch (900 mm)	0.046
39 inch (975 mm)	0.041
42 inch (1050 mm)	0.037

SECTION 15 WASTEWATER COLLECTION SYSTEM MATERIALS

15.1 ALL MATERIALS TO BE DOMESTICALLY MADE.

15.1.1 All gravity or force sanitary sewer pipe shall be PVC. If it is deemed necessary to install DI pipe, the use of DI pipe shall be subject to approval by the DEPARTMENT prior to installation. The minimum acceptable size of all gravity sewer mains is 8" diameter, unless prior approval is obtained from the DEPARTMENT and the ADH. All pipe installed shall be of the type, size, class and thickness as indicated in these specifications and on the design plans. The design strength of pipe used shall be based on standard Engineering design principles and manufacturer or trade association recommendations. Only pipe materials listed in this section shall be used for sanitary sewer mains and service lines unless specifically authorized by the DEPARTMENT.

15.2 **POLYVINYL CHLORIDE (PVC)**

15.2.1 Pipe shall meet the requirement of SDR-26 Heavy Wall Sewer Pipe and comply with ASTM-3034 and Cell Classification 12454. Pipe joints shall be integrally molded bell ends per ASTM D-3034 Type PSM with factory supplied elastomeric gaskets and lubricant. Pipe shall be continually marked with the following:

(a) Nominal OD
(b) Dimension Ratio (SDR-26)
(c) Notation "Heavy Wall Sewer Pipe"
(d) Cell Classification: 12454
(e) SDR Rating ASTM-D3034
(f) Manufacturer's name or trademark and production code
(g) Seal (mark) of the testing agency that verified the suitability of the pipe. (such as: "PSP")

15.2.2 The DEPARTMENT prohibits all A2000 type or any "profile pipe" use.

15.2.3 Pipe joints shall be integrally molded bell ends per ASTM D 3034, Table 2, with factory supplied elastomeric gaskets and lubricant.

15.3 **DUCTILE IRON PIPE**

15.3.1 Installation of DI pipe shall be installed under the direction of the DEPARTMENT. DI pipe that meets ASTM A746, extra heavy type, inside nominal diameter as specified on plans, bell and spigot end shall be used. Jointing devices ASNI A21.11, rubber gasket joint devices.

15.3.2 All DI pipe and fittings for sewer service shall have an interior epoxy lining. The lining system shall be either Protecto 401 Ceramic Epoxy as manufactured by Vulcan Painters, Inc or Perma-Shield Series 431 manufactured by Tnemec. The lining applicator shall have a successful history of applying linings to the interior of DI pipe.

15.4 **PIPE ACCESSORIES**

15.4.1 If any pipe accessories are necessary the material being used shall be submitted to the DEPARTMENT for approval **prior to** installation. If approval has not been obtained **in writing**, the contractor is at risk of removing any accessory at the DEPARTMENTS discretion.

15.5 **FITTINGS**

15.5.1 All fittings shall be made of the same material as the sewer main whether it is Ductile Iron or Heavy Wall SDR-26. Fittings shall have a push-on gasket seal that will allow for a passing air test. All fittings shall be submitted to the DEPARTMENT for approval **prior to** installation.

15.6 **CLEANOUTS**

15.6.1 Cleanouts are strictly prohibited as a point of entry or maintenance for use in the municipal sewer system. Clean-outs shall be installed on private plumbing only. Entry into the sewer main shall be facilitated by the use of manholes only or as directed by the DEPARTMENT.

15.7 **FORCE MAINS**

15.7.1 All force mains will have a 3' minimum cover of bedding material installed according to **Detail LS09**. The installation of the force main will include a 10 gauge solid strand copper tracer wire with locator ports. The pipe material that is to be usedis C900 Pressure Class 235 psi (DR18)

PVC. Warning tape will need to be installed approximately 6" above the pipe. The warning tape will have "Force Main" written on it in order to identify the pipe. Pipe size shall be a minimum of 4".

15.7.2 Fittings shall be ductile iron, designed for working pressure of at least 350 psi, and shall conform to ANSI/AWWA C153 A21. Joints shall be mechanical joint conforming to ANSI A21.11. All fittings shall be furnished with gaskets and mechanical joint fittings shall be furnished with bolts, nuts and retainer glands. Fittings shall be manufactured by U.S. Pipe "TRIM TYTE", Tyler, Star Pipe Products, or approved equal. Any alternate manufacturer shall require DEPARTMENT approval prior to installation. All fittings shall be provided with a standard exterior asphaltic coating, and lined on the interior with either Protecto 401 Ceramic Epoxy as manufactured by Vulcan Painters, Inc or Perma-Shield Series 431 manufactured by Tnemec.

15.7.3 All manholes at or within 1000' downstream of a force main discharge, or within 500' upstream of a lift station wet well shall be lined with an approved product, and fitted with a composite ring and lid to prevent degradation of the manhole. Refer to manhole material specifications for approved products.

15.8 TRACER WIRE PORTS FOR FORCE MAINS

15.8.1 Tracer wire ports will be located no further apart than 500' and placed at every change in direction. The ports are to be laid out so that they are located by a manhole whenever possible for ease of locating in the event that they get buried. The tracer wire ports will consist of a 4" pipe resting on the bedding material and extending to the final grade elevation. The tracer wire port will include a cast iron lid and an 18" pre-castconcrete pad. The tracer wire will be brought up through the 4" pipe and extend a minimum of 12" out of the top of the pipe. The tracer wire will be installed in a manner that will allow the force main to be located in both directions from the tracer wire port.

15.8.2 Valve boxes shall be Tyler 6850 series or equal with 5 ¼" shafts. screw type, 5 ¼" drop lid with "SEWER" on lid. All valve box material shall be domestically made.

15.9 AIR/VACUUM COMBINATION VALVES FOR FORCE MAINS

15.9.1 Combination Air valves shall be heavy-duty "Universal" style single body units incorporating the functions of an air and vacuum valve with an air release valve in a single housing. Combination Air valves shall release accumulations of air at high points within a pipeline by exhausting large volumes of air as the pipeline is being filled, and then by releasing accumulated pockets of air while the pipeline is in operation and under pressure. Combination air valves shall also be designed to permit large volumes of air to enter the pipeline during pipeline drainage. The air release valves shall be specifically designed to operate with liquids carrying solid particles such as sewage and effluent. The valve body internal metal components shall be cast or fabricated 316 stainless steel. The internal float shall be of 316 stainless steel. No plastic or fiberglass components will be acceptable. The valve shall incorporate an air release orifice of 3/16" or 5/32" for use at 20-200 psi. This orifice shall be located on the outlet of the valve, and shall be drilled in a 316 stainless steel orifice plate that seals against a Buna-N rubber seat. The inlet and outlet size must be nominal, having NPT connections. The valve shall be Crispin "UX Series," or approved equal.

15.9.2 All associated plumbing for installation of air and vacuum release valves shall be 316 stainless steel.

15.10 ENCASEMENT PIPE

15.10.1 Smooth Wall Steel Encasement Pipe - Pipe shall conform to ASTM A-139, ASTM A-21.11. The metal thickness shall be as shown in the Proposal or Plans.

15.10.2 Casing spacer systems shall be manufactured in two pieces, made from heavy gauge T-304 stainless steel with Polymer Plastic Runners (Teflon). Spacers shall be a Cascade Casing Spacer manufactured by Cascade Waterworks Manufacturing Company or equal conforming to ASTM ratings, approved by AWWA and the DEPARTMENT. Encasement spacers shall be sized to eliminate the potential for the sewer main inside the encasement pipe to float. Casing and utility pipes shall be sealed with synthetic rubber end seals. Detail GWS01.

SECTION 16 SEWER MANHOLE INFORMATION AND MATERIALS

16.1 This section covers materials to be used in the construction or modification of standard manholes, drop manholes, watertight manholes, and air/vacuum valve manholes.

16.2 CONCRETE CURING AND COMPOUNDS

16.2.1 Concrete used in the construction of manholes shall conform to the requirements in **Section 12.22.** Curing compounds or covers must be approved by the DEPARTMENT. It is the responsibility of the CONTRACTOR to protect the concrete to prevent cracking during the curing process and to protect the manhole during freezing temperatures. The CITY INSPECTOR shall, at their discretion, prohibit pouring concrete during periods of extreme cold or inclement weather.

16.3 CAST-IN-PLACE-MANHOLES

16.3.1 Cast-in-place manholes shall be constructed of 4,000 psi concrete with the concrete base a minimum thickness of 8" below the invert and shall be poured on undisturbed earth. The base shall extend a minimum of 24” in all directions from the exterior of the manhole barrel. **Detail SS01**.

16.3.2 Concrete shall be deposited evenly distributed in a continuous pour in maximum layers of 18", with each layer vibrated to bond it to the preceding layer.

16.4 DROP TYPE MANHOLES

16.4.1 Drop type manholes installations shall be approved during plan review. **Detail SS02** for interior drop type manholes and **Detail SS03** for exterior drop type manholes.

16.4.2 Internal drops may be constructed in existing manholes if top to invert elevation is 15’ or greater. All requests for internal drop construction shall be approved by the DEPARTMENT. Point of intrusion shall be re-sealed with an approved water stop and grouted in place, the top section fitting shall be an all Hub SDR 26 double sanitary tee with direction of flow pointing downward. Vertical piping will be attached to concrete with 1 ¾” stainless steel bands by 5/8” X 3” stainless steel bolts with expansion anchors. Piping will terminate with a 90º long sweep bend resting on original invert base, fitting will be grouted in place on both sides to support assembly while forming new invert trough. Minimum pipe size for internal drop shall be 6”.

16.5 AIR/VACUUM COMBINATION VALVE MANHOLES

16.5.1 Manholes for air/vacuum combination valves shall be 5’ ID cast-in-place manholes with a 30” composite lid, and shall be lined with an approved product to prevent degradation of the manhole. The manhole shall be centered over the valve and constructed by pouring the walls centered on top of an 18” wide by 12” deep footing of compacted class 7 base. #67 stone bedding shall be provided from a minimum of 12” below the forcemain up to the top of pipe. All other aspects of the manhole not specifically listed in this section shall meet all requirements found elsewhere in these specifications including, but not limited to materials and construction requirements. **Detail LS08.**

16.6 SANITARY SEWER MANHOLE ABANDONMENT

The DEPARTMENT requires the entire removal of the manhole if 5' deep or less. Upon removal of the manhole, all lines going into the manhole are to be cut and filled with 4,000 psi concrete until pipe is full, to not allow any infiltration.

Any manhole that is deeper than 5' is to be abandoned according to **Detail SS07**.

16.7 MANHOLE RINGS AND LIDS

16.7.1 All cast iron manhole rings and lids must be of the best quality gray cast iron, free from cracks, holes, scale, shrinkage, distortion and other defects which might make them unfit for their intended use. They shall have a workmanlike finish, shall be non-rocking, shall have all bearing surfaces machined smooth and shall be of such quality that a blow from a hammer will produce an indentation on a rectangular edge of casting without flaking the metal. Manhole rings and lids shall have a minimum access diameter of 24". The manhole lids shall be of solid construction without any openings other than 2 concealed pick holes which shall be located on direct opposite sides of the manhole lid. The concealed pick holes shall be of such design as not to allow infiltration into the manhole. Manhole lids shall have "SANITARY SEWER" or "CITY OF BENTONVILLE SANITARY SEWER" cast on the lid. Standard manhole rings and lids shall be East Jordan Iron Works Product 00134865A01or approved equal determined by Bentonville Water Utilities, and shall have a combined weight of ring and lid equaling 250 pounds or greater. All rings and lids shall be domestically made. **Detail SS04**.

16.7.2 All composite manhole rings and lids shall be made of fiber-reinforced polymer/composite materials and must pass proof-load testing in accordance with AASHTO M306 standard specifications. Manhole rings and lids shall have a minimum access diameter of 24" or as specified on the plans. The manhole lids shall be of solid construction without any openings other than a concealed pick hole. Concealed pick holes shall be of such design as not to allow infiltration into the manhole. Manhole lids shall have "SANITARY SEWER" molded on the lid. Manhole lids shall be equipped with stainless steel quarter turn latches with a hex head. A neoprene or o-ring gasket shall be provided. Composite rings and lids shall be as manufactured by Composite Access Products or East Jordan, or equal as approved by the DEPARTMENT.

Size	Manufacturer	Product Number
24"	CAP	A-1BK24H2-C01DMDSS-H1
	EJ	COM260262A01
30"	CAP	A-1BK30H2-C01DMDSS-H1
	EJ	COM320131A01
36"	CAP	A-1BK36H2-C01DMDSS-H1
	EJ	COM380278A01

16.8 PRIVATE MANHOLE LIDS

16.8.1 The manholes along private sewer lines shall require lids with "PRIVATE SANITARY SEWER" cast or molded on the lid in addition to meeting all other manhole lid requirements elsewhere in these specifications.

16.9 WATERTIGHT MANHOLE RINGS AND LIDS

16.9.1 Watertight manhole rings and lids where required on the plans by DEPARTMENT, shall be East Jordan Iron Works, Product 00124855W02 or approved equal determined by Bentonville Water Utilities and be domestically made. **Detail SS05**.

16.10 **MANHOLE STEPS**

16.10.1 Manhole steps are strictly prohibited within the Bentonville Wastewater Collection System.

16.11 **WATER STOPS**

16.11.1 Water stops for cast in place pipe connections to new manholes shall be Fernco Concrete Manhole Adapters, or approved equal determined by Bentonville Water Utilities, furnished in the appropriate size for the type and class pipe used. Water stops are required for all sewer pipes entering manhole walls or bases.

16.11.2 Connections to existing manholes shall utilize a domestic Kor-N-Seal wedge style Pipe-to-Manhole connector as manufactured by Trelleborg, or DEPARTMENT approved equal. The connector shall be installed in accordance with the manufacturer's requirements and procedures.

Pipe Size	Series
6" to 15"	106/406
18" +	206

16.12 **MANHOLE CONFIGURATIONS AND CONSTRUCTION**

16.12.1 Manholes shall be of such construction so that the finished manhole will have an ID of 4' 0" plus or minus ½". Concrete used to pour the manhole shall be 4,000 psi with a slump of approximately 3". Wall thickness shall be a minimum of 6". **Detail SS01**

16.12.2 Before the forms are set in place, any water that may have accumulated in the excavated area shall be pumped out.

16.12.3 All manholes shall be a monolithic pour. Pouring the base and walls with one continuous pour. The manhole shall not be backfilled less than 24 hours after the forms have been removed. Extra care shall be taken to compact all backfill to the top of the highest pipe entering the manhole. After these pipes have been put in place, the barrel shall be repaired using a grout mixture. If honeycombing of the barrel is found to be present after removal of the forms, they shall be repaired as directed by the ENGINEER, DEPARTMENT or CITY INSPECTOR.

16.12.4 Manholes greater than 10 feet deep may be poured in two sections with prior approval from the DEPARTMENT. A 3" X 3" construction joint with water stop and #4 rebar on 12" centers shall be provided.Manhole is to be inspected by CITY INSPECTORS before additional pour is done.

16.13 **MANHOLE SHAPE AND INSIDE DIMENSIONS**

16.13.1 Manhole shapes shall be cylindrical and 48" diameter for sewer mains 12" and less, 60" diameter for sewer mains larger than 15" to 24", and 72" diameter for sewer mains larger than 24".

16.14 **MANHOLE DESIGN DEPTH, HEIGHT AND PLACEMENT**

16.14.1 Manhole depth shall be as indicated on plans. The DEPARTMENT requires accessibility to all manholes, the responsible ENGINEER shall design the sanitary sewer system in a manner so as to eliminate backyard placements between buildings, behind permanent structures, or other locations not accessible for normal street side maintenance.

16.14.2 Street side manhole rim elevations shall be 4" above the proposed final grade and offsite or non-street side manhole top rim elevations shall be 12" above proposed final grade. Manhole risers used in vertical adjustment must have Ram-Nek installed with the new riser. It must be heated in

a manner that allows workability so it can be pressed into the receiving ring or inset of additional risers used to achieve proper rim elevation. Any risers added must be seated fully, "squeeze out" is proof of a water tight joint and a proper installation. All manhole rim elevations shall be shown as such on the sewer profile sheet and noted in the general construction notes. The DEPARTMENT, during site final, will address finished manhole elevations and may require additional height elevations. All manholes constructed in ravines, drainage or runoff areas will require the installation of a watertight ring and lid or rim shall be 12" above 100 year flood.

16.14.3 After sewer construction is complete, the vertical adjustment shall be no more than 24" plus the lid. A maximum of (2) risers may be utilized to achieve the 24" of adjustment.Adjustments greater than 24" require the reconstruction of the manhole cone. A cold joint requires installation of a water stop and application of an acceptable lining product extending 1' either side of the joint to prevent infiltration. Refer to manhole lining specifications for approved products.

16.15 MAIN AND SERVICE PIPES

16.15.1 All main and service pipes shall be neatly cut flush with inside of manhole or inlet where they enter structure walls, and correct irregularities and rough edges with non-shrinking grout.

16.16 CONNECTIONS TO MANHOLES

16.16.1 To ensure that pipe will not sag or break immediately adjacent to the manhole, care shall be taken that excavation for the manhole bottom is limited to the area to be filled with concrete. The CONTRACTOR shall support pipe entering the manhole all the way to solid bedding by placing approved backfill under the pipe and up to the mid spring-line with Class B concrete.

16.16.2 Connection of new sewer mains and services to existing manholes in acceptable condition shall be completed by core-drilling the manhole wall and utilizing a Kor-N-Seal connector and non-shrink grout to repair the intrusion. The manhole shall also be lined from invert to 1 foot above the top of the highest intrusion with an acceptable lining product. In the case that a manhole being cored is already lined, the lining shall be repaired in accordance with the original product manufacturers requirements and recommendations. Refer to manhole lining specifications. Manholes core-drilled for new connections shall undergo vacuum testing after installation of the Kor-N-Seal, but prior to installation of non-shrink grout or lining. A vacuum test on the existing manhole is also recommended prior to starting work. A manhole with a passing test prior to work, or where a pre test was not completed will be required to pass a vacuum test when work is complete.

16.17 INVERTS

16.17.1 The invert of the manhole shall be hand-placed and shaped using the same 4,000-psi concrete mixture used to pour the base and walls of the manhole. The invert shall be shaped and smoothed so that the manhole will be self-cleaning and free of areas where solids may be deposited as sewage flows through the manhole and from service lines that enter the manhole base. Inverts shall be shaped, formed and brushed smooth from the concrete poured for the base prior to the initial set of the base. In all cases the diameter of each pipe entering the manhole barrel shall be cut smooth with the inside edge of the manhole barrel and the invert shaped throughout from all inlet pipes to the outside pipe. Shape inverts for smooth flow across structure floor as shown on drawings.

16.18 MANHOLE LINING

16.18.1 When specified, manholes shall be lined with a product or system designed and proven to stop infiltration and prevent biological corrosion in sanitary sewer manholes. The lining shall be applied in accordance with the manufacturer's recommendations, including the preparation and

restoration of the existing structure as necessary. The lining product or system to be used shall be approved in writing by the DEPARTMENT prior to application.

16.18.2 CONTRACTOR shall at its own expense supply the DEPARTMENT with industry standard test results as requested.

16.18.3 All manholes requiring lining shall be constructed with a composite ring and lid. In the event that existing manholes are being lined that do not meet this requirement, it shall be the contractor's responsibility to remove the manhole cone and reconstruct with a composite lid. This remediation shall conform to all requirements in this specification.

16.18.4 The DEPARTMENT reserves the right to require remediation or rehabilitation of existing structures including, but not limited to invert and wall repair, application of cementitious lining, and replacement of ring and lid as deemed necessary by the department prior to application of any approved lining. In cases where the manhole cannot feasibly be rehabilitated, replacement may be required.

SECTION 17 SEWER SYSTEM GENERAL INSTALLATION INFORMATION

17.1 ALL MATERIALS SHALL BE DOMESTICALLY MADE

17.2 FIELD QUALITY CONTROL

17.2.1 Compaction testing will be performed in accordance with ANSI/ASTM D698, ASTM D2922, ASTM D3017 or ASTM D1557.

17.2.2 Test sanitary sewer pipe system installed below grade and outside building in accordance with the following procedures:

(a) The CONTRACTOR shall perform the testing of manhole construction, pipe materials and/or other materials incorporated into the construction of the sanitary sewer system to determine leakage and water tightness. Testing to be supervised by design ENGINEER and inspected by the CITY INSPECTOR.

17.3 AIR TESTING OF GRAVITY SEWER LINES

17.3.1 All gravity sewer lines shall be tested in accordance with the following procedures after all trenching and boring in area of sewer mains and sewer services:

(a) Plug all pipe outlets with suitable test plugs. Brace each plug securely.
(b) Pipe air supply to the pipeline to be tested in such a manner that the air supply may be shut off, pressure observed and air pressure released from the pipe without workmen entering the manhole.
(c) Add air slowly to the portion of pipe under test until the internal pressure of the line is raised to approximately 4 psig but less than 5 psig.
(d) Shut the air supply off and allow at least 2 minutes for the air pressure to stabilize.
(e) When the pressure has been bled down to 3 1/2 psig and stabilized, start the test.
(f) If the pipe section does not decrease from 3.5 psi to 2.5 psi in less time than is allotted the section passes the test.

17.4 GRAVITY SEWER AIR TESTING TIME REQUIREMENTS

Table 1 - Minimum Specified Time Required for a 1.0 psig Pressure Drop for Size and Length of Pipe Indicated for $Q = 0.0015$

Pipe Diameter, In.	Minimum time, min:s	Length for Minimum Time, ft	Time for Longer Length, s	Specification Time for length (L) Show, min:s							
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
4	3:46	597	0.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470 L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852 L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768 L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46

Table 2 - Minimum Specified Time Required for a 0.5 psig Pressure Drop for Size and Length of Pipe Indicated for $Q = 0.0015$

Pipe Diameter, In.	Minimum time, min:s	Length for Minimum Time, ft	Time for Longer Length, s	Specification Time for length (L) Show, min:s							
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
4	1:53	597	0.190 L	1:53	1:53	1:53	1:53	1:53	1:53	1:53	1:53
6	2:50	398	0.427 L	2:50	2:50	2:50	2:50	2:50	2:50	2:51	3:12
8	3:47	298	0.760 L	3:47	3:47	3:47	3:47	3:48	4:26	5:04	5:42
10	4:43	239	1.187 L	4:43	4:43	4:43	4:57	5:56	6:55	7:54	8:54
12	5:40	199	1.709 L	5:40	5:40	5:42	7:08	8:33	9:58	11:24	12:50
15	7:05	159	2.671 L	7:05	7:05	8:54	11:08	13:21	15:35	17:48	20:02
18	8:30	133	3.846 L	8:30	9:37	12:49	16:01	19:14	22:26	25:38	28:51
21	9:55	114	5.235 L	9:55	13:05	17:27	21:49	26:11	30:32	34:54	39:16
24	11:20	99	6.837 L	11:24	17:57	22:48	28:30	34:11	39:53	43:35	51:17
27	12:45	88	8.653 L	14:25	21:38	28:51	36:04	43:16	50:30	57:42	64:54
30	14:10	80	10.683 L	17:48	26:43	35:37	44:31	53:25	62:19	71:13	80:07
33	15:35	72	12.926 L	21:33	32:19	43:56	53:52	64:38	75:24	86:10	96:57
36	17:00	66	15.384 L	25"39	38:28	51:17	64:06	76:55	89:44	102:34	115:23

17.5 HYDROSTATIC PRESSURE AND LEAKAGE TEST OF FORCE MAINS

17.5.1 All force mains and appurtenances shall be tested by a hydrostatic pressure test after all trenching or boring has been completed in area of the force main. The hydrostatic test pressure shall not be less than 1.25 times the stated anticipated maximum sustained working pressure of the pipeline measured at the highest elevation along the test section and not less than 1.5 times the stated sustained working pressure at the lowest elevation of the test section, in accordance with AWWA standards. In no case shall the test pressure exceed the rated working pressure for any joint, thrust restraint, valve, fitting, or other connected appurtenance of the test section. The ENGINEER shall specify the appropriate minimum test pressure on the utility plan.

17.5.2 After the sewer force mains have been filled with water, the pressure shall be increased to the test pressure by means of a pump. The leakage test shall be in accordance with AWWA M23.

17.5.3 The CONTRACTOR shall furnish a pump, and all labor for conducting the test.

17.5.4 The duration of the hydrostatic leakage test shall be 2 hours or as specified by the CITY INSPECTOR or DEPARTMENT representative.

17.5.5 The source of water for the pump suction shall be potable water from the DEPARTMENT'S distribution system. The vessel used must be approved by the CITY INSPECTOR or DEPARTMENT representative.

17.5.6 The maximum leakage per hour for DI and PVC shall be as calculated from the following formula (All rubber gasket or 0-ring joints):

$$L = \frac{SD\sqrt{\quad}(P)}{148{,}000}$$

L = allowable leakage, (gallons per hour)
S = length of pipe tested, in feet
D = nominal diameter of pipe, (inches)
P = average test pressure during leakage test, (psig)

17.5.7 After the specified test pressure has been applied the entire pipeline shall be checked in the presence of the CITY INSPECTOR representative giving particular attention to that part of the pipeline and those appurtenances that are exposed. After the CONTRACTOR has taken the necessary action to repair or replace any part of the pipeline or appurtenances where leaks were apparent or if no leaks were apparent, the sewer force mains shall be subjected to a leakage test at the pressure specified with a meter inserted in the test pump discharge line.

17.5.8 If any test of pipe laid discloses leakage greater than the allowable leakage as calculated from above formula or table, the CONTRACTOR shall, at his expense, locate the leak or leaks and perform whatever work and/or replace whatever material that is required in order to remedy the defect and stop the leak and re-test the line. All corrective work must be approved by the DEPARTMENT.

17.5.9 Prior to the pressure test, the ENGINEER shall present an allowable leakage report to the CITY INSPECTOR.

17.6 TESTING SAFETY PRECAUTIONS

17.6.1 The low-pressure air test may be dangerous to personnel if, through lack of understanding or carelessness, a line is over pressurized or plugs are installed improperly. It is extremely important that the various plugs be installed so as to prevent the sudden expulsion of a poorly inflated plug. As an example of the hazard, a force of 250 pounds is exerted on an 8" plug by an internal pressure of 5 psi. Observe the following safety precautions:

(a) No person shall be allowed in the manholes during the test or when a plugged pipe is under pressure.
(b) Gauges, air piping manifolds and valves shall be located at the top of the ground. Install and brace all plugs securely.

17.7 GROUND WATER ELEVATION

17.7.1 If the pipeline to be tested is below the ground water level, the starting test pressure shall be increased by 0.433 psi for each foot the groundwater level is above the invert of the sewer pipe. In no case shall the starting test pressure exceed 9.0 psig.

17.8 TEST EQUIPMENT

17.8.1 All necessary equipment to perform the air test in accordance with this specification shall be provided by the CONTRACTOR. The test gauge shall be 4" and have incremental division of 0.10 psig and have an accuracy of at least $\pm$ 0.04 psig. In no case shall a test gauge be used which has incremental divisions of greater than 0.25 psig. The gauge shall be of sufficient size in order to determine this accuracy.

17.8.2 The ENGINEER shall furnish one copy of gravity sewer and manhole test results to the DEPARTMENT upon completion of gravity sewer system approval by the CITY INSPECTOR.

17.9 MANDREL TEST

17.9.1 Flexible sewer pipe shall be mandrel tested with a rigid device sized to pass 5% or less deflection (deformation) of the pipe. The base inside diameter, as set forth in Table X1.1 of ASTM D3034 or Table X2.1 of ASTM F679, shall be used to compute the mandrel dimensions. Allowances for ovality (from shipment, heat, shipping loads, poor production, etc.) shall not be deducted from the base ASTM data but shall be counted as a part of the 5% or less deflection allowance. The OD of the mandrel shall be set according to the following table:

NOMINAL DIAMETER (IN)	MANDREL OD (IN)
8"	7.11"
10"	8.87"
12"	10.55"
15"	12.90"
18"	15.85"
21"	18.68"
24"	21.00"
27"	23.65"
30"	27.10"

17.9.2 The mandrel (go/no-go) device shall be cylindrical in shape and constructed with either 9 or 16 evenly spaced arms or prongs. Mandrels with fewer arms will be rejected as not sufficiently accurate. The contact length of the mandrel's arms shall equal or exceed the nominal ID of the sewer to be inspected. Critical mandrel dimensions shall carry a tolerance of $\pm$ 0.01". The mandrel and all necessary equipment for the mandrel test shall be provided by the CONTRACTOR. No handmade mandrel devices shall be used for testing unless prior permission is given by the DEPARTMENT or the CITY INSPECTOR.

17.9.3 The mandrel shall be hand-pulled by the CONTRACTOR through all flexible pipe sewer lines no earlier than 30 days after the trench has been completely backfilled. Any sections of the sewer not passing the mandrel shall be uncovered and the CONTRACTOR shall re-bed, re-round or replace the sewer to the satisfaction of the DEPARTMENT. Any repaired section shall be re-tested.

17.10 MANHOLE VACUUM TESTING

17.10.1 The manhole vacuum test shall be performed with suitable apparatus made for such purpose and shall draw a vacuum of 10" of mercury (Hg). The test shall pass if the vacuum remains at 10" of mercury (Hg) or drops to not less than 9" of mercury (Hg) in one minute. Vacuum test will be performed by construction CONTRACTOR. Test shall be witnessed and documented by CITY INSPECTOR. Responsible ENGINEER shall furnish test result information to the DEPARTMENT. If, after 2 attempts to perform a satisfactory vacuum test have failed, the DEPARTMENT may require that the manhole be removed and re-poured. All sewer services entering the manhole shall be vacuum tested with the manhole.

17.10.2 If existing manhole is to be adjusted – either lowered or raised – and cone is removed – manhole will require a passing vacuum test.

17.10.3 Pre-vacuum testing is recommended on existing manholes. If manhole is cored, a post vacuum test shall be required except for the below circumstances:

If pre-vacuum test passes – a post vacuum test shall pass.
If pre-vacuum test fails – a post vacuum test will not be required.

17.11 CLOSE CIRCUIT TELEVISION INSPECTION – (CCTV)

17.11.1 All sewer mains that are installed as part of a new subdivision or large scale development and for the purpose of becoming part of a public sewer system, maintained by the City of Bentonville will require a Close Circuit Television Inspection (CCTV). The inspection will be performed by City personnel after all other required sewer main line testing has been completed. The inspection consists of hydro-jet cleaning the sewer main line and allowing it to drain for a period of not less than one hour. After the sewer main line has been allowed to drain the CCTV inspection will begin. Defects that will be documented are: Pipe bell ends facing downstream, narrow or rough manhole inverts, misaligned or backward service wyes, loose or missing pipe joint gaskets, pipe joints not fully seated, crushed, or out-of-round pipe and the pooling of water in the pipe and at service wyes, joints and manhole inverts. The camera has been fitted with a measuring device that can determine the depth of the water in the event of any pooling. Any pooling of water that is deeper than ¾" will require the sewer main line to be adjusted to eliminate the problem. The only personnel allowed in the CCTV vehicle during the inspection are City of Bentonville employees.

17.11.2 A pass or fail decision is not made in the field. The camera inspection is recorded on video recording software and then reviewed at the DEPARTMENT. After review of the recording, the comments will be made available to the responsible ENGINEER for the project indicating approval of the sanitary sewer mains or a list of defects that require repair.

17.11.3 All CCTV inspections or re-inspections that are necessary are to be requested in written form by email to the DEPARTMENT by the responsible ENGINEER for the development project. The responsible ENGINEER shall provide accurate record drawing of sewer system, with profiles, at time of CCTV request.

17.11.4 One attempt will be made by City staff to adequately clean new sewer mains for proper CCTV inspection. If during construction sufficient care is not taken to keep rocks, dirt or debris from entering new sewer mains and extra cleaning is necessary, CCTV staff will not complete the inspection. Department personnel will then advise the ENGINEER of record of the condition of the pipe. The contractor shall be responsible for the additional cleaning needs. It will be the ENGINEER of record's responsibility to communicate to the contractor why the inspection was stopped and why they are now responsible for cleaning and removing obstructions in the sewer main. After the contractor has completed the necessary cleanings, the ENGINEER of record will contact the DEPARTMENT and request continuation of the CCTV inspection.

17.11.5 After the completion of the required repairs by the CONTRACTOR, a re-inspection must be performed using the same procedures as for the initial inspection. All re-inspections will be billed to the OWNER/DEVELOPER according to current fee ordinance.

17.11.6 Full CCTV inspection shall be completed and 1st tracer wire inspection shall be completed before site final.

17.12 ACCEPTANCE OF INSTALLATION

17.12.1 No gravity sewer or manhole will be accepted that does not comply with the minimum requirements of tests described within these specifications.

17.13 **WARRANTY**

17.13.1 The DEPARTMENT reserves the right to inspect by mandrel test or camera inspection any sewer line before acceptance, and also prior to expiration of the first year of operation. If a previously accepted line fails an inspection during the first year of operation, the defects must be corrected at the CONTRACTOR/DEVELOPER'S expense.

SECTION 18 SEWER LIFT STATIONS

18.1 The Wastewater Department must approve all plans.

18.1.1 The Wastewater Department lift station details contained in this specifications book are to be used as a guide only. **These details are not to be used as construction plans.**

18.2 **FINAL ACCEPTANCE**

18.2.1 The Wastewater Department, at the DEVELOPER'S expense, will purchase an alarm system at current market price. **This fee is required** and must be paid prior to the final inspection and acceptance of the lift station.

18.2.2 A spare pump must be furnished with each sewer lift station and delivered to the Wastewater Department prior to lift station final inspection and acceptance.

18.2.3 The electric and water meters shall be installed before a final inspection is requested.

18.2.4 A final lift station inspection shall be conducted at the DEVELOPER'S request once lift station construction has been completed, a pump startup has been performed and the alarm fee has been paid. Wastewater Department maintenance personnel must be present at the pump start up session. The lift station final inspection and development final inspections are separate inspections and will take place at separate appointments.

18.2.5 The DEVEOPER/CONTRACTOR shall be responsible for supplying alternate means of power for the pump start-up during final inspection.

18.2.6 Before final acceptance, 1 paper and 1 pdf copy of as-built drawing must be supplied to the Wastewater Department.

18.3 **BASIC CONTROL PANEL SPECIFICATIONS**

18.3.1 All electrical services shall meet City and State Codes.

18.3.2 A portable generator connector is required on lift station control panels. It must be an Appleton 200 Amp 4-W, 4-P style -1 type connector Cat # ADR20044 for 3Ø stations only

18.3.3 Control panel shall be NEMA 4X stainless steel mounted on a 6" X 6" stainless steel pedestal on the wet well and shall be sealed to prevent fumes from rising into control panel. Control panel and pedestal door shall open away from wet well hatch.

18.3.4 One combination circuit breaker/overload disconnect unit with magnetic trip elements sized for individual protection shall be provided for each pump. **Detail LS01 and LS02**.

18.3.5 One across the line magnetic contactor shall be provided per pump and sized in accordance with the maximum NEMA horsepower standards.

18.3.6 Control panels shall incorporate the following features as a minimum:

(a) Alternator shall be provided for duplex controls.
(b) Individual selector switches to provide "hand-off-auto" control of each pump.
(c) HAND POSITION - In this position, the pump controlled by the switch will run regardless of the wet well level. The pump will continue to run until the switch is turned to "off" or "auto" position.
(d) AUTO POSITION - In this position, the operation of the pumps is controlled automatically by the level sensors in the wet well. The control center will be designed to provide automatic operation, while maintaining motor protection.
(e) 24 or 120 volt AC control transformer protected on both the primary and secondary control circuit.
(f) Terminals shall be provided for connection of the level sensors.
(g) A hinged, removable dead-front panel is required.
(h) Pump running pilot lights (green) mounted on operator's control panel.
(i) Totalizer for each pump must be mounted on operator's control panel.

18.3.7 All operator controls, toggle switches, circuit breakers, etc., shall be accessible without removing the dead-front panel.

18.3.8 NEMA 4X stainless steel enclosures with draw pull catch, provisions for padlocking and suitable for indoor or outdoor mounting.

18.3.9 **Electrical connections in the wet well are not allowed**.

18.3.10 Coordinate with Bentonville Electric Department prior to project start to determine type of electrical service. Three-phase 480 VAC power must be used when available.

18.3.11 An approved lightning arrester must be installed.

18.3.12 3-phase power monitor must be installed to protect pump from low voltage, single phasing and phase reversal.

18.3.13 The level control system sensors must be submersible transducer, floats or equivalent. If a transducer control is installed the system shall have a float backup.

18.3.14 Electrical terminal strip must be a minimum of 4" above the bottom of the control panel.

18.4 LEVEL CONTROLS

18.4.1 Provide a switch control system incorporating a hermetically sealed liquid level indictor as a level sensing and signal control device for automatic control of lift station. The system shall monitor and control wet well level at each station as follows:

SWITCH 1 – All Stop
SWITCH 2 – Energize Lead Pump
SWITCH 3 – Energize Lag Pump
SWITCH 4 – High Level Alarm

18.4.2 **High level alarms are required. A red warning light with flasher and audible alarm shall be installed on the control panel.**

18.4.3 Contingent upon wet well level, float system shall cause indicator/controller to energize appropriate control contacts.

18.5 ACCESS ROAD

18.5.1 A paved access road shall be provided from the curb to the lift station.

18.5.2 The road leading to the lift station shall be asphalt, a minimum of 12' wide and no greater than a 10% slope. A minimum of 6" of compacted base material is required. Base material and compaction shall be in accordance with the latest edition of ARDOT Standard Specifications (Division 300). A minimum of 4" of asphalt is required. Paving materials and construction methods shall be in accordance with the latest edition of the ARDOT Standard Specifications (Division 400).

18.6 LIFT STATION AND SITE

18.6.1 Lift station site and access road shall be deeded to the City of Bentonville.

18.6.2 Minimum lot size shall be 50' X 50'.

18.6.3 Lift station lot shall be 2' above surrounding project area. Wet wells shall be 8" above the asphalt.

18.6.4 Lift station lot shall be asphalt. A minimum of 6" of compacted base material is required. Base material and compaction shall be in accordance with the latest edition of the ARDOT Standard Specification (Division 300). A minimum of 4" of asphalt is required. Paving materials and construction methods shall be in accordance with the latest edition of the ARDOT Standard Specifications (Division 400).

18.6.5 Based on the location of the lift station, the City of Bentonville Wastewater Department will determine the type of 8' fence requested to be installed. All fence poles or columns will be set 1' inside the asphalt with 14' roll back or swing type gates.

18.6.6 A pole mounted LED photocell light that conforms to the Subdivision Code for outdoor lighting shall be provided to adequately illuminate the control panel and site.

18.6.7 There shall be a frost free, 2' min bury water hydrant, at each lift station. The hydrant shall be protected by a reduced pressure zone backflow prevention device. The device must be protected from freezing by an approved enclosure. See Cross Connection Control Program Specifications. **Detail W14**

18.7 PUMP REQUIREMENTS

18.7.1 All lift stations require rail mounted submersible pumps as manufactured by Flygt or Hydromatic, or HCP and interchangeable without alteration to the piping or electrical system. **Details LS04 and LS05**.

18.7.2 Lift stations requiring less than 5-HP pumps must be grinder pumps. Larger pumps should have shredder type impellers when possible. **Detail LS05**.

18.7.3 All pumps will meet or exceed the requirements to pump the anticipated flow for the known number of houses, units, or number of persons. The pumps will meet or exceed required head values based on ENGINEERS design. At a minimum, all lift stations shall be duplex, two pumps of the same size that alternate pumping.

18.7.4 Any time it is determined through an analysis that a development or subdivision impacts or exceeds the capacity or the flow of an existing lift station, the existing lift station shall be upgraded. The

existing lift station shall be upgraded with equipment including pumps, piping and control panel components that are consistent with the existing equipment.

18.8 LIFT STATION PLUMBING

18.8.1 Plumbing shall be constructed in such a manner that the force main velocity is never below 2' per second and never above 8' per second. All lift station mounting rails, cables, chains and hardware shall be 316 stainless steel. All lift station piping shall be Type 316L stainless steel (in accordance with ASTM A312 and 150 psi minimum), and stainless steel piping shall extend from the pump to three feet outside the valve vault.

18.8.2 All lift station wet wells and valve vaults shall be concrete with aluminum hatches to allow access to pumps and valves. Wet well hatch shall open toward the control panel.

18.8.3 The lift station will be constructed of concrete with reinforcement material. All plumbing entering or leaving the wet well shall be grouted to prevent infiltration.

18.8.4 Piping shall be sized to meet flow needs.

18.8.5 Gate Valves and Check Valves are required on both discharging lines.

18.8.6 A stainless steel chain shall be hooked to each pump for removal.

18.8.7 All lift station wet wells shall be vented by a 4” stainless steel pipe with bird screen.

18.9 VALVE VAULTS AND WET WELLS FOR LIFT STATIONS

18.9.1 Wet wells shall be a minimum of 8’ in diameter and a minimum of 10’ in depth. Alternate Storage (i.e. equalization basin) may be required at certain locations, which will be determined by the Wastewater Department. EQ shall be the same size as the wet well.

18.9.2 Wet wells shall be 8” above the asphalt.

18.9.3 Wet well walls shall be a minimum of 8” thick with #4 rebar on 12” centers. The base of the wet well shall be designed to resist the buoyance/floating with the wet well empty.

18.9.4 Wet well bottom rebar spacing - #4 bar on 6” centers.

18.9.5 Wet well top shall be a minimum of 6” thick with # 4 rebar on 6” centers.

18.9.6 Wet well access shall be cast-in-place, grout will not be accepted.

18.9.7 All interior concrete walls of new lift station wet wells will be epoxy coated prior to lift station approval and being brought into service. Epoxy coating will be 100% epoxy at a minimum application thickness of 125 mils after the installation of a ½” of cementitious lining has been applied . Epoxy is added to extend the service life of the concrete wet well walls.

18.9.8 Valve vault walls shall be a minimum of 6” thick.

18.9.9 Valve vault base shall be a minimum of 6” thick.

18.9.10 Valve vault top shall be a minimum of 6” thick with # 4 rebar on 6” centers.

18.9.11 Vaults and wet wells shall be of all concrete construction incorporating a double aluminum access lid. Door shall open to 90º, lock automatically in position; have closed position lock hasp and retractable grip for opening and closing with one hand. Lid shall support a minimum live load of 150 pounds per square foot. **Details LS06 and LS07**.

18.9.12 Vaults and wet wells shall be constructed on a minimum of 6" of SB2 base material. Steps shall not be incorporated. Maximum vault depth shall be 5' from access hatch to base.

18.10 **VALVES**

18.10.1 Check valves shall be swing type with iron body and flanged ends mounted in the horizontal position only and shall be located in a valve vault not exposed to wastewater. 2" check valves may be IPT.

18.10.2 Gate valves 4" and larger shall be of the resilient seat type and meet the requirements of AWWA C515 latest revision. Valves shall have non-rising stems and close right (clockwise). Valves shall have flanged ends and have a 2" operating nut or hand wheel. Valves smaller than 2" shall meet AWWA C500. Acceptable manufacturers for all sizes include; American Darling, Clow, Kennedy, Mueller or equal. Gate valves shall be mounted horizontally in valve vault with no exposure to wastewater.

18.10.3 Plug valves are an acceptable means for isolation and shall be flanged Dezurik or Pratt equal.

SECTION 19 SEWER LIFT STATIONS – PRIVATE

19.1 Plans shall be provided to the DEPARTMENT for approval before construction begins.

19.2 **LIFT STATION SITE**

19.2.1 An unobstructed access to the lift station shall be provided and maintained.

19.2.2 The lift station shall have a minimum wet well diameter of 2' and a minimum depth of 6'.

19.3 **BASIC CONTROL PANEL SPECIFICATIONS**

19.3.1 The lift station shall have a control center to provide automatic and manual operation. A Hand – Off – Automatic switch shall be included for each pump.

19.3.2 Station shall operate on a minimum of 220 V AC.

19.3.3 One "across the line magnetic contactor" per pump sized to HP and NEMA standards shall be provided and installed.

19.3.4 Control center shall have a locking hasp.

19.3.5 Alternator shall be provided for duplex units.

19.3.6 A lighting arrester shall be installed for pump protection.

19.3.7 High level alarms are required. A red warning light with flasher and audible alarm shall be installed on the control panel for easy monitoring.

19.3.8 An identification plate listing contact information, name, address and phone number of responsible party will be attached to the control panel and a copy issued to the Wastewater Department.

19.4 PUMP REQUIREMENTS

19.4.1 Pumps shall be Flygt, Hydromatic, or HCP and must be approved in writing by the Wastewater Department.

19.4.2 Pumps shall be mounted on stainless steel slide rails and use Campbell type pump connector or equivalent.

19.4.3 Pumps shall have stainless steel lifting chains or stainless steel lifting cables for pump removal and installation.

19.4.4 All pumps shall meet or exceed the minimum requirements to pump the anticipated flow for the known number of units or number of persons. The pumps shall meet or exceed required head values based on ENGINEER's design.

19.4.5 Pump impellers shall be grinder type impellers.

19.4.6 Before final acceptance, 1 paper and 1 pdf copy of as-built drawing with contact information must be supplied to the Wastewater Department.

SECTION 20 CROSS-CONNECTION CONTROL PROGRAM MANUAL

20.1 GENERAL

This document sets forth the Bentonville Water Utilities Cross-Connection Control Program, and is adopted within the water and sewer specifications for the purpose of regulating cross-connection hazards by the operating staff and management of the DEPARTMENT.

20.2 INTRODUCTION

This program prohibits uncontrolled cross-connections within the water distribution system of the Bentonville Water Utilities, authorizes the DEPARTMENT to conduct inspections of the consumers' property, requires that cross-connection hazards be corrected or controlled and provides for enforcement.

20.3 PURPOSE

The purpose of this program is to:

20.3.1 Protect the public potable water supply of the City of Bentonville from the possibility of contamination or pollution from backflow into the Water System.

20.3.2 Promote the elimination or control of existing cross-connections, actual or potential, between the customer's potable water system(s) and nonpotable water systems, plumbing fixtures, and industrial piping systems.

20.3.3 Provide for a continuing program of cross-connection control that will systematically and effectively prevent the contamination or pollution of potable water systems.

20.4 **DEFINITIONS**

The following terms shall have the stated meanings:

20.4.1 APPROVING AUTHORITY: the DEPARTMENT or its designated agent(s).

20.4.2 AUXILIARY WATER SUPPLY: any water supply, on or available to the property other than the Water System.

20.4.3 BACKFLOW: flow of water or other liquids, mixtures or substances, under positive or reduced pressure in the distribution pipes of a potable water supply from any source other than its intended source.

20.4.4 BACKFLOW PREVENTION ASSEMBLY ("BACKFLOW PREVENTION ASSEMBLY" OR "ASSEMBLY"): a mechanical backflow preventer assembly constructed with shut-off valves, and provided as a complete assembly by a single manufacturer, used to prevent the flow of contaminants or pollutants into the Water System. **The assembly must have the approval of the FCCCHR, ADH, and the DEPARTMENT.**

20.4.5 BACKFLOW PREVENTION DEVICE: a mechanical back-flow preventer without shut-off valves on any side of the backflow prevention mechanism.

20.4.6 BYPASS: any arrangement of pipes, plumbing, or hoses designed to divert the flow around an installed device or assembly through which the flow normally passes.

20.4.7 CERTIFIED ASSEMBLY TESTING TECHNICIAN: a person certified by the Arkansas Department of Health as an Assembly Testing Technician.

20.4.8 CERTIFIED ASSEMBLY REPAIR TECHNICIAN: a person certified by the ADH as an Assembly Repair Technician.

20.4.9 CITY: the City of Bentonville, Arkansas.

20.4.10 CONSUMER: a "person" or facility receiving service from a potable water system.

20.4.11 CONTAMINANT: a biological agent or chemical compound, which can cause disease or threat to health.

20.4.12 CROSS CONNECTION: any actual or potential connection between the Water System and a source of contamination or pollution.

20.4.13 CROSS CONNECTION CONTROL: the use of backflow prevention assemblies, methods and procedures to prevent contamination or pollution of a potable water supply through cross connections.

20.4.14 DIRECT CROSS-CONNECTION: a cross-connection which is subject to both backsiphonage and backpressure.

20.4.15 DOMESTIC WATER SERVICE: refers to plumbing as defined by the State of Arkansas Plumbing Code that is not associated with designated fire protection water service lines and systems.

20.4.16 DOUBLE CHECK VALVE ASSEMBLY (DCVA): a backflow prevention assembly consisting of two (2) independently operating check valves, four (4) test cocks, and two (2) shut-off valves. DCVA's are only appropriate for use against non-health hazards.

20.4.17 DETECTOR DOUBLE CHECK VALVE ASSEMBLY (DDCVA)**:** a DCVA with an additional smaller DCVA with a flow detector meter in parallel, used to detect system leaks and unauthorized use.

20.4.18 DETECTOR REDUCED PRESSURE ZONE ASSEMBLY (DRPZA): an RPZA with an additional smaller RPZA with a flow detector meter in parallel, used to detect system leaks and unauthorized use.

20.4.19 FIRE PROTECTION SYSTEM: a fire protection system consisting of one or more of the following: pipes, sprinklers, valves, fixtures, fittings, ponds, tanks, water storage vessels and fire hydrants that are intended and used exclusively for fire protection.

20.4.20 HAZARD: any contaminant or pollutant which if it enters the potable water system causes a risk to public health or has an adverse effect on the public potable water system.

20.4.21 INDIRECT CROSS-CONNECTION: a cross-connection which is subject to backsiphonage only.

20.4.22 INSPECTOR: a person authorized by the APPROVING AUTHORITY to perform inspections of consumer's facilities to determine compliance with the Program.

20.4.23 MULTIPLE SERVICES: two or more water service connections. When two or more water suppliers are involved, the multiple service connections constitute an "auxiliary source" of water on the property.

20.4.24 NEW CONSTRUCTION: construction of a new facility, alteration of or addition to an existing facility, or modification of or addition to existing plumbing and fire protection systems.

20.4.25 PERMIT: a document issued by DEPARTMENT that allows the use of a backflow prevention assembly at the Consumer's service connection.

20.4.26 PERSON: any individual, partnership, company, public or private corporation, political subdivision or agency of the United States or any other legal entity.

20.4.27 POLLUTANT: a biological or chemical substance which do not pose a health hazard, but reduces the aesthetic quality of water.

20.4.28 POTABLE WATER: any water which, according to recognized standards, is safe for human consumption.

20.4.29 PROGRAM: the Bentonville Water Utilities Cross-Connection Control Program.

20.4.30 RESPONSIBLE MANAGING EMPLOYEE (RME): an individual or individuals who shall be designated by each company that plans, sells, installs, maintains, or services a fire protection sprinkler system on a full time basis to assure that each fire protection sprinkler system as installed, maintained, or serviced, meets the standards as provided by state law.

20.4.31 REDUCED PRESSURE ZONE ASSEMBLY (RPZA): a backflow prevention assembly consisting of four (4) test cocks, two (2) shutoff valves, two (2) independently operating, spring-loaded check valves with a reduced pressure zone between the checks valves. The zone contains a relief port, which will open to atmosphere if the pressure in the zone falls within two (2) psi of

the supply pressure. The assembly provides protection against both backpressure and back-siphonage.

20.4.32 RETROFIT: replacement of an existing device or backflow prevention assembly when the specifications or condition of the device or assembly are not adequate for the degree of hazard found on the property as defined by this program.

20.4.33 SERVICE CONNECTION: a piping connection between the water main of the Water Utilities and a consumer's system.

SECTION 21 ADMINISTRATION

21.1 AUTHORITY OF APPROVING AUTHORITY

21.1.1 APPROVING AUTHORITY is hereby authorized to:

21.1.2 Protect the public water distribution system from contamination or pollution due to the backflow or backsiphonage through the water service connection.

21.1.3 Conduct a program, which includes routine survey of commercial, institutional and industrial establishments for possible contamination or pollution.

21.1.4 Review construction plans and determine requirements for backflow prevention assemblies. This shall apply to new construction, alteration or additions, as well as, modification of existing fire protection systems.

21.1.5 Provide installation criteria for backflow prevention assemblies and issuance of permits prior to construction.

21.1.6 Conduct a final inspection of backflow prevention assembly installations to verify conformance with approved installation plans.

21.1.7 Ensure that RPZA's used for fire hydrants are performance tested and have a backflow prevention assembly permit.

21.1.8 Maintain RPZA's and meters for issue to water users needing temporary water service from fire hydrants.

21.1.9 Ensure RPZA's used by customers are tested annually and before issue/use. (Within ten (10) days of installation)

21.1.10 Verify collection of fees for permits.

21.1.11 Verify fire hydrant RPZA's and meters are set and removed by DEPARTMENT Personnel.

21.1.12 Submit all required reports, maintain a database, coordinate with other agencies to accomplish the goals of the Program and maintain the following records:

(a) Master files on customer Cross-Connection Tests.
(b) Master files on Cross-Connection Permits.
(c) Copies of permits and permit applications.
(d) Copies of lists and summaries supplied to the ADH.
(e) Number of annual tests conducted on backflow prevention assemblies.
(f) Number of cross-connection control surveys performed.

(g) Total number of each type of backflow prevention assemblies installed.
(h) The following information is required per assembly: DDCVA and DRPZA are made up of two (2) assemblies, each requiring record data.

(1) Organization or Customer's name, mailing address, phone #, contact name, assembly address, permit # and account number.
(2) Type installation, problem history, location on property, installed by, phone # and type of service.
(3) Name of the manufacturer, model number and serial number of assembly.
(4) Type of assembly, date of installation and installation specifications.
(5) Number of the DEPARTMENT meter, if any.
(6) Date of initial cross-connection survey, survey results and type of actual or potential hazard.
(7) Date of initial permit and current permit number.
(8) Test results before and after repair or maintenance and date of latest retest.
(9) Maintenance performed, repairs made, replacement parts, part numbers and date repairs were made.
(10) Information on backflow through the assembly.

21.1.13 Maintain an inventory of all commercial, institutional and industrial locations with complete information on cross connection devices or assemblies installed.

21.1.14 Ensure meters on fire protection assemblies are read and consumer advised of water usage.

21.1.15 Coordinate repairs on any damage resulting from vandalism or flooding of backflow prevention assemblies.

21.1.16 Ensure a Certified Assembly Repair Technician is responsible for all repairs performed on an assembly. A Journeyman or Master Plumber's License shall be required when installing backflow prevention assemblies within the scope of the plumbing system.

21.1.17 Verify only Certified Assembly Testing Technicians perform testing on backflow prevention assemblies.

21.2 POWERS AND AUTHORITIES OF INSPECTORS

21.2.1 The APPROVING AUTHORITY or duly authorized employees of the DEPARTMENT or the City bearing proper credentials and identification shall be permitted to enter all properties for the purposes of inspection, observation and testing to verify adherence to the provisions of this program. Authorized personnel shall have authority to inspect and copy records pertaining to the threat of a hazard to the Water System.

21.2.2 The consumer's property shall be available for inspection at all reasonable times to authorized representatives of the APPROVING AUTHORITY to determine whether cross connections or other structural or sanitary hazards, including violations of the Program, exist.

21.2.3 On request by the APPROVING AUTHORITY, the consumer shall furnish information on water use practices within the consumer's premises.

21.3 **CROSS-CONNECTION SURVEYS**

21.3.1 Personnel authorized by the APPROVING AUTHORITY will survey the property of consumers considered likely to have cross-connections to determine if backflow can occur. Routine surveys will be made periodically to determine if backflow prevention measures are maintained, are functioning properly and new cross-connections have not been created.

21.4 **SCHEDULING SURVEYS, PRIORITIES**

21.4.1 The selection of existing property for cross-connection surveys will be made on the basis of suspected hazard. Those customers suspected of having the most hazardous cross-connections will be surveyed first. Surveys shall continue until all property considered likely to have cross-connection problems have been surveyed. Information for the review process will be obtained from questionnaires sent to industrial, commercial and institutional establishments.

21.5 **OTHER SURVEYS**

21.5.1 Cross-connection surveys will continue with the aim being to survey all industrial, commercial or institutional type customers and agricultural operations that may pose a hazard. Prompt attention will be given to identifying residential type customers that may have significant cross-connection problems.

21.6 **FOLLOW-UP SURVEYS**

21.6.1 Follow up surveys shall be made on a frequency established by the Minimum Standards for a Cross-Connection Control Program from the ADH – Division of Engineering.

21.7 **ENFORCEMENT ACTION**

21.7.1 Where backflow prevention is required, the APPROVING AUTHORITY shall require the problem to be eliminated or controlled by a properly installed, approved backflow prevention assembly. Such protective measures may include but not be limited to a backflow prevention assembly on the consumer's water service line. Every effort will be made to secure the voluntary cooperation in correcting cross-connection hazards. If voluntary corrective action cannot be obtained within a reasonable period of time, the water service shall be terminated.

SECTION 22 PUBLIC WATER SYSTEMS

22.1 **AUXILIARY PUBLIC WATER SYSTEMS**

22.1.1 The Water System shall be protected as outlined in the **Arkansas Department of Health publication, "Policies and Procedures for Backflow Prevention Devices Location and Installation"** by an approved method of backflow prevention at the point of connection to the Water System if a public water supply other than the Water System is available to the premises. Backflow prevention is required regardless of actual development or cross-connection between the Water System and the other public water system.

22.1.2 RPZA Containment is required if the auxiliary water supply is not operating under the authority of the ADH.

22.1.3 Backflow prevention is not required if the auxiliary water supply is being operated under the authority of the ADH, and has properly conducted sanitary control and cross-connection control programs, and provides potable water to the Water System.

SECTION 23 DOMESTIC WATER SERVICE LINES

23.1 GENERAL

23.1.1 The information on backflow preventers described in this section is extracted from the ADH publication, "Policies and Procedures for Backflow Prevention Devices Location and Installation".

23.2 COSTS

23.2.1 The consumer of a property shall bear the expense and burden of protecting the Water System from the potential hazard through approved backflow prevention methods and procedures.

23.3 RPZA CONTAINMENT

23.3.1 Any building strictly consisting of commercial use or mixed-use shall be protected from cross-connection backflow by an approved RPZA containment assembly.

23.3.2 Any multi-story building, hotel, apartment house or private structure when a booster pump is used that furnishes water to all or part of the property, or where there is the potential for a cross-connection; it shall be protected from cross-connection backflow by an approved RPZA containment assembly.

23.3.3 Any Establishment's use such as, but not limited to the following that contain a risk to cross-connection on the premises:

Aircraft Plants (with industrial water)
Asphalt Plants
Automotive Plants
Autopsy Facilities
Baking Facility
Battery Manufacturer
Breweries
Beverage Bottling Plants
Blood Banks
Bottled Water Manufacturing
Broiler Houses
Canneries (except small plants without industrial fluids)
Car Wash Facilities
Chemical Plants
Cleaners (processing plant)
Cold Storage Plants
Colleges (with laboratories)
Compressed Gas Handling Facilities
Concrete Mixing Plants
Crime Laboratories
Dairies and Milk Distributors
Dental Facilities
Dye Works
Film Laboratories
Food Processing Plants
Funeral Homes
Golf Courses
Gravel Processing Plants
Hazardous Waste Processing
Health Clinics
Health Clubs and Fitness Centers
Hospitals
Laboratories
Landfills
Laundries (excluding Laundromats)
Liquid Gas Handling Facilities
Livestock Operations (excluding small non-commercial operations without industrial fluids)
Lumber Processing Plants
Medical Facilities, Health, Chiropractic, Veterinary
Metal Plating, Etching, Passivation or Pickling Plants
Mines and Quarries
Missile Plants (with industrial water)
Morgues
Mortuaries
Motion Picture Studios (with industrial water)
Natural Gas Handling Facilities
Nursery, Shrubbery or Garden Centers
Nursing Homes or convalescent homes
Oil Handling Facilities
Packing Houses (except small plants without industrial fluids)
Pesticide Processors or Applicators
Paper and Paper Product Plants (with industrial fluids)

Poultry Operations (excluding small non-commercial operations without industrial fluids)
Power Plants (excluding small heating or compressing systems)
Pressure Vessel Repair, Testing and Maintenance Facilities
Propane or Butane Gas Handling Facilities
Radioactive Material Plants and Handling Facilities
Railroads
Recycling Facilities
Reduction Plants
Restricted, Classified or Other Closed Facilities
Rubber Manufacturing Plants (excluding small plants)
Sand Processing Plants
Sanitariums
Schools (with laboratories)
Sod Farms
Steel Manufacturers (using Industrial Fluids)
Swimming Pools
Tank Repair, Cleaning, Testing and Maintenance Facilities
Taxidermist
Wastewater Plants and Pump Stations
Water Front Facilities and Industries, excluding:
(premises without docks-cafes, comfort stations, concessions, office buildings, or private residences)
Water Treatment Plants and Pump Stations
Zoos

23.3.4 Multiple Water Services: If there is a potential for two or more water service lines being interconnected; and there is a potential high hazard on the premises, or the water is used for other than domestic purposes.

23.3.5 Private Water System: If there is an auxiliary water supply on or available to the premises that is a potential high hazard, including a fire protection system.

23.3.6 Used Water and Industrial Fluids: If there is a used water or industrial fluid system on the premises that is a potential high hazard.

23.3.7 Solar Heating Systems: If there is a solar heating system on the premises, and chemicals are added to the solar heating system or the solar heating system is not used exclusively for once through heating (i.e. domestic hot water.)

23.3.8 Chemically Contaminated Water Systems: If chemicals are used as an additive to the water, or the water is subjected to additional treatment, or water is used on the premises to transport chemicals or chemicals are used with water on the premises in compounding or processing.

23.3.9 Sewers and Storm Drains: Any premises used for handling sewage or storm water (e.g. treatment and processing facilities, pumping plants, gauging stations, lift stations, ejector plants.)

23.3.10 Public Fire Hydrants as Temporary Water Services: The Water System shall be protected by an approved RPZA on the outlet of any fire hydrant when it is used as a water supply, except when used to extinguish a fire.

23.3.11 Irrigation System: If there is an irrigation system on the premises.

23.3.12 All RPZ backflow devices used for domestic water service will need to be a low lead device to meet the current Safe Water Drinking Act section 1417.

23.3.13 All new structures in a mixed use zoning based on the City of Bentonville zoning map that allows for a mix of uses including but not limited to commercial and industrial uses accompanied with a residential use, shall be required to have a backflow permit and an RPZ backflow assembly.

23.3.14 At the time of construction all structures within the mixed use zone may utilize a spool or like method and floor drain in lieu of installation of the backflow device if all current uses are strictly residential. In the event of a shared meter the spool or like method must be removed and an appropriate backflow assembly be installed at the first change of use within the structure.

23.3.15 All new structures shall depict the location and type of backflow assembly on the construction plans. In the event of a spool or like method, the construction plans shall depict the location. The construction plans shall be reviewed and approved by the City of Bentonville Water Utilities Department prior to construction.

23.3.16 All current buildings that change their use and are allowed commercial uses doing a remodel or renovation that requires a building or plumbing permit that does not have a current RPZ will be required to bring the existing building (or suite if metered separately) up to meet current specifications.

23.4 CONTAINMENT NOT REQUIRED

23.4.1 Residential Systems: Used exclusively for domestic purposes (without irrigation).

23.4.2 Solar Heating Systems: Used exclusively for once through heating (i.e. domestic hot water), and no chemical additives are used in the system.

23.5 RETROFIT

23.5.1 All presently installed backflow prevention assemblies and devices that do not meet the requirements of this program but were approved assemblies for the purposes described herein at the time of installation and have been properly maintained, shall, except for the inspection, testing

and maintenance requirements, be excluded from the requirements of these rules so long as the APPROVING AUTHORITY is assured that they will satisfactorily protect the Water System.

23.5.2 If the existing assembly is moved or requires more than the minimum maintenance or, the APPROVING AUTHORITY determines that the operation or maintenance of this assembly constitutes a hazard, the assembly shall be replaced by an approved backflow prevention assembly.

SECTION 24 FIRE PROTECTION SERVICE LINES

24.1 CLASSES OF FIRE PROTECTION SYSTEMS

24.1.1 Class 1 - A fire protection system directly connected to the Water System as the only water supply - no pumps, tanks or reservoirs; no physical connection to auxiliary water supplies; no antifreeze or other additives of any kind; all fire protection system drains discharging to atmosphere, dry wells or other safe outlets.

24.1.2 Class 2 - A fire protection system that is the same as a Class 1 system; except that a booster pump is installed in the fire protection system, and no outlet is located between the booster pump and the Water System. (Note - Booster pumps alone do not affect the potability of the system. In Class 2 fire protection system, it is necessary to avoid low or negative pressures that can occur by excessive flow through the booster pump. A minimum pressure of 20 psig on the inlet side of the booster pump shall be maintained through proper design, construction, operation and maintenance in addition to the use of a low pressure cutoff switch, pump modulating valve, or other automatic device.)

24.1.3 Class 3 – Direct connection from public water supply mains, plus one or more of the following: elevated storage tank, fire pump taking suction from above ground covered reservoir, tank, or pressure tank. Such storage facilities are filled or connected to public water only and the water in the tank is to be maintained in a potable condition. (Note: Unless the storage tank is owned and operated by the public water system, the assumption will be made that the water in the tank is non-potable, making it a Class 4 installation).

24.1.4 Class 4 - A fire protection system that is the same as a Class 1 or Class 2 system; except that an auxiliary water supply is on or available to the properties, or there is an auxiliary water supply designated by the DEPARTMENT within a radius of 1,700-feet from a pumper connection to the fire protection system. (Note - Connection to an auxiliary water supply cannot exist in a Class 4 fire protection system.)

24.1.5 Class 5 - A fire protection system that is connected to an auxiliary water supply which could be exposed to a high hazard (e.g. non-potable reservoirs, rivers, ponds, wells, industrial water), or that uses additives (e.g. antifreeze, wetting agents, “Foamite”), or that does not maintain a minimum pressure of 20 psig on the inlet side of a booster pump as defined for a Class 2 fire protection system.

24.1.6 Class 6 - A fire protection system that is connected to a water service line from the Water System if the water service line is not used exclusively for fire protection.

24.2 BACKFLOW PREVENTION ON FIRE PROTECTION SYSTEMS

24.2.1 The Water System shall be protected by an approved method of backflow prevention in water service lines to fire protection systems, regardless of backflow prevention requirements in other water services on the premises.

24.2.2 Classes 1, 2 & 3: An approved DDCVA is required as the minimum backflow prevention in the water service line to a Class 1, 2 or 3 fire protection system. An approved DRPZA shall be required on any system with hose drops or standpipe outlet.

24.2.3 Classes 4, 5 & 6: An approved DRPZA is required in the water service line to a Class 4, 5 or 6 fire protection system.

24.2.4 Strainers are not required to be installed on fire protection systems.

24.3 RETROFIT OF EXISTING SYSTEMS

24.3.1 This applies to an existing fire protection system, which is modified, extended, or enlarged. Such systems include a modification or extension to an existing network (distribution piping, sprinkler heads control valves, etc. are added to or replaced in an existing system), or where an additional fire protection system (new feed line, riser, control valve, distribution piping, sprinkler heads, etc.) will connect to a fire main which has an existing cross-connection control device.

24.3.2 If the existing assembly is moved, or requires more than the minimum maintenance or the APPROVING AUTHORITY determines that the operation or maintenance of this assembly constitutes a hazard, the assembly shall be replaced by an approved backflow prevention assembly.

24.3.3 The minimum protection for cross-connection control for existing systems is the same as listed for new systems, except as noted for Class 1 and 2 systems only.

24.3.4 The installation of a properly sized assembly may cause an excessive pressure loss in some altered Class 1 and 2 systems. Such loss could make the system non-compliant with **NFPA Pamphlets 13 and 14 as adopted**.

24.3.5 The RME shall document to the APPROVING AUTHORITY that reasonable modifications will not compensate for the additional loss.

24.3.6 The documentation shall contain a listing of the minimum flow and pressure, headloss summary, desired and calculated sprinkler head output and a summary of the options examined to reduce headloss.

24.3.7 For these installations, if not already installed, the existing cross-connection control device will be replaced with two check valves in series (one of which can be the alarm valve), each valve meeting AWWA C510, UL 312-88, or UL 193-88, or the latest versions thereof, and equipped with a resilient seating surface. Valves on assemblies for fire protection services shall meet the appropriate recognized standard of UL and FM Global listed or approved for use in Fire Protection Systems. The valves or adjacent piping shall be equipped with a sufficient number of resilient seated test cocks (minimum diameter of one quarter to one-half inch) to determine the effectiveness of each valve (there shall be no leakage past any check valve). Sufficient isolation valves-one valve upstream of the valves and one valve downstream of the valves - shall be present or added to the system to permit this testing.

24.3.8 Existing fire protection systems which are not being modified, enlarged, or expanded are not required to upgrade to comply with this policy unless a hazard is found within the fire protection system.

24.3.9 For Class 1 and 2 systems, if the hydraulic analysis for the modified, extended, or enlarged system demonstrates that the installation of a properly sized cross-connection control device will increase the pressure loss so as to make the system noncompliant with the Rules and Regulations for Sprinkler Systems of the Arkansas Fire Protection Licensing Board (less than the minimum flow required by state fire sprinkler regulations), and that reasonable modifications to the system cannot compensate for the additional losses, the Responsible Managing Employee (RME) of the fire protection firm will document[1] that as part of the submittal to the ADH. ([1]**Refer to Section 24.7.2**)

24.4 **ASSEMBLY INSTALLATION**

24.4.1 **The following conditions apply to Class I through Class 6 systems:**

24.4.2 Backflow preventers must be tested within 10 days of placing the fire sprinkler system "on stream" and annually thereafter by a state certified Assembly Test Technician. A copy of the test report must be sent to the local water utility.

24.4.3 Reduced pressure type backflow prevention assemblies shall not be installed in pits or vaults. Double check valve assemblies must be installed above ground, if possible. However, if review and approval by the ADH permits below grade installation of a double check valve assembly because of unique conditions at the job site then the below grade unit must be placed in a vault which is located in a well drained area.

24.4.4 Installers of fire protection equipment must be licensed by the Fire Protection Licensing Board.

24.5 **PLAN APPROVAL**

24.5.1 All plans submitted to the ADH for approval shall indicate the name and license number of the RME. **Section 5**

24.5.2 There shall be no deviation from backflow prevention assembly installation plans and specifications once approved by the ADH and the DEPARTMENT unless revised plans and specifications have been first re-submitted for review and re-approval and written consent given by said authorities.

24.5.3 Plans for connection to fire protection systems must be submitted to the ADH and the local water utility for review and approval prior to beginning installation work. Submittals must include the following elements (include the elements appropriate to the project):

(a) A utility plan showing location of the fire main, property lines, and easements.
(b) Material of construction of the fire main.
(c) Pressure class of the fire main.
(d) Fire sprinkler connection details; including the following:
(e) Test flow information at the job site; including flow rate, static and residual pressures.
(f) Location of the backflow preventer.
(g) Make, model number, size, and type DC, RP, DCDA, or RPDA.
(h) Show where the FDC line takes off from the riser or verbally describe the location.
(i) Show flow calculations or certify that the flow through the backflow preventer will not exceed the maximum rated flow for the unit as indicated in the table show below.

24.5.4 Reduced pressure type backflow prevention assemblies shall not be installed in the vertical position unless approved by the Foundation for Cross-Connection Control and Hydraulic Research (FCCCHR), University of Southern California, Los Angeles, CA.

24.6 **DEFINITIONS**

24.6.1 Double check valve assembly (DCVA): a complete assembly meeting University of Southern California and ADH standards and approval or the latest version thereof consisting of two (2) internally loaded, independently operating check valves between two (2) tightly closing resilient-seated shutoff valves, with four (4) properly placed resilient seated test cocks.

24.6.2 Reduced-pressure principle backflow-prevention assembly (RP): a complete assembly meeting University of Southern California and ADH standards and approval or the latest version thereof

consisting of a mechanical, independently operating, hydraulically dependent relief valve located between two (2) independently operating, internally loaded check valves that are located between two (2) tightly closing resilient seated shutoff valves with four (4) properly placed resilient-seated test cocks.

24.7 FLOW/PRESSURE LOSS TABLE

24.7.1 DCVA's and RP's are to be sized according to the following table:

Maximum Flow Rate - gpm	Minimum DCA/RPBP Size - inches	Maximum DCA Pressure Loss – psi	Maximum RPBP Pressure Loss - psi
50	1	10	18
75	1 ¼	10	18
100	1 ½	10	16
160	2	10	16
225	2 ½	10	15
320	3	10	14
500	4	10	14
1000	6	10	14
1600	8	10	14
2300	10	10	14
3000	12	10	14

24.7.2 **NOTE: 1** The sprinkler flow and pressure on which the calculation is based is to be the minimum required by NFPA as defined in the latest regulation of the Arkansas Fire Protection Licensing Board. Documentation to the ADH is to include a listing of that minimum flow and pressure, a headloss summary, the desired and calculated sprinkler head output, and a summary of the options examined to reduce headloss. As required per **Section 24.3.9**

SECTION 25 CONSUMER RESPONSIBILITIES

25.1 GENERAL

The consumer shall:

25.1.1 Eliminate all cross connections or install an approved backflow prevention assembly on the water service line.

25.1.2 Immediately correct any malfunction of the backflow prevention assembly.

25.1.3 Inform the APPROVING AUTHORITY of any proposed or modified cross connections and of any existing cross connections of which the consumer is aware.

25.1.4 Prior to start of construction have plans approved and permit obtained for any domestic plumbing or fire service installation requiring an approved backflow prevention assembly. Failure, refusal, or inability on the part of the customer to install, maintain, and have tested, any backflow prevention assembly on the consumer's property shall constitute grounds for discontinuing water service until such requirements have been satisfactorily met.

25.1.5 Have the type of backflow prevention assembly and manner of installation approved by the APPROVING AUTHORITY.

25.1.6 Install a backflow prevention assembly if a private water source is operational even if it is not cross-connected to the Water System.

25.1.7 Install two (2) backflow prevention assemblies in parallel if uninterrupted water service is desired during testing or repair.

25.1.8 Not install a by-pass around any backflow prevention assembly unless there is a backflow prevention assembly of the same type in the bypass.

25.1.9 Have a certified operational test within ten (10) days of installation and at intervals not to exceed one year thereafter. In those instances where the APPROVING AUTHORITY deems the degree of hazard to be great, an operational test may be required at more frequent intervals.

25.1.10 Have only personnel authorized by the ADH perform repairs, installation, maintenance and testing of domestic backflow prevention assemblies.

25.1.11 Have only personnel authorized by the ADH perform repairs, maintenance, and testing of designated fire protection service line backflow prevention assemblies.

25.1.12 Make repairs immediately upon notification by the tester that repairs are needed. Overhaul shall be performed at intervals not to exceed five (5) years.

SECTION 26 ASSEMBLY SPECIFICATIONS

26.1 GENERAL

26.1.1 Specifications for backflow prevention assemblies are essential, since no two assemblies are always reliable under every condition.

26.2 **BACKFLOW PREVENTION ASSEMBLIES**

26.2.1 **NOTE: Only those assemblies that are approved by the DEPARTMENT shall be used for backflow prevention in water service lines:**

26.2.2 Approved Assembly: Assemblies that have been tested and approved by the FCCCHR and certified by the ADH are approved by the DEPARTMENT.

26.2.3 Double check valve assembly (DCVA): a complete assembly meeting FCCCHR and the ADH standards and approval or the latest version thereof consisting of two (2) internally loaded, independently operating check valves between two (2) tightly closing resilient-seated shutoff valves, with four (4) properly placed resilient seated test cocks.

26.2.4 Reduced-pressure principle backflow-prevention assembly (RP): a complete assembly meeting FCCCHR and the ADH standards and approval or the latest version thereof consisting of a mechanical, independently operating, hydraulically dependent relief valve located between two (2) independently operating, internally loaded check valves that are located between two (2) tightly closing resilient seated shutoff valves with four (4) properly placed resilient-seated test cocks.

26.2.5 The following information shall be distinctly marked on every RPZA, DCVA, DDCVA and DRPZA by cast in the metal, stamped in the metal, or stamped on a brass or stainless steel nameplate permanently affixed to the assembly:

(a) Name or trademark
(b) Type (RPZA, DCVA, etc.)
(c) Size
(d) Model number
(e) Direction of flow (indicated by an arrow)
(f) Serial number
(g) Maximum working water pressure
(h) Maximum water temperature for which designed (designate degree F or degree C).

26.2.6 Every RPZA, DCVA, DDCVA and DRPZA shall be shipped completely assembled.

26.2.7 Any frost free bury hydrant installation is subject to a degree of hazard assessment to determine the required backflow prevention device(s) that shall be installed. High hazard conditions require a reduced-pressure principle backflow preventor assembly. Low hazard conditions require a hose-bib atmospheric vacuum breaker with set screw (freeze proof is recommended), and a dual in-line check valve. The appropriate backflow prevention device(s) shall be installed in a location accessible for inspection prior to installation of a water meter.

SECTION 27 ASSEMBLY INSTALLATION, RECORDS AND REPORTS

27.1 **GENERAL**

27.1.1 Proper installation of backflow prevention assemblies is necessary to adequately protect the Water System from backflow.

27.2 **AUTHORIZED INSTALLERS & TESTERS**

27.2.1 Installation of backflow prevention assemblies on domestic water service lines shall be provided by personnel licensed or certified by the ADH.

27.2.2 Installation of backflow prevention assemblies on fire protection services shall be provided by personnel licensed or certified by the Arkansas Fire Protection Licensing Board.

27.2.3 Testing of backflow prevention assemblies on domestic and fire protection services shall be provided by personnel licensed or certified by the ADH.

27.3 PERMITS

27.3.1 Consumers shall possess a permit from the APPROVING AUTHORITY prior to beginning installation of an assembly. All permits shall be obtained by Licensed Plumber installing the device.

27.3.2 A permit authorizes the use of the backflow prevention assembly and is necessary for continuing water service. Permits are non-transferable and may be revoked if the consumer fails to adhere to the conditions of the permit. Adequate records and documentation are required for continued permit usage. Consumer shall secure and hold one backflow prevention assembly "use" permit per address. Water meter shall not be set until permit is purchased and recorded at the **Bentonville Water Utilities Office** and the inspection completed.

27.4 INSTALLATION DETAIL

27.4.1 Assembly Installation

27.4.1.1 A backflow prevention assembly shall be installed in accordance with the manufacturer's instructions.

27.4.2 An assembly shall be installed on the owner's side of the water meter prior to first outlet.

27.4.3 Piping connected to the assembly shall not be used for electrical grounding.

27.4.4 Piping for risers on irrigation BFP assemblies shall be hard copper (per plumbing code) with two ground unions, one on the upstream riser and one on the downstream riser, for repair and replacement. No plastic allowed.

27.4.5 Piping connected to the assembly shall be thoroughly flushed before installing the assembly.

27.4.6 An adequate and permanent method of test water disposal shall be provided.

27.4.7 A pressure relief valve and a thermal expansion tank shall be properly installed and maintained on all water heating apparatus served by the assembly.

27.4.8 Examples of approved enclosures:

With Regulator

Standard

27.4.8.1 **IMPORTANT! Thermal Expansion Notice-**

Water expands as it heats up and is ordinarily not a problem in an open water system. However, the installation of a backflow preventer into the water system creates a closed system. This can create a potentially dangerous and/or costly situation in the water system if a provision is not allowed for the safe expansion of the heated water.

27.4.8.2 The installation of Thermal Expansion Tanks or other approved methods or devices are recommended in domestic water systems requiring backflow prevention assemblies.

27.4.8.3 Please refer to current Arkansas State Plumbing Codes or call the Bentonville Water Utilities office at 271-3140 if you have any questions.

27.4.9 The assembly installation shall be protected from vandalism and freezing. Heating and electrical wiring shall meet ASSE 1060 Standards.

27.4.10 Backflow prevention assemblies installed outdoors and subject to freezing shall be protected by an 'enclosure' which complies with the standards and specifications set forth by the American Society of Sanitary Engineering (ASSE), Code 1060.

27.4.11 Adequate support, excluding water lines, shall be provided for assemblies that are 3" or larger.

27.4.12 If not part of the approved assembly, an approved strainer shall be installed on the inlet side of the assembly prior to the assembly isolation valve, so that all water must pass through the strainer immediately before entering the assembly.

27.4.12.1 ***NOTE:*** On backflow prevention assemblies 2" and smaller, utilizing outdoor enclosures, width of enclosure and location of Y-strainer must be taken into account to allow for proper fit of enclosure. Strainers are not required on Fire Protection Systems.

27.4.13 An approved blow-off shall be installed in the water line immediately after the assembly, to allow for flushing the assembly and to allow for usage of water that is not charged a sewer fee.

27.4.13.1 ***NOTE:*** On backflow prevention assemblies 2" and smaller utilizing outdoor enclosures, the Blow-off shall be installed on the downstream riser, keeping width of assembly to a minimum to allow for proper fit of enclosure. 2" through 10" assemblies shall have a blow-off not less than 2" in diameter. Assemblies larger than 10" shall have a minimum 4" blow-off. Blow-offs installed in vaults shall have piping into the existing vault drain to prevent splashing.

27.4.14 Blow-offs in vaults may also be routed above grade and away from the vault, however, a self draining feature must be incorporated to prevent freezing damage to the blow-off piping.

27.4.15 If the assembly cannot be installed in the prescribed manner for any reason, the proposed deviations shall be submitted to the DEPARTMENT for review and approval before installation.

27.4.16 No backflow preventer assembly shall be installed above or inside a ceiling or over head in any manner, between a ceiling and sub floor or within a wall structure (between wall boards), without the express authorization of the Cross-Connection Control Program manager/agent.

27.5 RPZA & DRPZA INSTALLATION

27.5.1 The assembly shall not be buried or shall not be installed in a vertical position unless the assembly is approved for use in that position by the FCCCHR.

27.5.2 The assembly may be contained in an approved enclosure. If a shelter is desirable, plans will be reviewed on a case by case basis.

27.5.3 An adequate and permanent method of handling relief vent discharge and test water discharge shall be provided.

27.5.4 Clear unobstructed space for the relief vent shall be provided to prevent the vent from becoming blocked or flooded.

27.5.5 This discharge and drainage method shall meet all applicable codes and regulations per the ADH and the Bentonville Cross-Connection Control Program.

27.6 DDCVA & DCVA INSTALLATION

27.6.1 The assembly shall not be installed below grade, unless the following criteria can be met and accepted by the APPROVING AUTHORITY:

(a) The vault and its installation shall be approved by the DEPARTMENT before the start of construction.
(b) The vault shall not be subject to flooding.
(c) The walls of the vault shall extend above the finished grade a minimum of 3" to prevent intrusion of water or dirt.
(d) The vault shall be water-tight to prevent intrusion of water or dirt.
(e) The vault shall drain to daylight through an adequate and permanent gravity drain with a slope of at least 1º. Installation plans shall show the elevation of the vault floor and the area the water will drain to. Plans shall show drainage pipe depth and location. Drainage pipe size shall be 2" larger than the blow-off. Protection on the drainage outlet shall be provided to prevent undesirable creatures from entering.
(f) The vault cover shall be removable to allow full access to the vault. A minimum of two lifting points shall be provided.
(g) An access door will be installed in the vault cover on the testable side of the assembly. Approved doors shall be similar or equal to Bilco or Halladay and shall be a minimum of 24" x 24".
(h) Directly below the access door, steps shall be provided in the vault wall similar or equal to ICM Plastic Manhole Steps. Steps are ½" steel reinforced rod encapsulated in special polypropylene plastic.
(i) Minimum installation clearance dimensions shall be 30" between the assembly and corresponding wall and 12" on the opposite side, 8" on each end, 6" above the highest point and 12" under the assembly. Top of assembly shall not exceed 72" above finished grade.
(j) Manufactured enclosures shall be equal to or the equivalent of a "Hot Box". Enclosures shall be placed on a wire reinforced concrete pad a minimum of 4" thick and shall be removable.

27.7 TEMPORARY USE ASSEMBLIES

27.7.1 A public fire hydrant used as a temporary water source shall be protected by a check valve or air gap and metered by a flow meter which shall be obtained from and installed by the APPROVING AUTHORITY. **Refer to current fire hydrant meter contract**.

27.8 REPORTING REQUIREMENTS

27.8.1 The consumer shall be responsible for properly filing reports with the APPROVING AUTHORITY for each required backflow prevention assembly. DDCVA's and DRPZA's are composed of two (2) unique assemblies, each requiring report submission. In addition to the administrative reports, any failure, removal, modification or replacement of an assembly or suspected backflow shall be reported immediately to the APPROVING AUTHORITY. Performance tests, replacement, repair and maintenance reports shall be filed within 14 calendar days.

27.9 RECORDS

27.9.1 The consumer shall keep records for each assembly. Installation drawings, installer, test reports, manufacturer, model, serial number, date installed, copy of current permit, schedule of preventive maintenance, test reports and technical data are the minimum record requirements. These records shall be maintained for a period not less than five years.

27.10 PROTECTION OF ASSEMBLIES

27.10.1 No person shall maliciously, willfully, or negligently break, damage, destroy, deface or tamper with any structure, appurtenance or equipment which is a part of the backflow prevention assembly.

27.10.2 No person shall cover a backflow prevention assembly vault with earth or pavement, or otherwise render it inaccessible.

27.11 PENALTIES

27.11.1 The DEPARTMENT shall, within an approximate period of forty five (45) days prior to the annual test date, mail a notification letter to customers operating a backflow prevention assembly (BFP) on that customer's premises, informing them of the annual test due date of said assembly. Included in the notification letter shall be identifying information connected with the BFP assembly, i.e.; brand, model, serial number and approximate location of the BFP assembly(s). The City may also include with the notification a test form and a list of Licensed Assembly Tester Technicians that the customer may use to have the BFP assembly tested. The Licensed Assembly Tester Technician list is also available on the City of Bentonville website. The period of approximately forty five (45) days allows adequate time to secure a satisfactory test report of the BFP assembly(s) and to have a copy of the report sent to the DEPARTMENT.

27.11.2 In the event the DEPARTMENT has not received a copy of a satisfactory test report approximately fifteen (15) days prior to the due date, a second notice letter will be mailed to the customer. This letter is a reminder to the customer of the approaching due date.

27.11.3 The second notice shall also contain the same BFP assembly information.

27.11.4 If the DEPARTMENT has not received a satisfactory test result within five (5) days after the due date, the customer shall be notified by mail, hand delivery or in some cases certified mail that they are in violation of current ordinance and have 15 days to complete a satisfactory test and deliver a copy of the test report to the DEPARTMENT, or water service to this address shall be discontinued until such time a copy of said test report shall be delivered to the DEPARTMENT office.

27.11.5 Any consumer found in violation of any of the provisions of the Program, shall be served by the APPROVING AUTHORITY with written notice stating the nature of the violation, describing the penalty applicable to the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations. The consumer may deliver by certified mail to the APPROVING AUTHORITY, within 5 days of receipt of such notice a written request for a "just cause" meeting with the APPROVING AUTHORITY. At this meeting the consumer shall be given the opportunity to show "just cause" for the notice to be rescinded or modified.

27.11.6 Any notice issued pursuant to this sub-section may provide one or more of the following penalties:

(a) A compliance directive mandating procedures to bring the consumer into compliance with the Program within the designated time; failure to comply with the compliance directive shall result in termination of water service.
(b) A withdrawal of the Consumers backflow prevention assembly permit and termination of water service to the consumer.

27.11.7 No action to withdraw a consumer's permit shall be final until the APPROVING AUTHORITY has given notice described herein held a "just cause" meeting, if requested.

27.11.8 However, if the APPROVING AUTHORITY determines that to continue to provide water service will endanger the public health, due to possible contamination of the Water System, water service to the property shall be immediately terminated.

27.11.9 Any person violating the provisions of this Program shall become liable to the DEPARTMENT for any expense, loss or damage occurred to the DEPARTMENT by reason of such violation.

27.11.10 The listing of penalties in this Section shall not preclude other appropriate judicial remedies available to the DEPARTMENT for any violation of the Program. The DEPARTMENT may petition any Court of competent jurisdiction to grant injunctive or other legal or equitable relief by reason of a violation.

Detailed Drawings

General Water/Sewer Details

GWS01	Encasement Detail
GWS02	Thrust Blocking
GWS03	Reaction Backing Table
GWS04	Anchor Collar Specifications
GWS05	Encasement Crossing
GWS06	Subdivision Utility Placement – Black/White and Color
GWS07	Typical Bedding Detail – Per Street Department Specs

Water Details

W01	1” Temporary Blow-off Assembly/Sample Point
W02	1” Water Service
W03	5/8” Water Service
W04	Fire Hydrant with Retainer Glands
W05	Fire Hydrant with Swivel Anchor Coupling
W06	Deep Bury Fire Hydrants
W07	Valve Box Valve Stem and Tracer Wire Installation
W08	Restrained Gate Valve
W09	2” Combination Air/Vacuum Valve
W10	1” Combination Air/Vacuum Valve
W11	Swing Connection - New Main to Existing Main
W12	Meter Vault 4” – 8” Meters (Typical)
W13	Cut and Cap Detail
W14	Frost Free Hose Bibb with Vacuum Breaker
W15	Reduced Pressure (RP) Backflow Device – Exterior Irrigation Only
W16	Reduced Pressure (RP) Backflow Device – Interior Domestic or Irrigation
W17	Waterline Obstruction Crossing
W18	2” Water Service

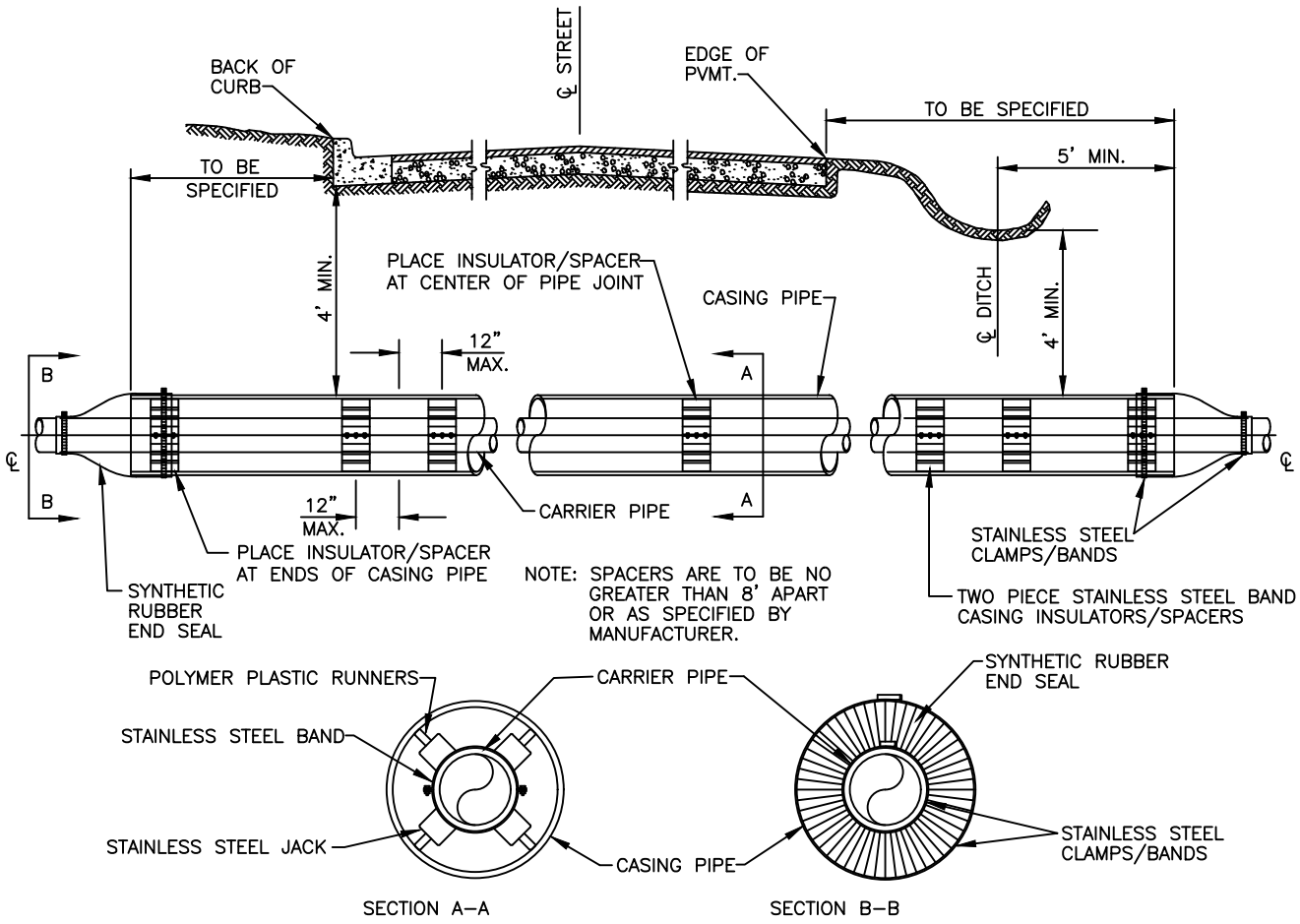
Sanitary Sewer Details

SS01	Sanitary Sewer Manhole - Cast-In-Place
SS02	Sanitary Sewer Manhole - Interior Drop
SS03	Sanitary Sewer Manhole - Exterior Drop
SS04	Heavy Duty Manhole Lid and Frame
SS05	Water Tight Bolted Lid and Frame
SS06	Sanitary Sewer Service Wye
SS07	Existing Manhole Abandonment – 5’ or deeper
SS08	Private Sewer Manhole – Ring and Lid
SS09	Manhole Adjust to Grade

Lift Station Details

LS01	Duplex Pump Control Panel 480V 3-Phase
LS02	Duplex Pump Control Panel 230V Single Phase
LS03	Lift Station Site
LS04	Lift Station Non-Clog Pumps above 5-HP
LS05	Lift Station Grinder Pumps 5-HP and Less
LS06	Lift Station Wet Well
LS07	Lift Station Valve Vault
LS08	Air Vacuum /Release Manhole for Force Main
LS09	Typical Bedding Detail for Force Main
LS10	Tracer Wire Port

ENCASEMENT DETAIL



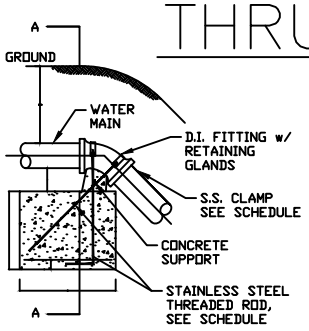
CARRIER & CASING SIZES										
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CASING	16"	16"	16"	18"	24"	24"	30"	30"	36"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

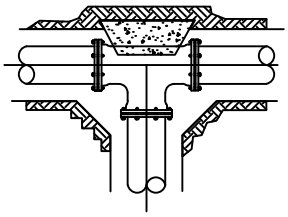
*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	GEN WATER/SEWER DETAIL: GWS01	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

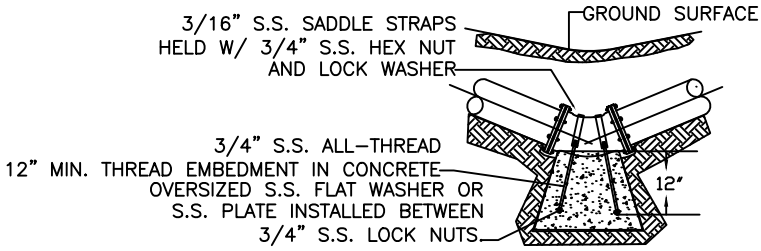
THRUST BLOCKING



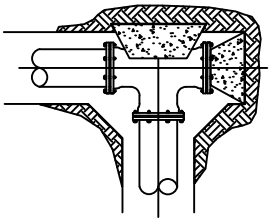
BLOCKING FOR VERTICAL TIE DOWN



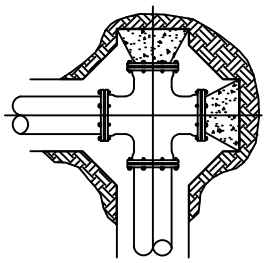
BLOCKING FOR TEE



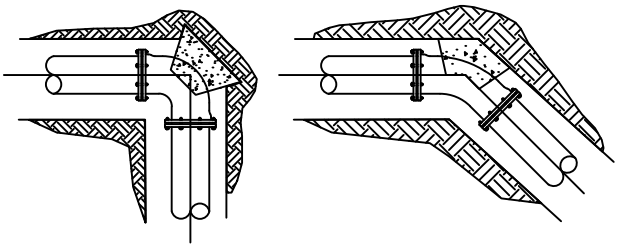
TYPICAL BLOCKING FOR VERTICAL BENDS



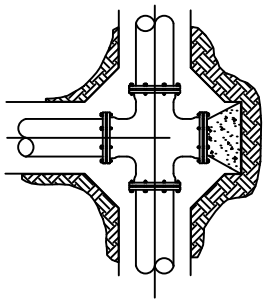
SPECIAL BLOCKING OF TEE & PLUG (WHEN DIRECTED BY WATER DEPT.)



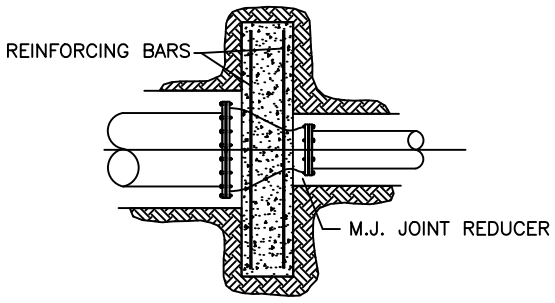
TYPICAL SECTION OF CROSS & 2 PLUG BLOCKING (WHEN DIRECTED BY WATER DEPT.)



TYPICAL BLOCKING FOR HORIZONTAL BENDS



TYPICAL SECTION OF CROSS & PLUG BLOCKING (WHEN DIRECTED BY WATER DEPT.)



THRUST SUPPORT FOR REDUCER (SIZE TO BE DETERMINED BY WATER DEPT.)

NOTES

1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES AND THE DEPARTMENT.
8. 12" OF ALL THREAD EMBEDED IN CONCRETE
9. MIN. 5/8" ALL THREAD FOR SECTIONS 10FT OR UNDER

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	GEN WATER/SEWER DETAIL: GWS02	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

REACTION BACKING TABLE

BLOCKING SCHEDULE					
PIPE SIZE	BENDS				
		45°	22 1/2°	11 1/4°	ROD DIA.
VOLUME REQ'D (CU. FT.)		98.5	50.2	25.2	3/4 IN.
8"	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	
	C (FT.)	5.00'	4.00'	3.00'	
	MIN. CLAMP (2 EA.)	3/8 IN. x 2 IN.			
VOLUME REQ'D (CU. FT.)		209.5	106.8	53.7	3/4 IN.
12"	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	
	C (FT.)	6.00'	5.00'	4.00'	
	MIN. CLAMP (2 EA.)	1/2 IN. x 2 IN.			
VOLUME REQ'D (CU. FT.)		457.2	233.1	117.1	1 IN.
18"	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	
	C (FT.)	8.00'	6.50'	5.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			
VOLUME REQ'D (CU. FT.)		800.3	408.0	205.0	1 1/4 IN.
24"	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	
	C (FT.)	9.50'	7.50'	6.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			

VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 250 PSI, 50 PSI SURGE AND THE WEIGHT OF CONCRETE IS 150 POUNDS PER CU. FT.

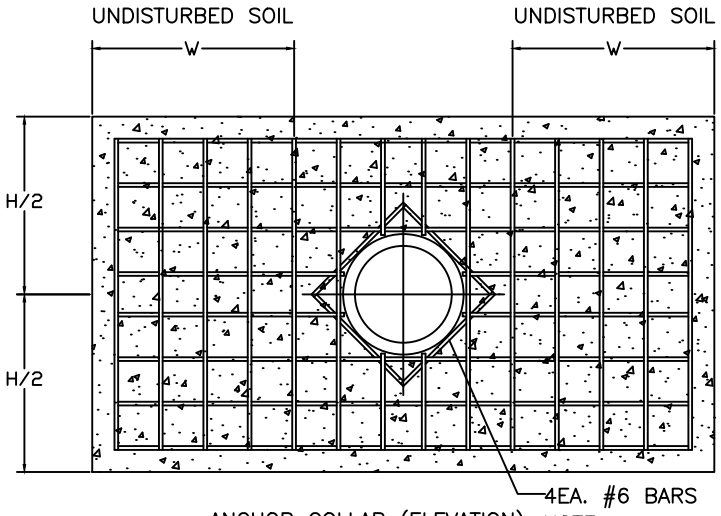
NOTES:

1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
3. WRAP ALL FITTINGS WITH POLY WRAP.
4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	GEN WATER/SEWER DETAIL: GWS03	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

ANCHOR COLLAR SPECIFICATIONS

ANCHOR COLLAR SCHEDULE						
PIPE SIZE	DIMENSIONS				REINFORCING BARS	
	W	H	T	M	"A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
8"	1.5'	2.5'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
12"	2.0'	4.0'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
16"	3.0'	4.5'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
20"	3.0'	5.0'	2.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
24"	3.5'	5.5'	2.0'	M.J. RETAINER GLAND	#7@6"	#6@10"
30"	6.5'	6.0'	2.5'	4"	#8@6"	#7@10"
36"	7.0'	7.0'	2.5'	4"	#8@6"	#7@10"



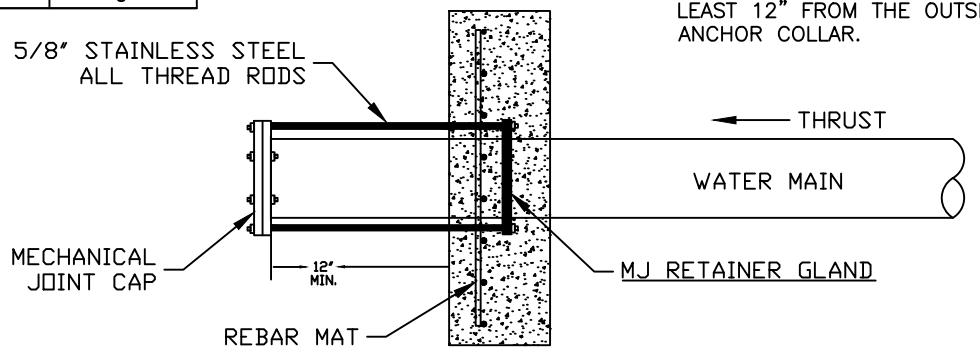
ANCHOR COLLAR (ELEVATION)

ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTE:
USE M.J. RETAINER GLANDS FOR PIPE 24" AND SMALLER.

NOTE:
PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE 4000 PSI CONCRETE COLLAR IS POURED.

NOTE:
ON DEAD END LINE, PIPE MUST EXTEND AT LEAST 12" FROM THE OUTSIDE EDGE OF ANCHOR COLLAR.

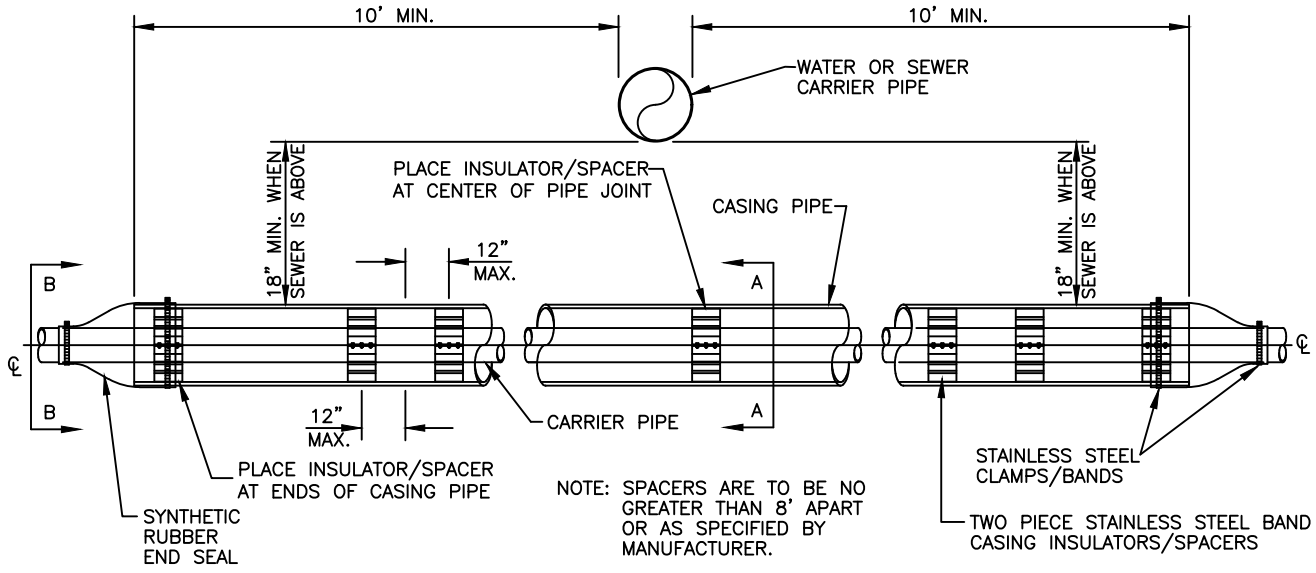


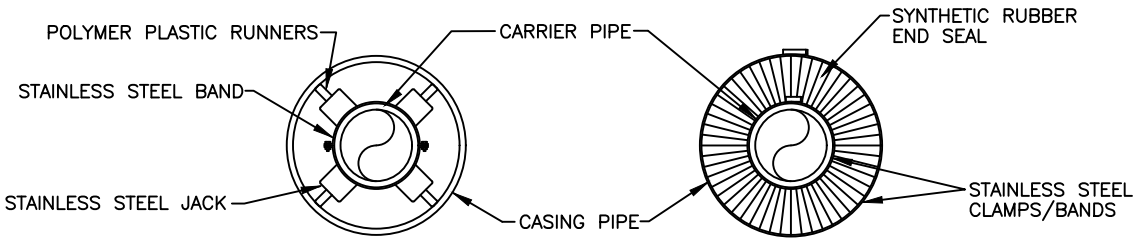
ANCHOR COLLAR (SIDE)

NOTE:
ALL-THREAD STEEL RODS SHALL BE 5/8" STAINLESS STEEL WITH STAINLESS STEEL HARDWARE.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	GEN WATER/SEWER DETAIL: GWS04	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

ENCASEMENT CROSSING DETAIL





SECTION A–A SECTION B–B

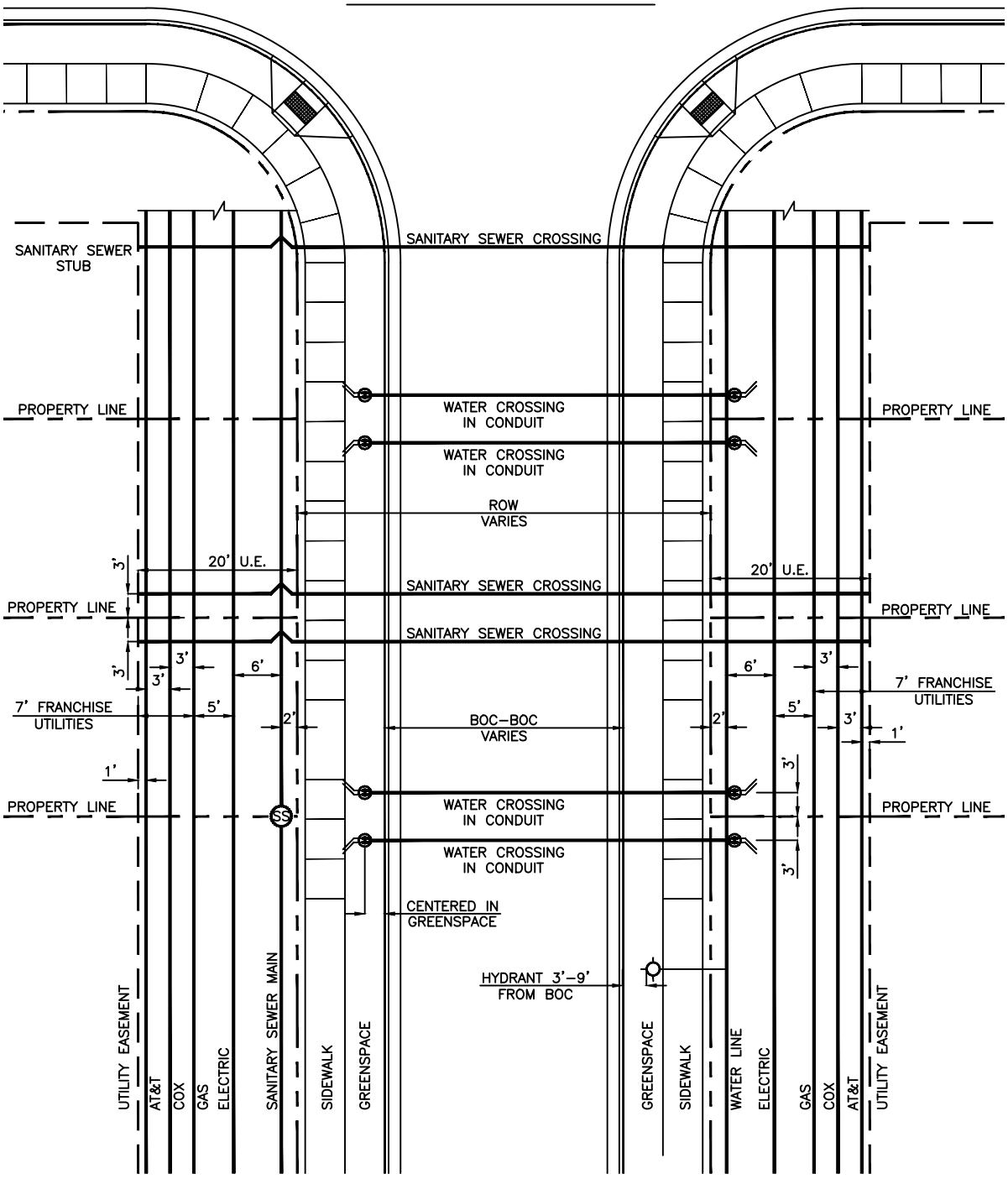
CARRIER & CASING SIZES										
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CASING	16"	16"	16"	18"	24"	24"	30"	30"	36"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED BY APPROVED METHOD.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	GEN WATER/SEWER DETAIL: GWS05	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

SUBDIVISION UTILITY PLACEMENT

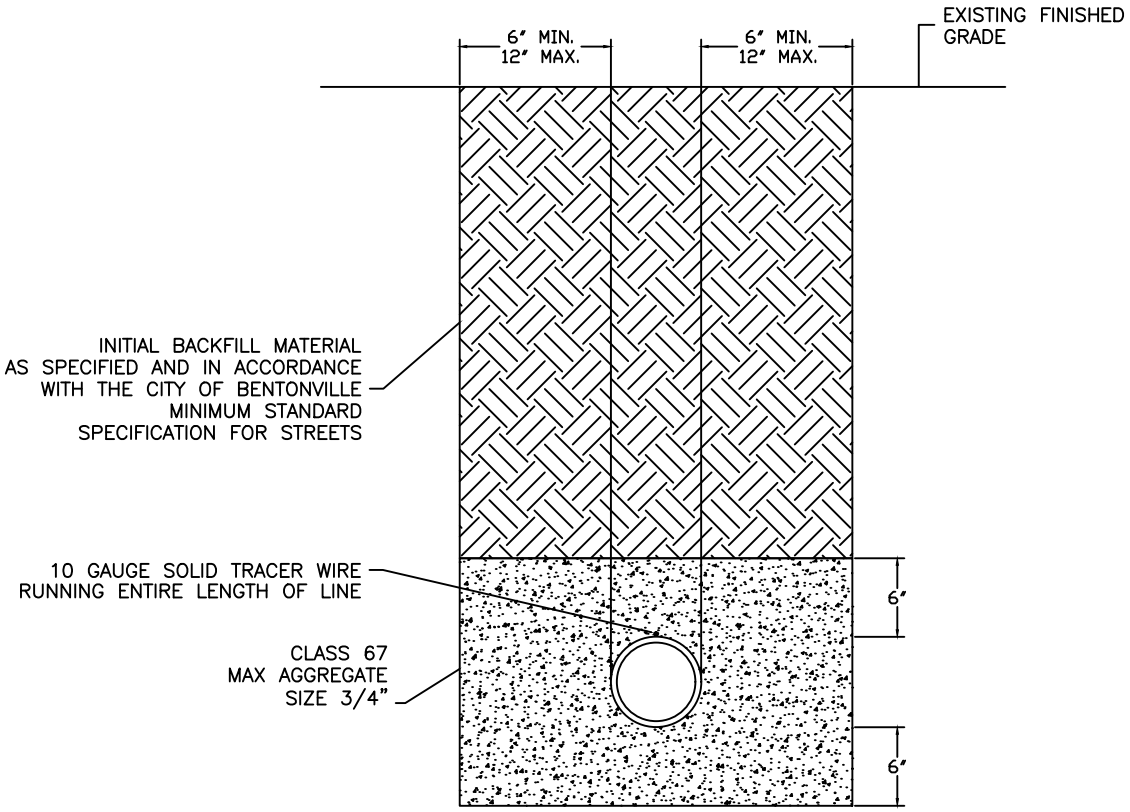


UTILITY SEPARATIONS:

10' HORZ. BETWEEN WATER & SEWER
18" VERT. BETWEEN WATER & SEWER
5' HORZ. BETWEEN ELECTRIC & WATER OR SEWER(MAINS)
18" MIN. VERT. BETWEEN ELEC. & WATER OR SEWER
12" MIN. HORZ. BETWEEN ELEC. & FRANCHISE UTIL.
12" MIN. VERT. BETWEEN SECONDARY CONDUIT AND WATER & SEWER

DRAWN BY: JS	CHECKED BY: AW
GEN WATER/SEWER DETAIL: GWS06	
LAST REVISION DATE: 08/27/2024	
APPROVED:	10/01/2024

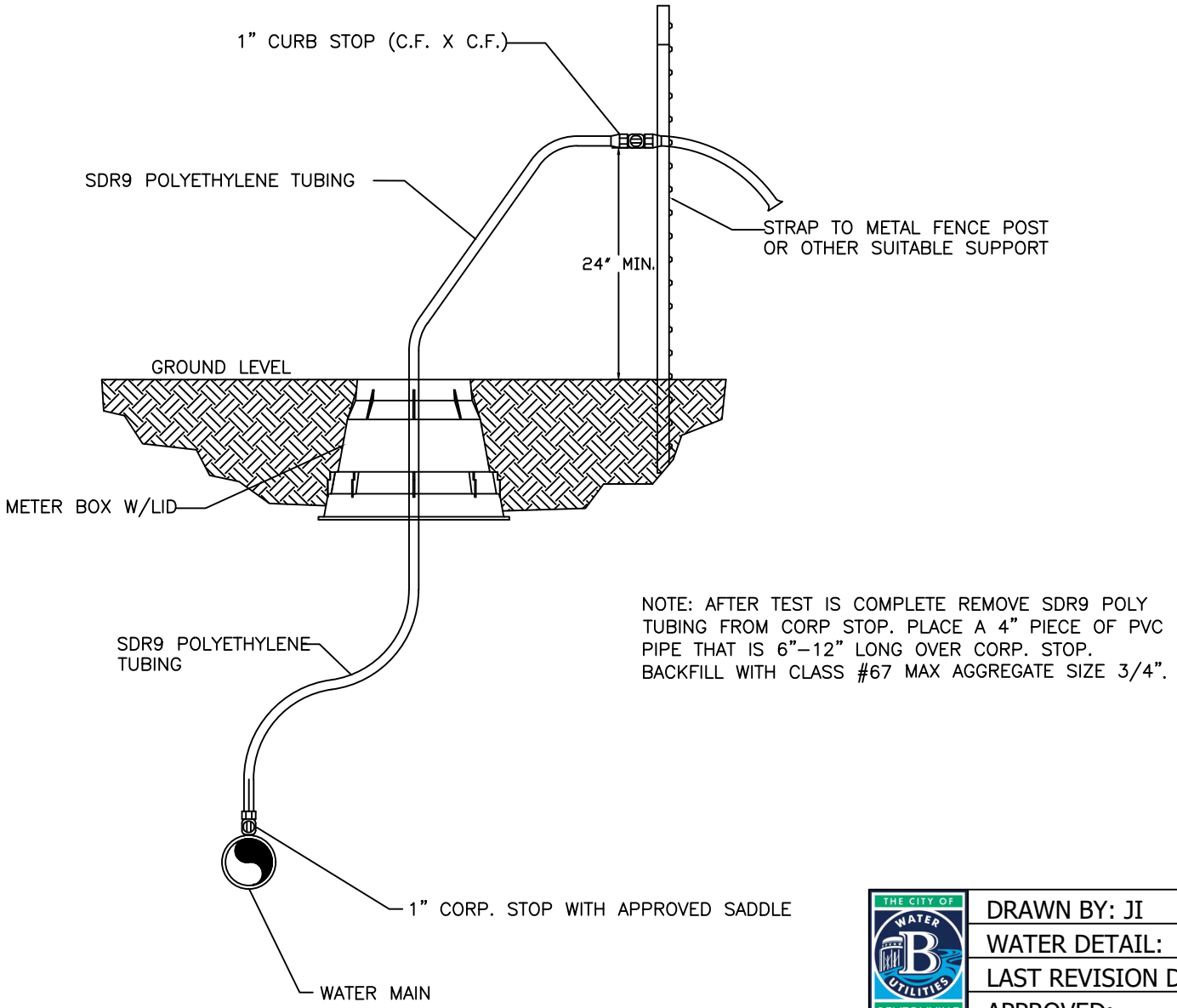
TYPICAL BEDDING DETAIL



* REFER TO STREET SPECIFICATIONS FOR STREET REPAIR INFORMATION

	DRAWN BY: JI	CHECKED BY: PN
	GEN WATER/SEWER DETAIL: GWS07	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

TEMPORARY 1" BLOW OFF ASSEMBLY
SAMPLE POINTS

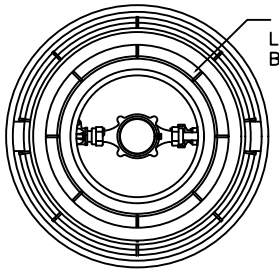


NOTE: AFTER TEST IS COMPLETE REMOVE SDR9 POLY TUBING FROM CORP STOP. PLACE A 4" PIECE OF PVC PIPE THAT IS 6"–12" LONG OVER CORP. STOP. BACKFILL WITH CLASS #67 MAX AGGREGATE SIZE 3/4".

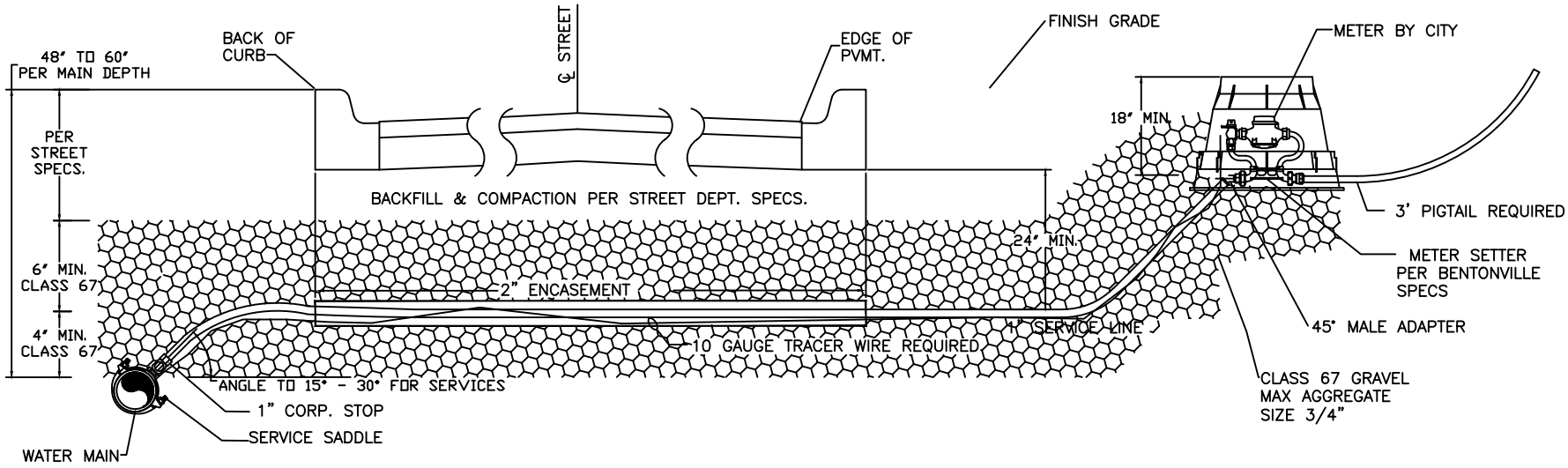
DRAWN BY: JI	CHECKED BY: PN
WATER DETAIL: W01	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

WATER SERVICE DETAIL 1”

NOTE:
1” TUBING WILL
SUPPLY WATER ONLY TO A SINGLE
1” METER SERVICE.



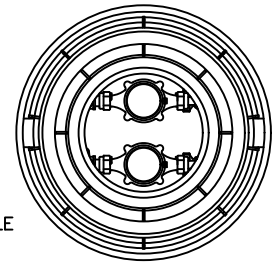
SINGLE SET



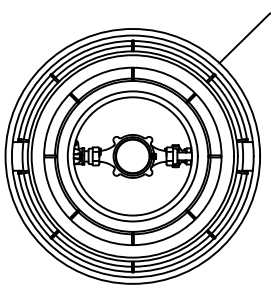
THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	WATER DETAIL: W02	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

WATER SERVICE DETAIL 5/8”

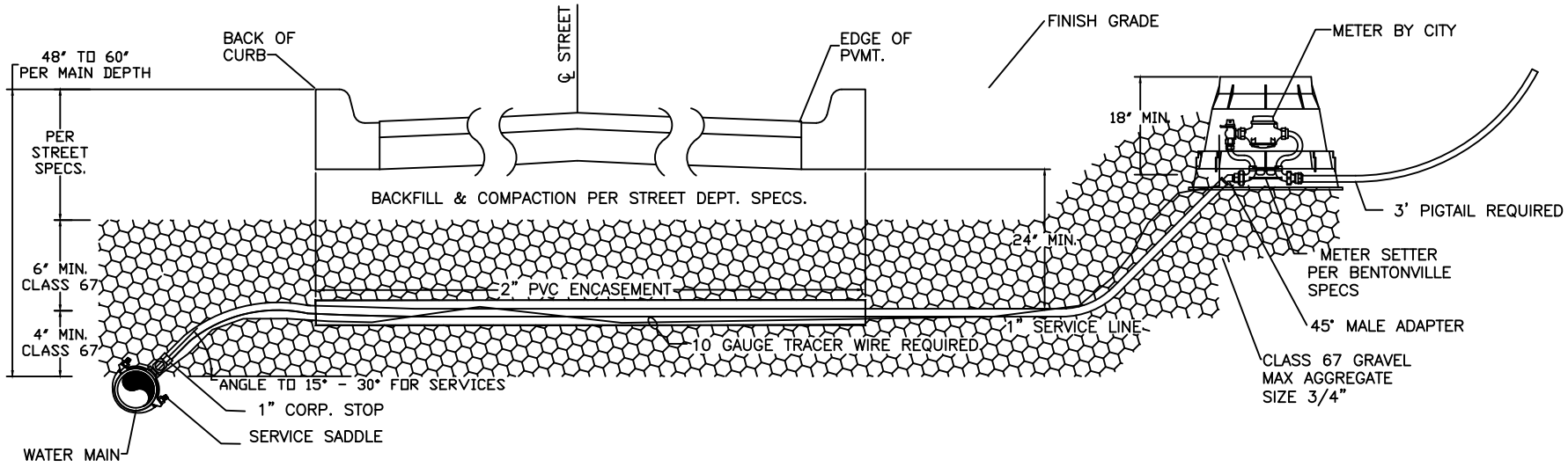
NOTE:
1” TUBING WILL SUPPLY WATER TO A SINGLE 5/8” METER SERVICE OR A DOUBLE 5/8” METER SERVICE.



DOUBLE SET

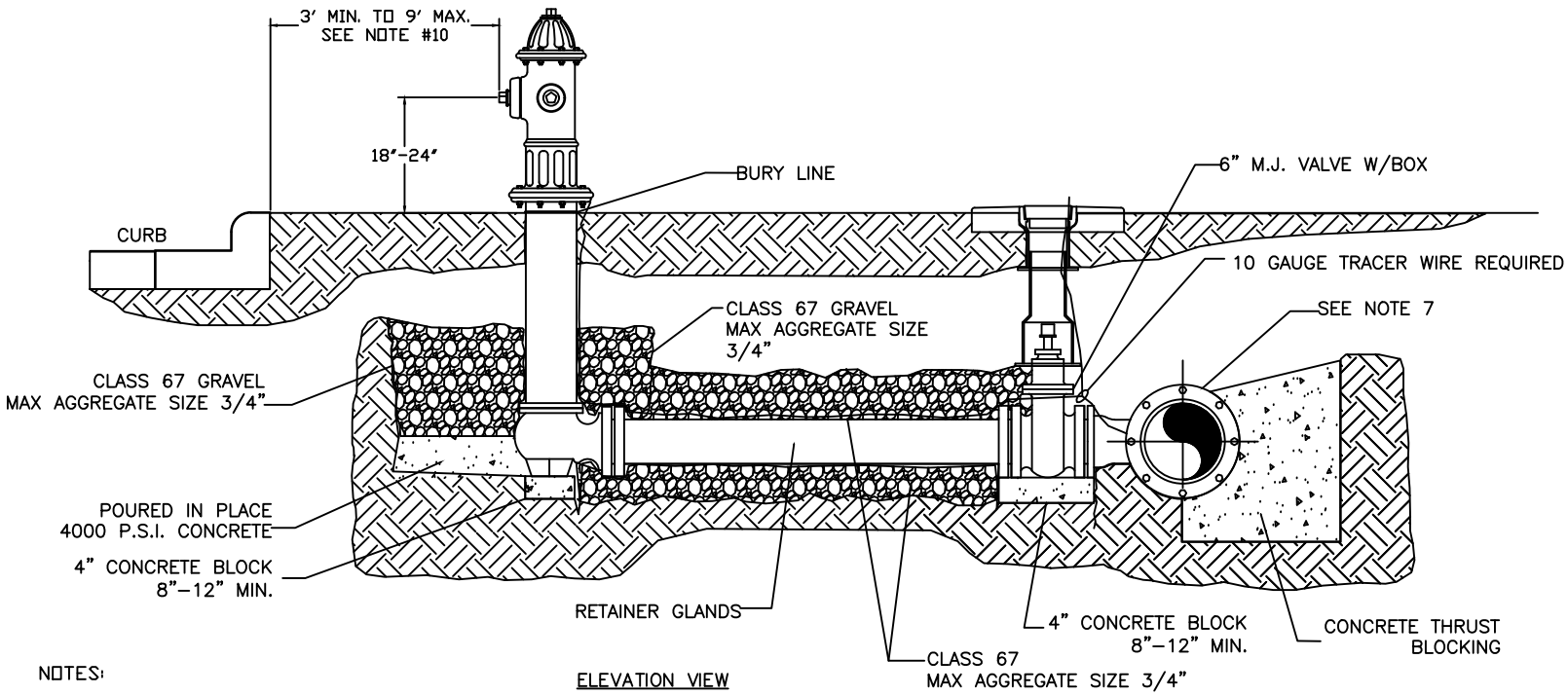


SINGLE SET



THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	WATER DETAIL: W03	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

FIRE HYDRANT DETAIL W/ RETAINER GLANDS



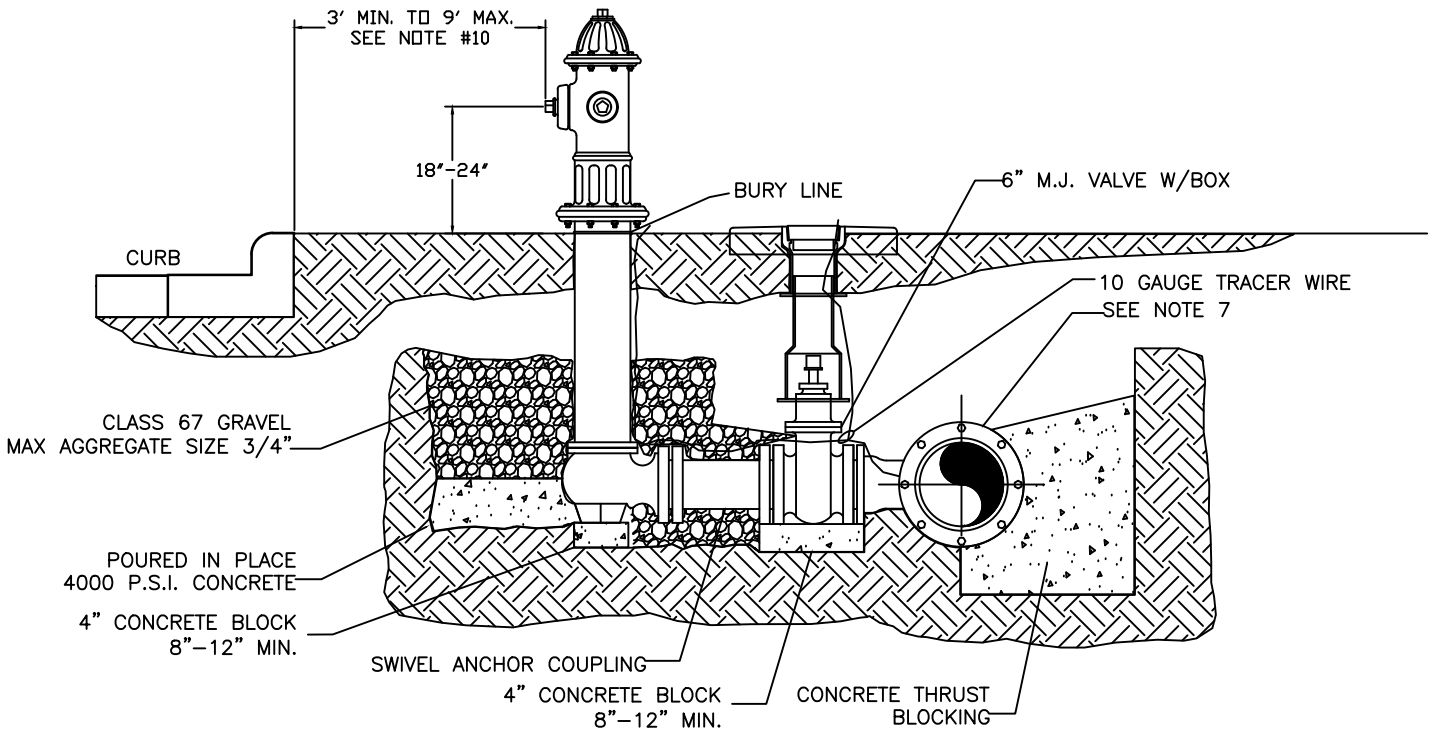
ELEVATION VIEW

NOTES:

1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRIVING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	WATER DETAIL: W04	
	LAST REVISION DATE: 03/16/2021	
	APPROVED:	06/22/2021

FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING



ELEVATION VIEW

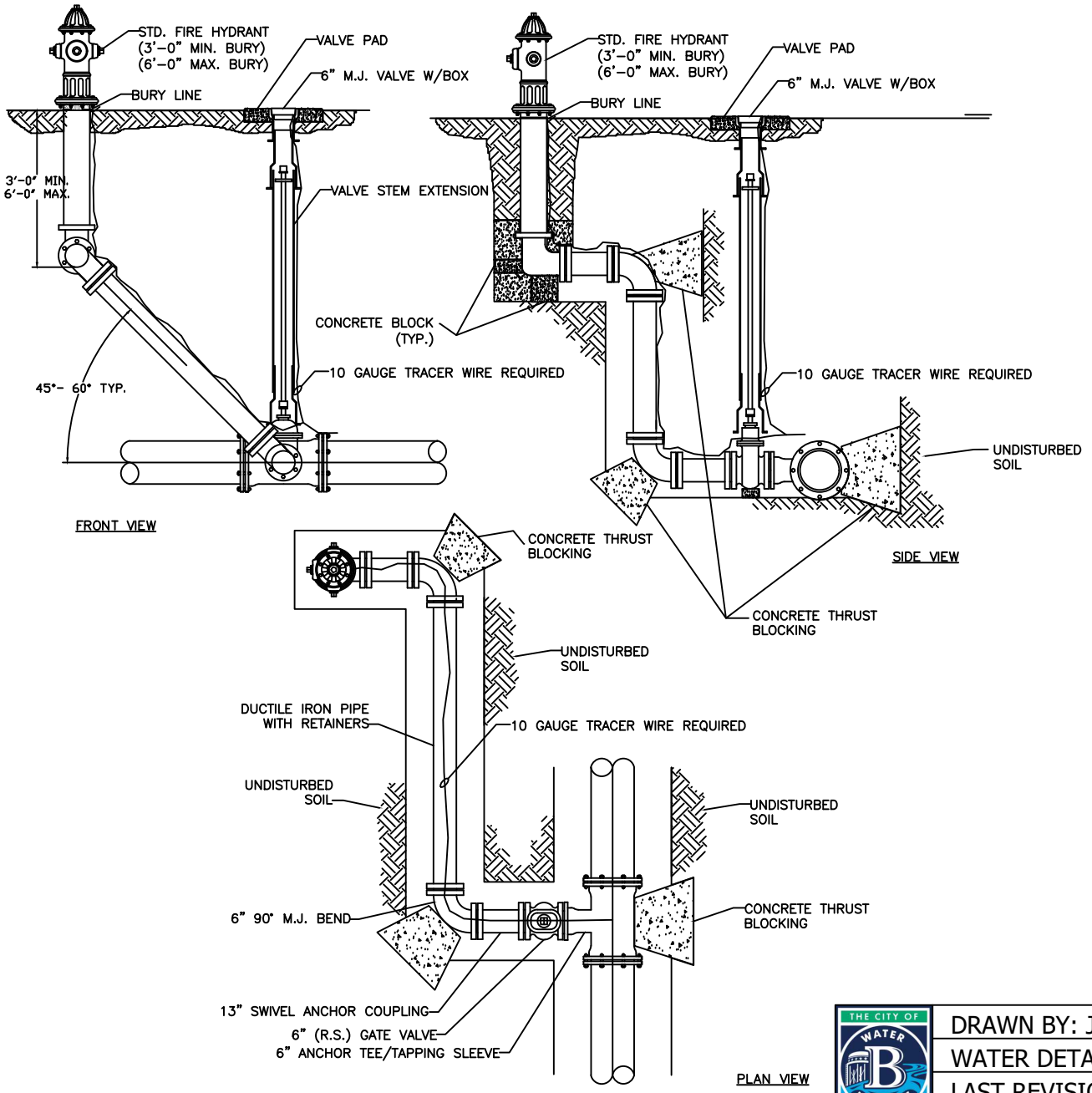
NOTES:

1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRIVING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	WATER DETAIL: W05	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

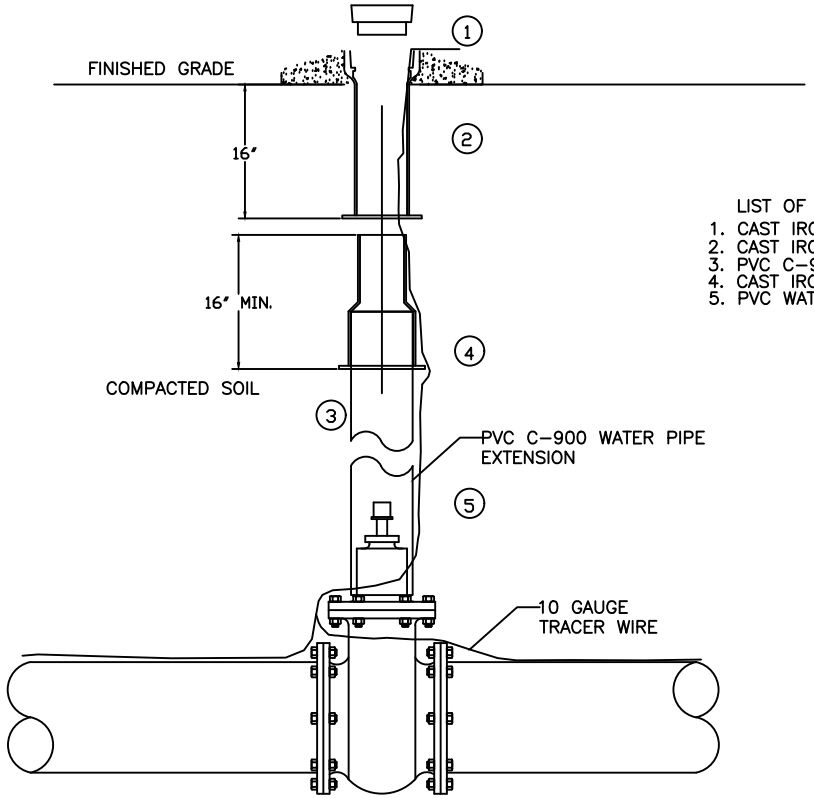
DEEP BURY FIRE HYDRANTS

(BURY DEEPER THAN 6'–0")



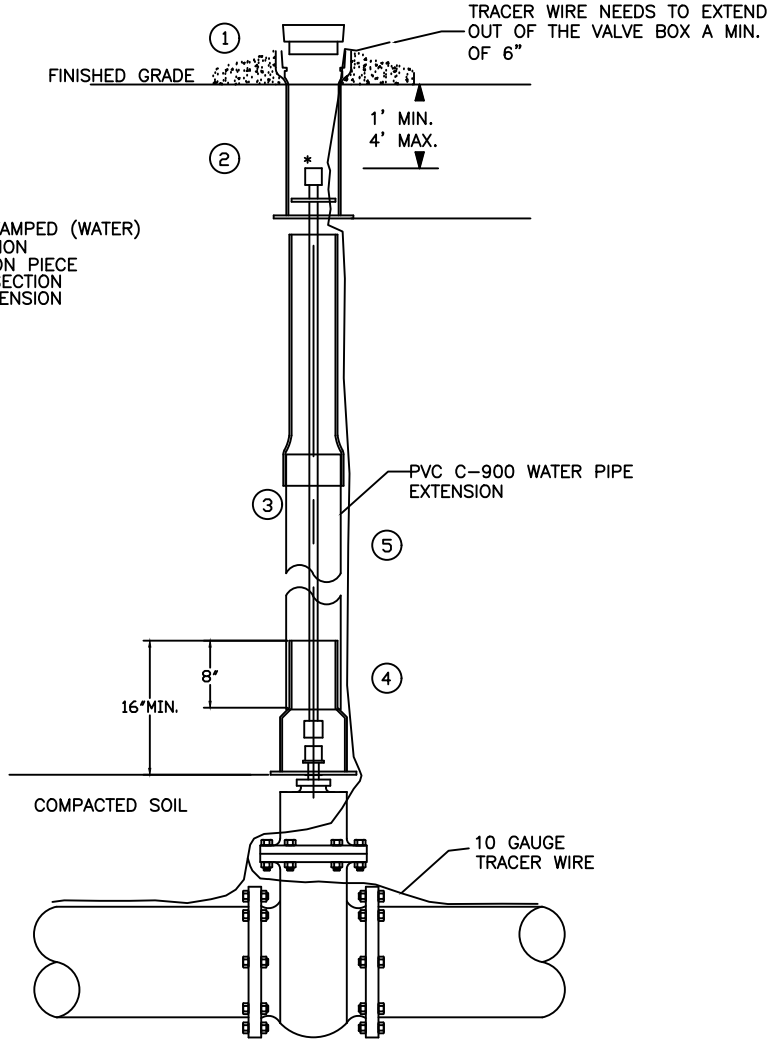
DRAWN BY: JI	CHECKED BY: PN
WATER DETAIL: W06	
LAST REVISION DATE: 03/16/2021	
APPROVED:	06/22/2021

VALVE BOX VALVE STEM & TRACER WIRE INSTALLATION



LIST OF MATERIAL

1. CAST IRON COVER STAMPED (WATER)
2. CAST IRON TOP SECTION
3. PVC C-900 EXTENSION PIECE
4. CAST IRON BOTTOM SECTION
5. PVC WATER PIPE EXTENSION



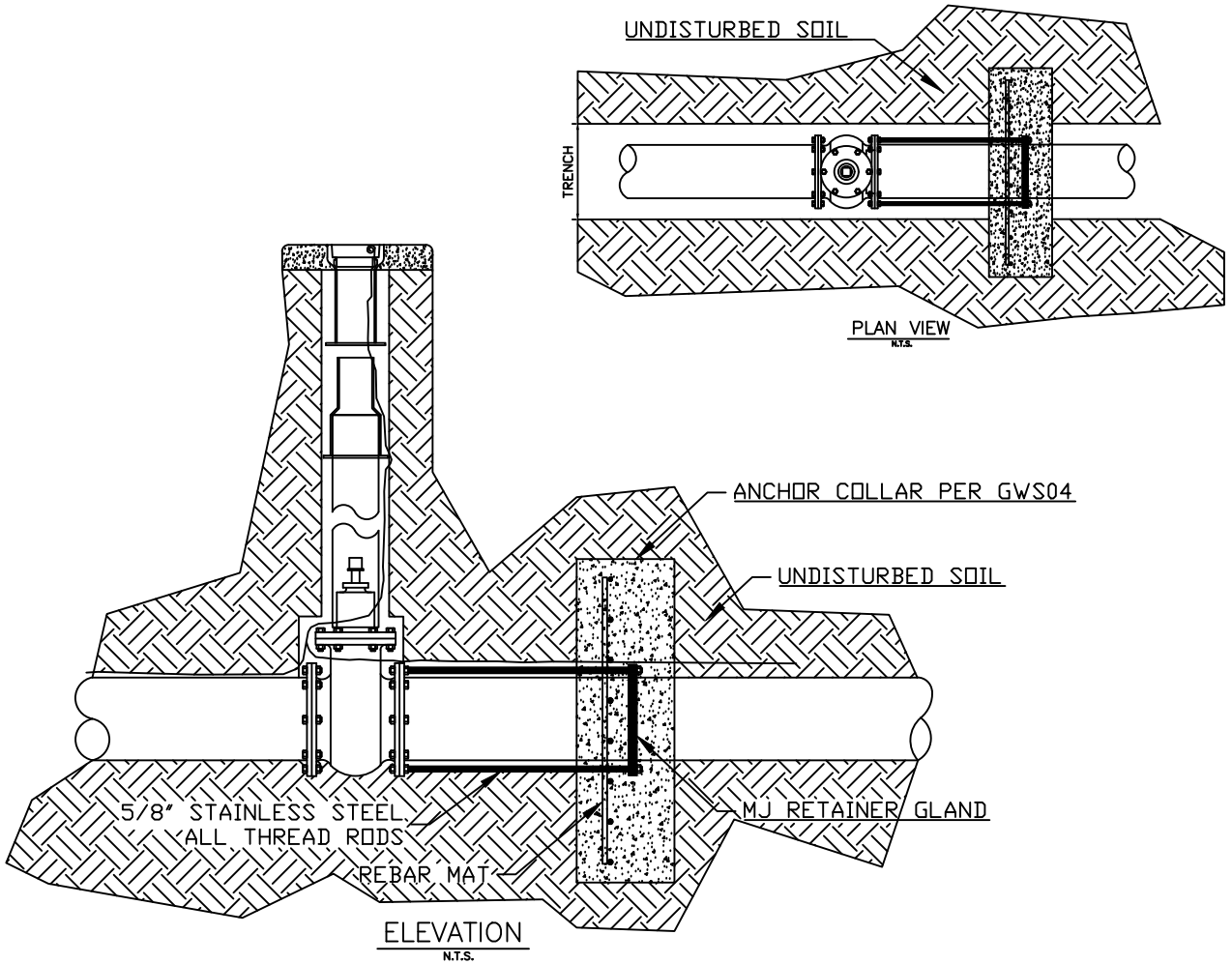
NOTES:

1. IF EXTENSION PIECE IS NEEDED, PVC C-900 WATER PIPE MAY BE USED.
2. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED.
3. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6"

**PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4.0' DEEP.*

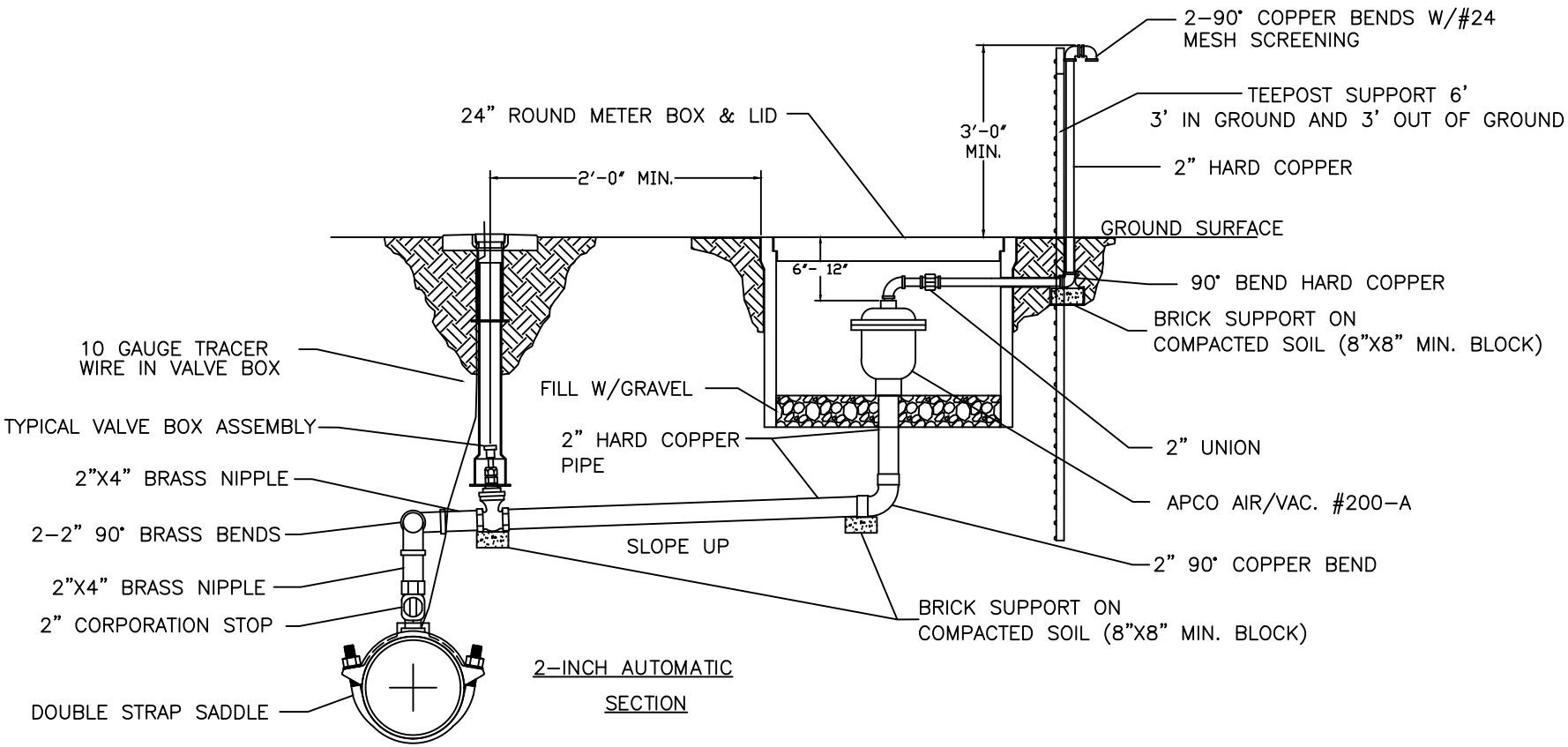
DRAWN BY: JS	CHECKED BY: AW
WATER DETAIL: W07	
LAST REVISION DATE: 08/27/2024	
APPROVED:	10/01/2024

RESTRAINED GATE VALVE



DRAWN BY: JI	CHECKED BY: PN
WATER DETAIL: W08	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

2" COMBINATION AIR/VACUUM VALVE DETAIL

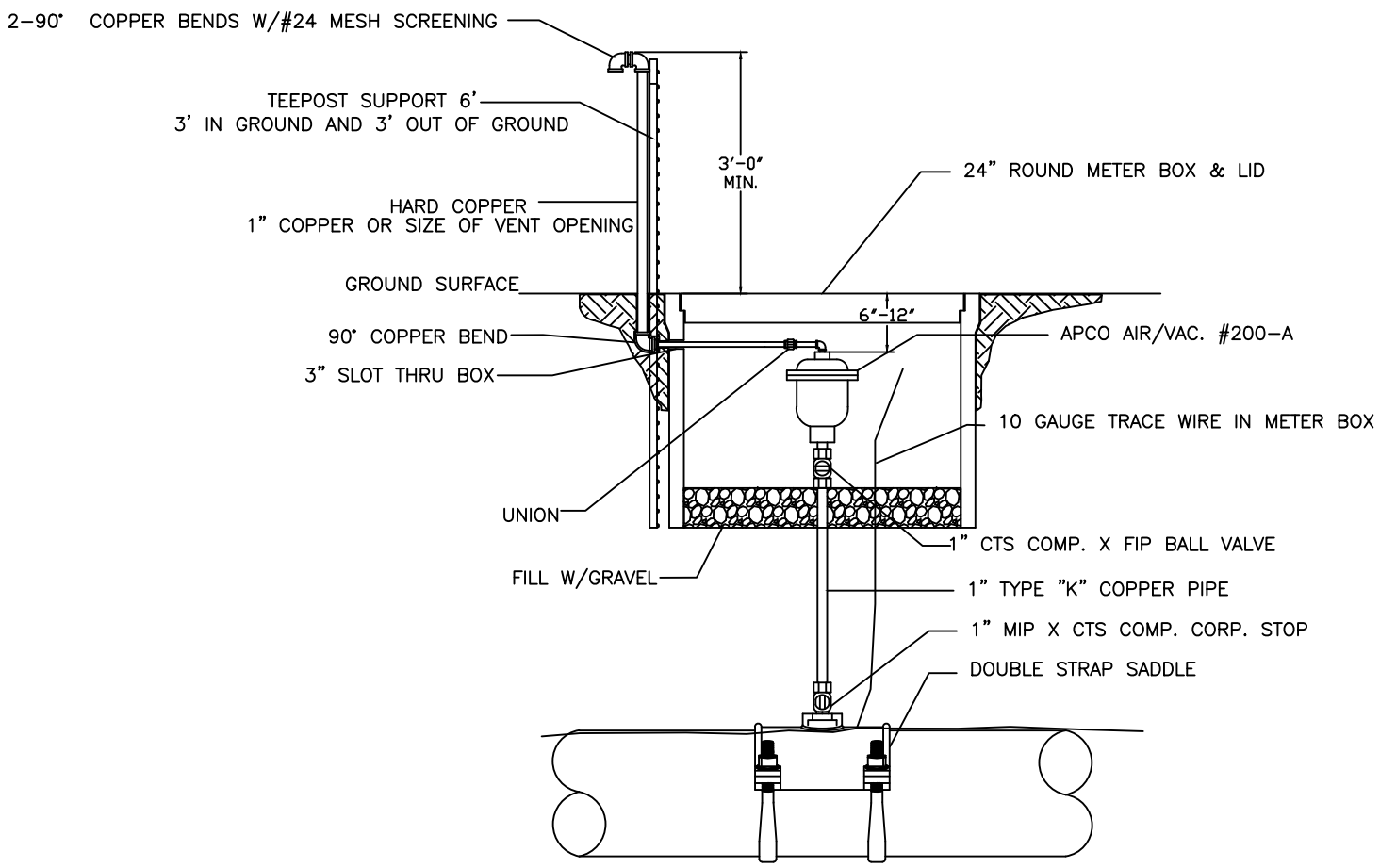


NOTES:

1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

DRAWN BY: JI	CHECKED BY: PN
WATER DETAIL: W09	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

1" COMBINATION AIR/VACUUM VALVE DETAIL

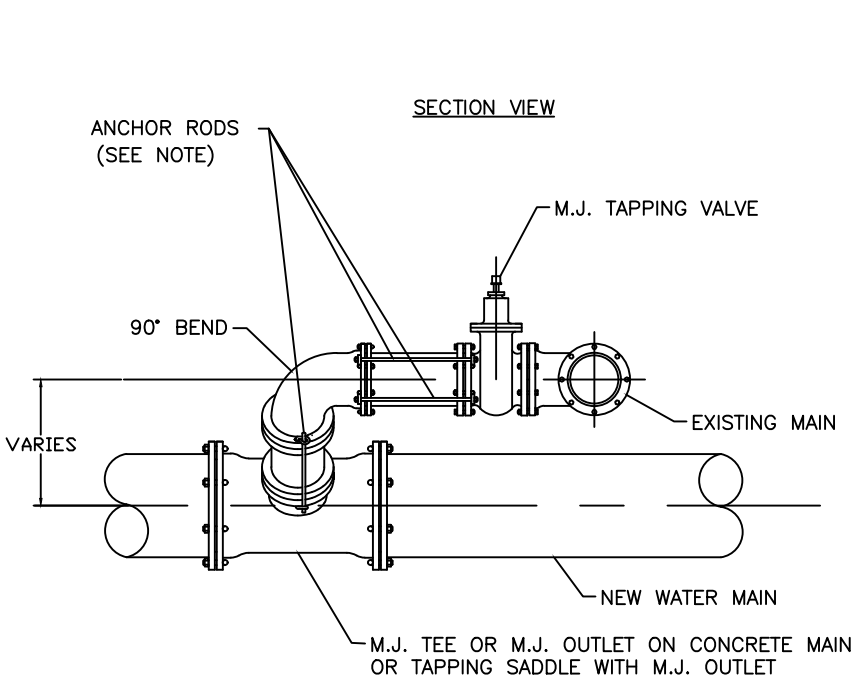


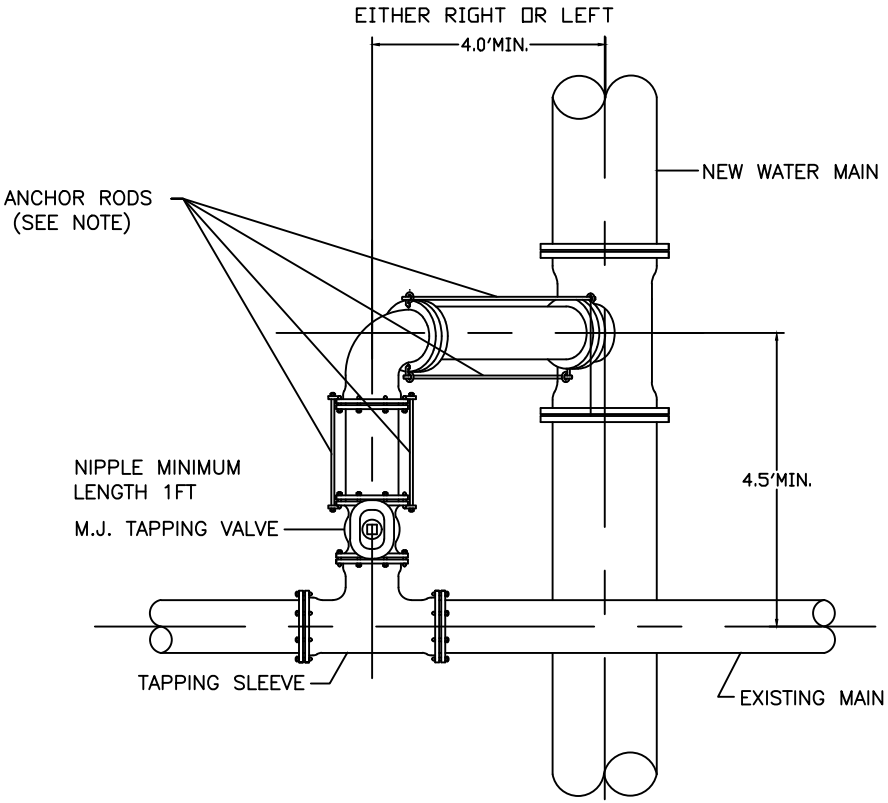
NOTES:

1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	WATER DETAIL: W10	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

SWING CONNECTION – NEW MAIN TO EXISTING MAIN





THRUST BLOCKING REQUIRED AT TEES AND ELBOWS.

ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

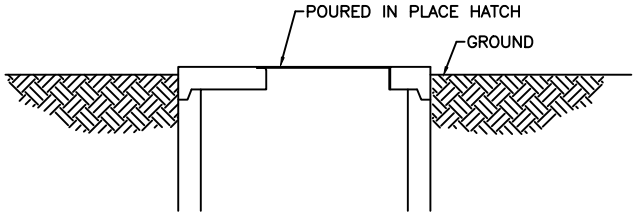
NOTES:

1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
2. DIMENSIONS SHOWN ARE RECOMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED)
3. PROVIDE STAINLESS STEEL "ALL THREAD(MIN 5/8")" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
5. ROTATE TEE UP & ELBOW DOWN AS REQUIRED TO MATCH.
6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

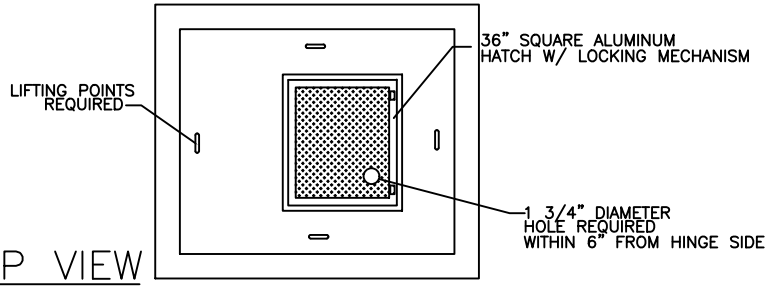
DRAWN BY: JS	CHECKED BY: AW
WATER DETAIL: W11	
LAST REVISION DATE: 08/27/2024	
APPROVED:	10/01/2024

METER VAULT DETAIL FOR 4" – 8" METERS (TYPICAL)

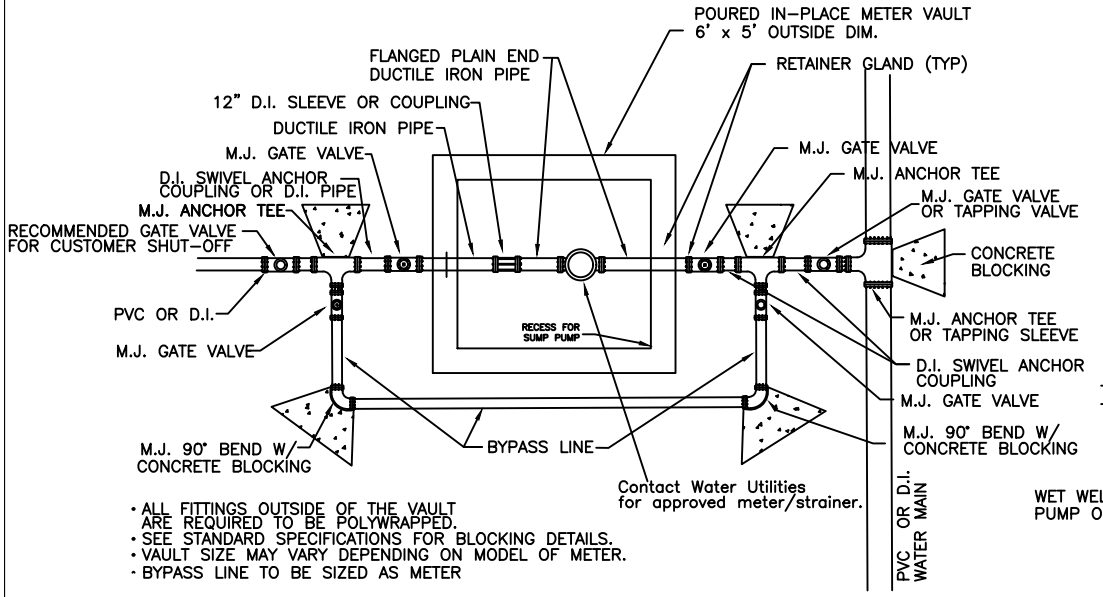
(DIMENSIONS MAY VARY FOR METER SIZES)



SIDE VIEW



TOP VIEW

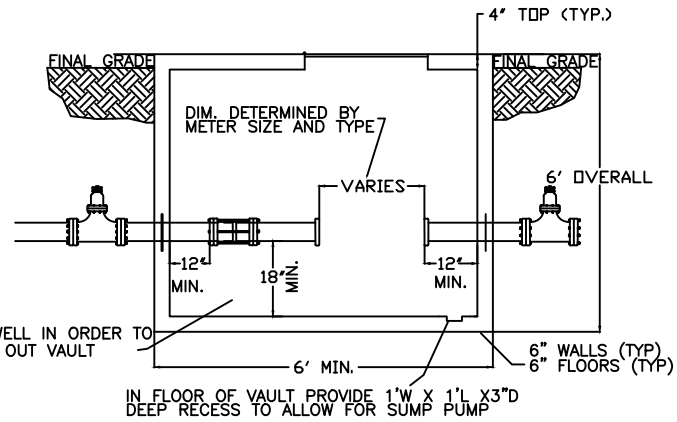


- ALL FITTINGS OUTSIDE OF THE VAULT ARE REQUIRED TO BE POLYWRAPPED.
- SEE STANDARD SPECIFICATIONS FOR BLOCKING DETAILS.
- VAULT SIZE MAY VARY DEPENDING ON MODEL OF METER.
- BYPASS LINE TO BE SIZED AS METER

PLAN VIEW

N.T.S.

- NOTE: IF VAULT IS SQUARE, REBAR IS REQUIRED.
  #4 BAR ON 12" ON CENTER EACH WAY FOR THE BOTTOM
  #4 BAR ON 8" ON CENTER EACH WAY FOR THE WALLS
  #4 BAR ON 8" ON CENTER EACH WAY FOR THE LID

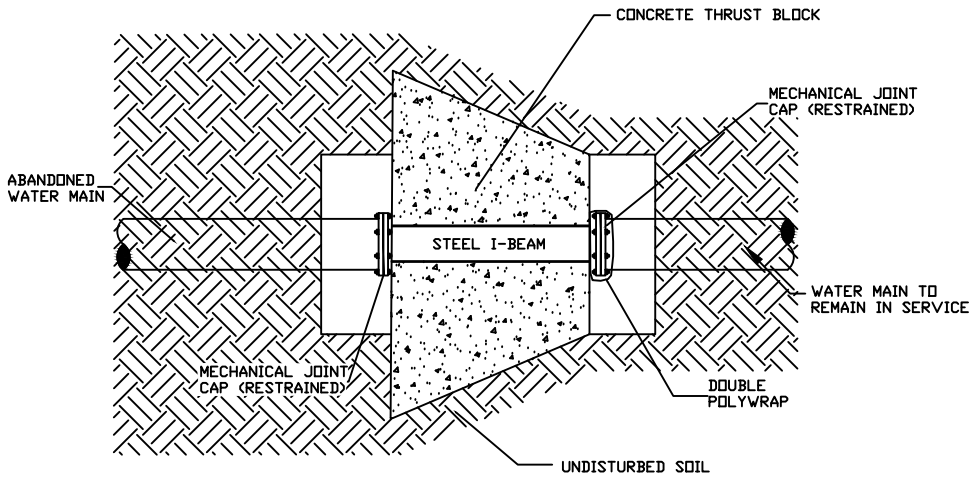


ELEVATION

N.T.S.

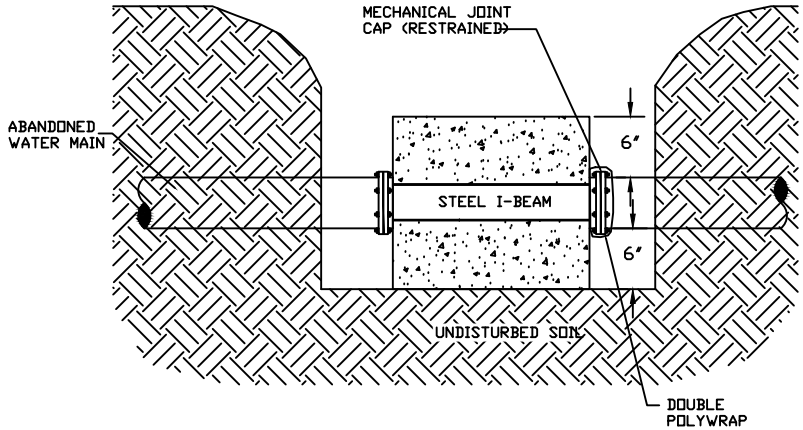
THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	WATER DETAIL: W12	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

TYPICAL CUT/CAP DETAIL



PLAN VIEW

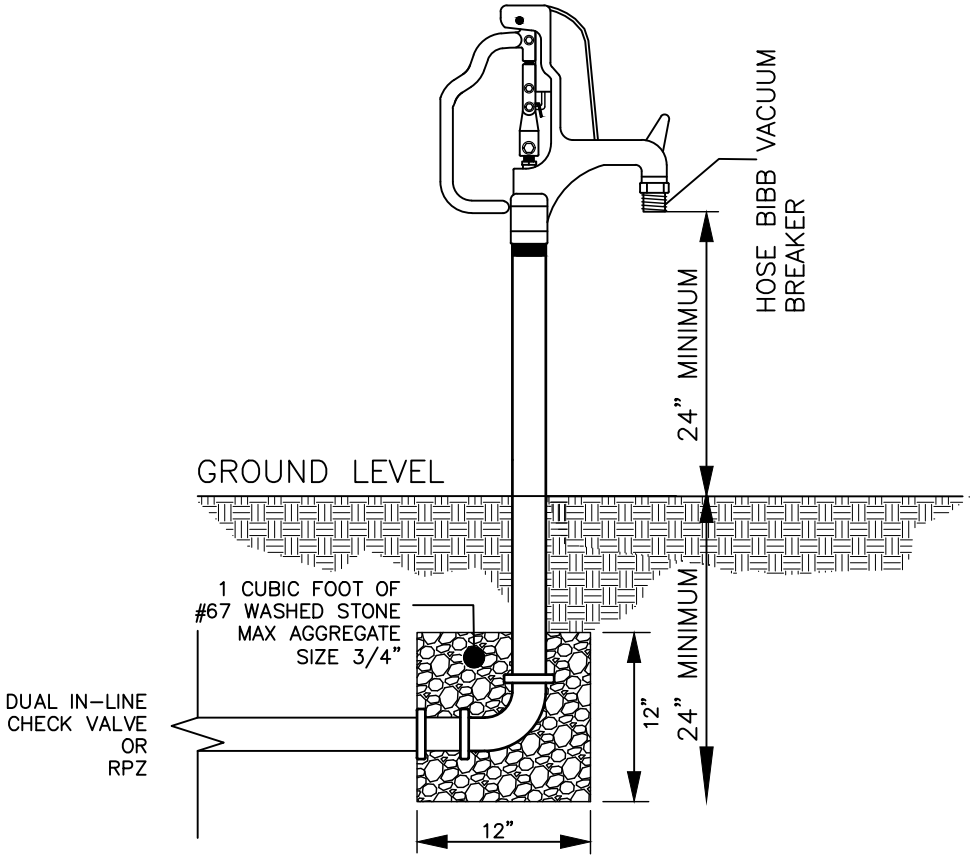
* STEEL I-BEAM TO BE SIZED BY PROJECT ENGINEER AND INCLUDED IN THE PROJECT SUBMITTAL.



PROFILE VIEW

DRAWN BY: JS	CHECKED BY: AW
WATER DETAIL: W13	
LAST REVISION DATE: 08/27/2024	
APPROVED:	10/01/2024

FROST FREE HOSE BIBB WITH BACKFLOW PREVENTION

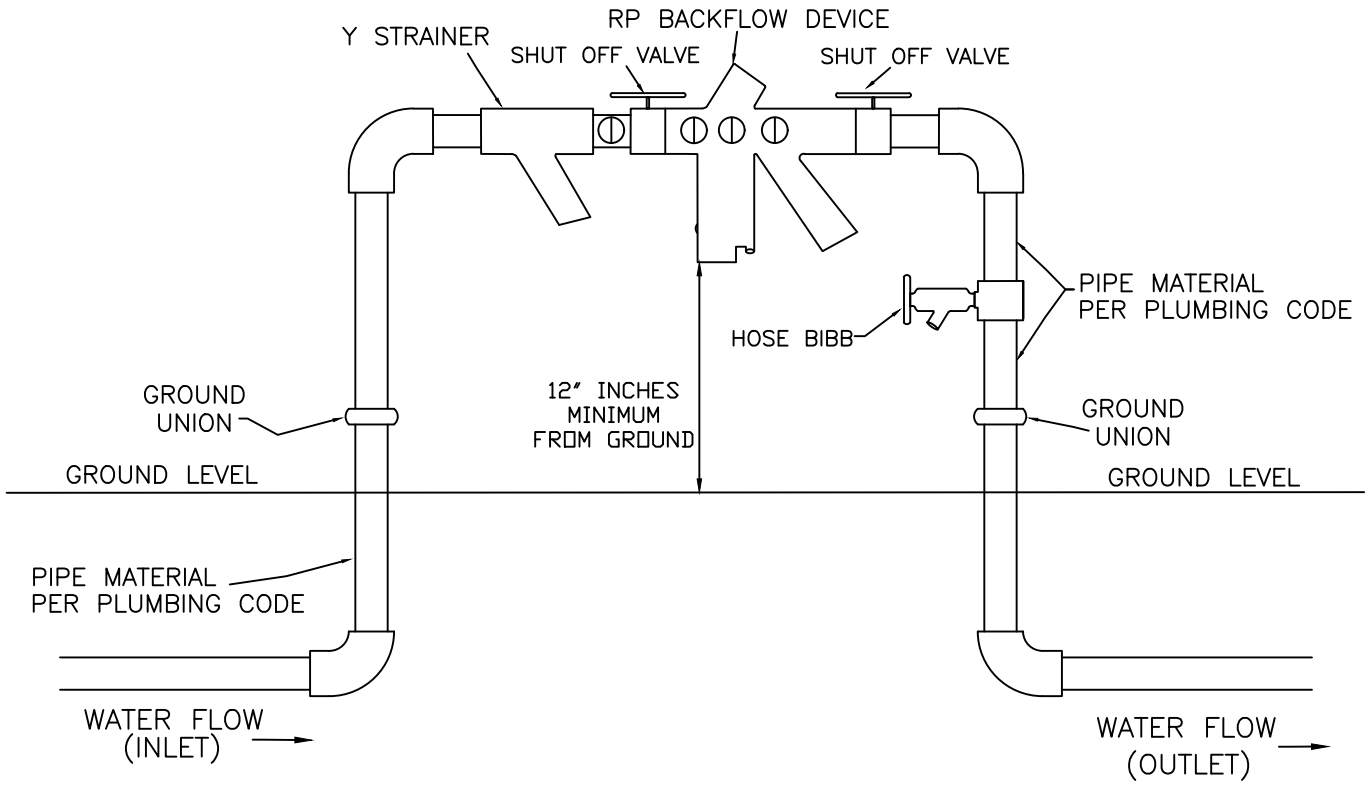


ELEVATION

N.T.S.

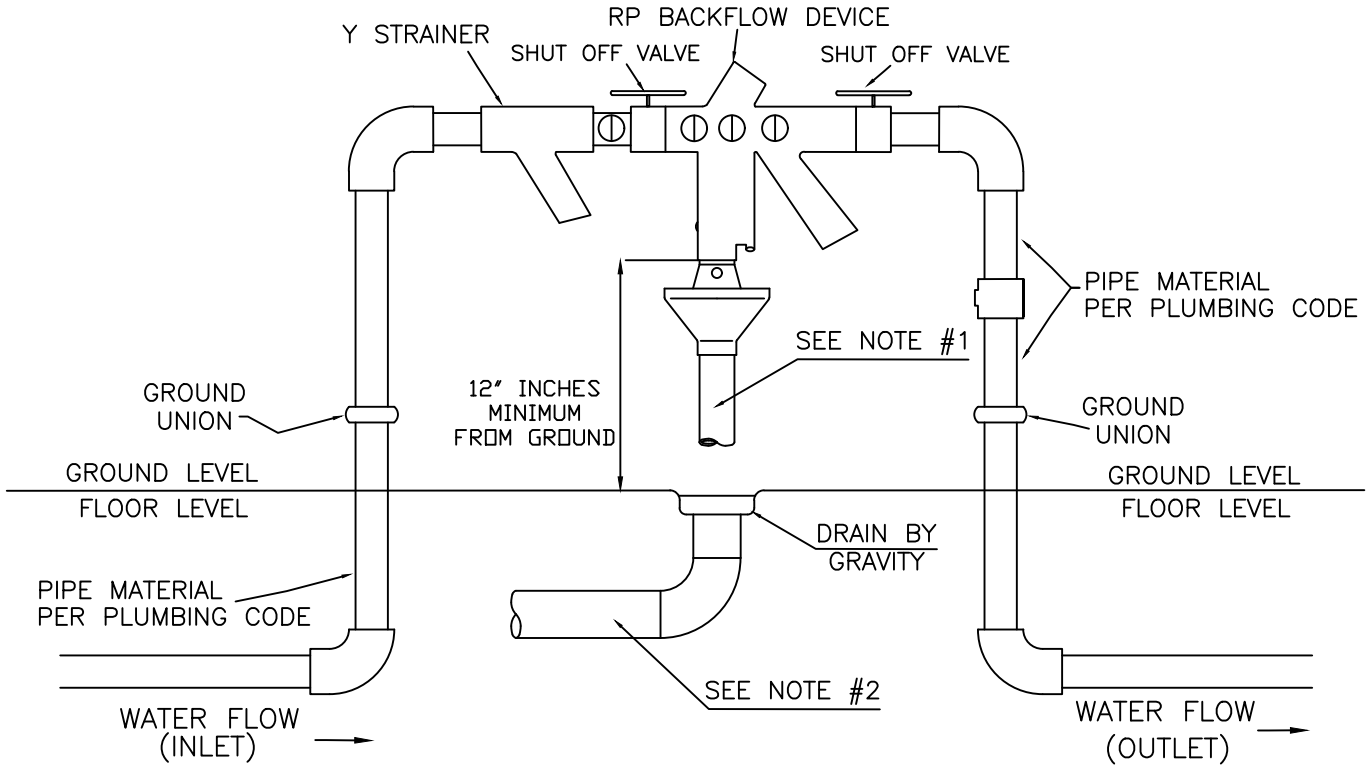
DRAWN BY: JS	CHECKED BY: AW
WATER DETAIL: W14	
LAST REVISION DATE: 08/27/2024	
APPROVED:	10/01/2024

REDUCED PRESSURE (RP) BACKFLOW
EXTERIOR IRRIGATION ONLY



THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	WATER DETAIL: W15	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

REDUCED PRESSURE (RP) BACKFLOW
INTERIOR DOMESTIC OR IRRIGATION

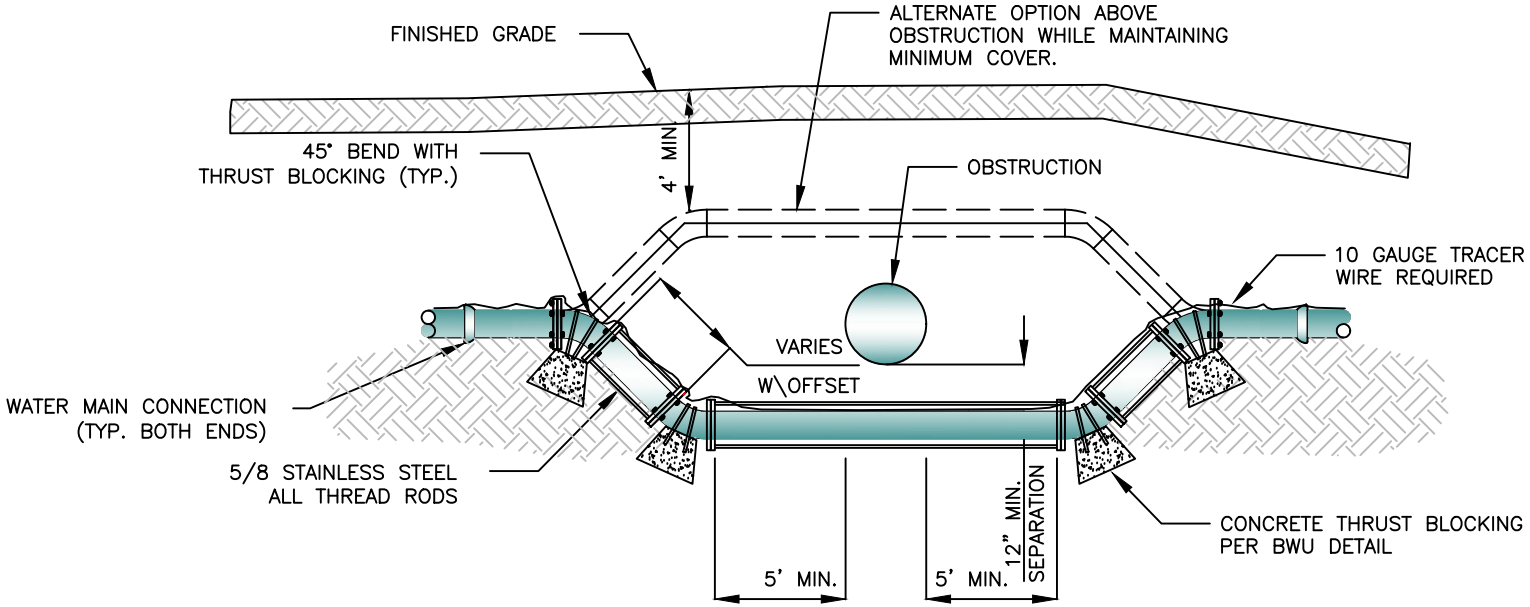


INDOOR APPLICATION ONLY NOTES:

1. AN AIR GAP DRAIN IS REQUIRED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.

2. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

DRAWN BY: JS	CHECKED BY: AW
WATER DETAIL: W16	
LAST REVISION DATE: 08/27/2024	
APPROVED:	10/01/2024



NOTE:

1. ALL VERTICAL ADJUSTMENTS TO THE EXISTING WATER MAINS SHALL BE DONE IN THIS MANNER, USING THE MATERIAL TYPE SHOWN ON THE APPROVED DRAWINGS. THE DEPARTMENT RESERVES THE RIGHT TO REQUIRE DUCTILE IRON WATER PIPING.
2. THE PROPOSED VERTICAL ADJUSTMENT MAY BE CONSTRUCTED EITHER OVER OR UNDER THE PROPOSED OBSTRUCTION HOWEVER TO GO OVER, THE NEW LOCATION OF THE WATER MAIN MUST PROVIDE A MINIMUM OF 4' OF COVER. IF THERE IS LESS COVER, GO UNDER THE PROPOSED OBSTRUCTION.
3. ALL EXISTING FITTINGS AND APPURTENANCES THAT MUST BE REMOVED TO MAKE WATERLINE ADJUSTMENT, MUST BE RELOCATED BACK ONTO MAIN IN ACCORDANCE WITH BWU SPECIFICATIONS AND REQUIRE INSPECTION.
4. ALL MATERIALS AND COATING TO BE IN ACCORDANCE WITH THE CITY OF BENTONVILLE WATER UTILITIES DEPARTMENT SPECIFICATIONS.
5. ALL APPURTENANCES MUST BE SHOWN ON RECORD DRAWINGS IN ACCORDANCE WITH SECTION 5 OF BENTONVILLE WATER UTILITY DEPARTMENT SPECIFICATIONS.

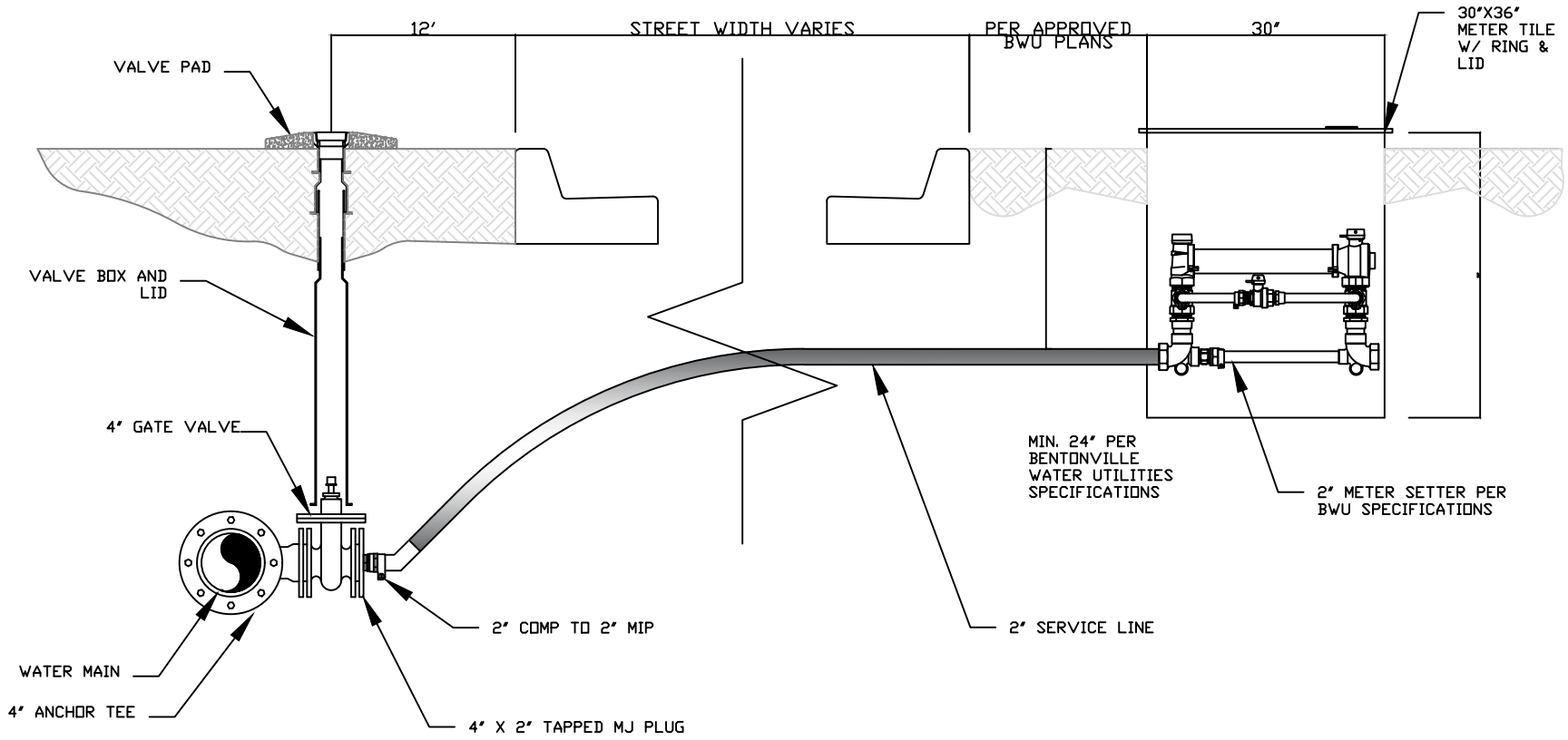
WATERLINE OBSTRUCTION CROSSING

NOT TO SCALE

DO NOT USE WITHOUT PRIOR APPROVAL
FROM BENTONVILLE WATER UTILITIES

THE CITY OF WATER UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: JI
	WATER DETAIL: W17	
	LAST REVISION DATE: 10/21/2021	
	APPROVED:	10/21/2021

2" WATER SERVICE DETAIL



ELEVATION

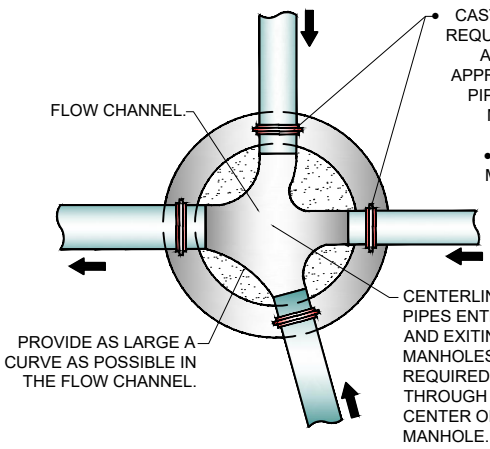
N.T.S.

*ALL FITTINGS W/O PART NUMBER SHALL BE PER SPECIFICATIONS
*ALL FITTINGS MUST BE ANCHORED TO VALVE OR METER SETTER. NO IN-LINE FITTINGS WILL BE PERMITTED.

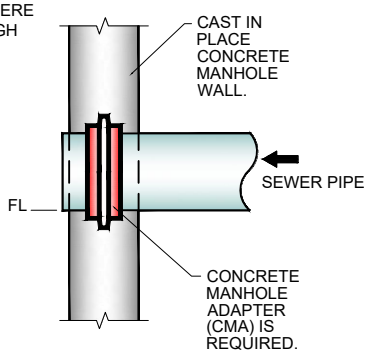
THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	WATER DETAIL: W18	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

SANITARY SEWER
CAST IN PLACE MANHOLE

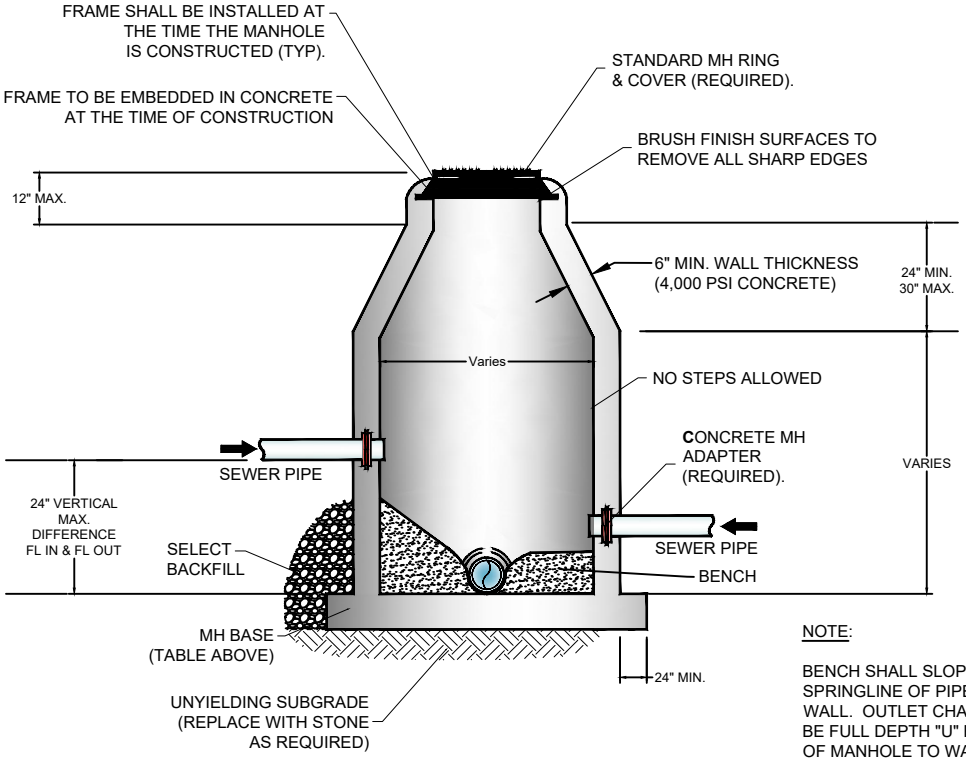
4,000 PSI CONCRETE



MANHOLE FLOW CHANNEL



CONCRETE MANHOLE ADAPTER (CMA) DETAIL



NOTE:

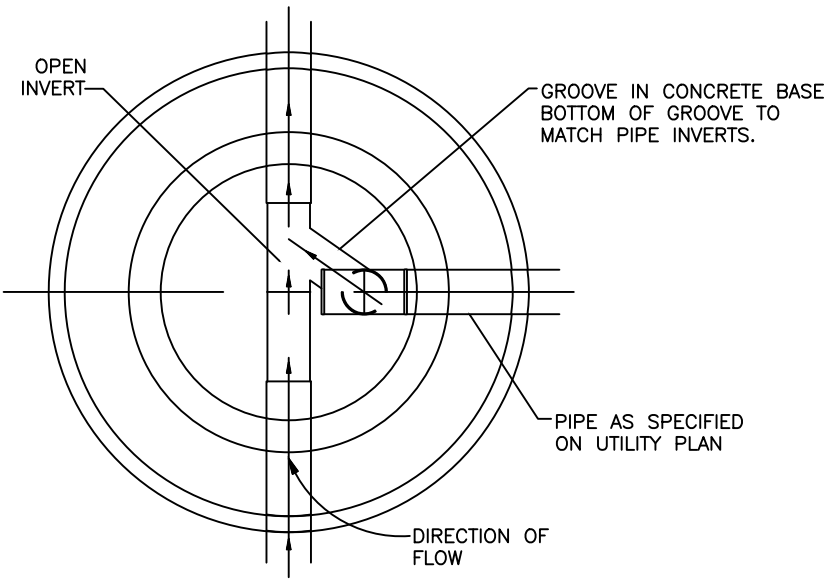
BENCH SHALL SLOPE FROM SPRINGLINE OF PIPE TO MANHOLE WALL. OUTLET CHANNEL SHALL BE FULL DEPTH "U" FROM CENTER OF MANHOLE TO WALL.

Pipe Size	Inside Diameter of Manhole	Minimum Wall Thickness	Base Thickness	Minimum Ring & Cover Size
12" OR LESS	4' DIA	6"	8"	24"
15" TO 24"	5' DIA	8"	10"	24"
>24"	6' DIA	8"	12"	30"

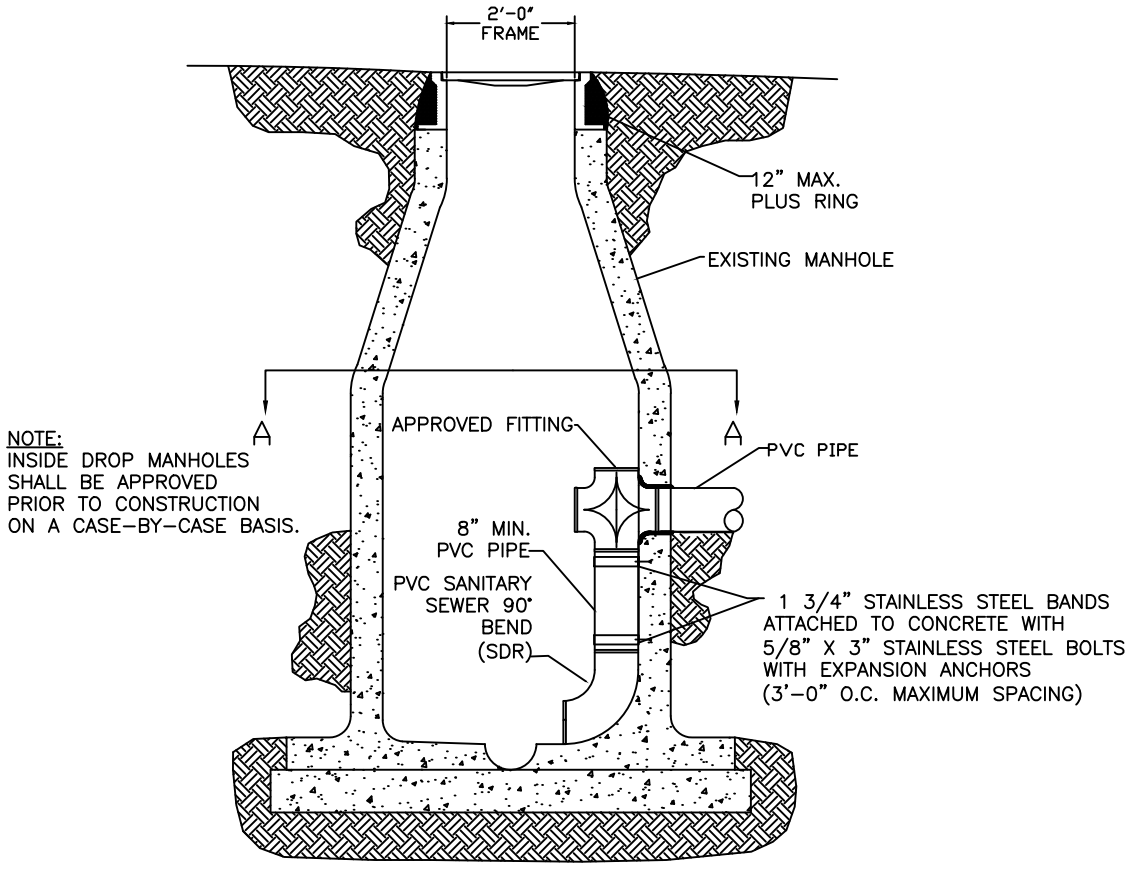
MANHOLE INFORMATION TABLE

DRAWN BY: JS	CHECKED BY: AW
SANITARY SEWER DETAIL: SS01	
LAST REVISION DATE: 08/27/2024	
APPROVED:	10/01/2024

SANITARY SEWER
INTERIOR DROP MANHOLE



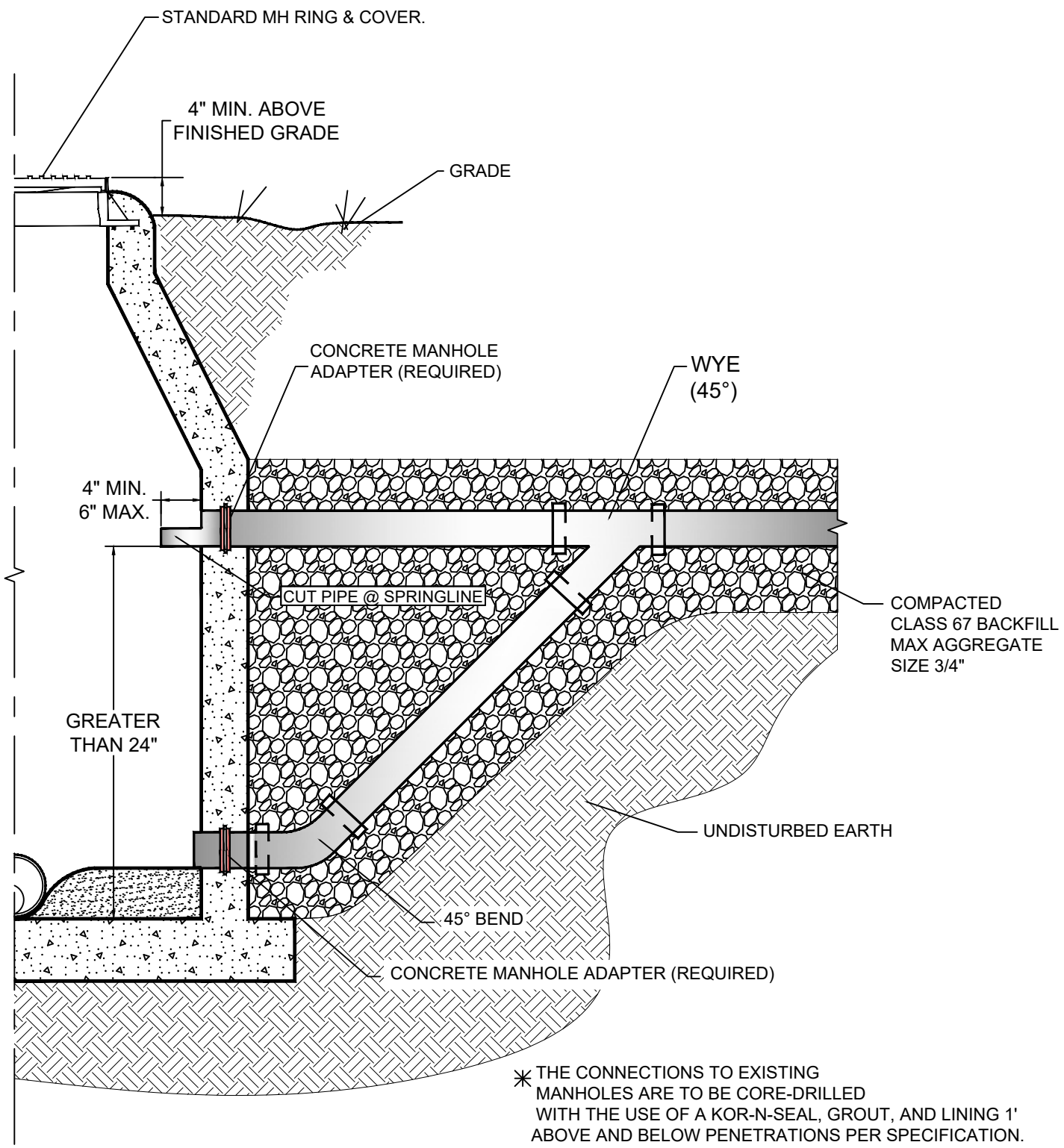
SECTION A-A



NOTE:
INSIDE DROP MANHOLES SHALL BE APPROVED PRIOR TO CONSTRUCTION ON A CASE-BY-CASE BASIS.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	SANITARY SEWER DETAIL: SS02	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

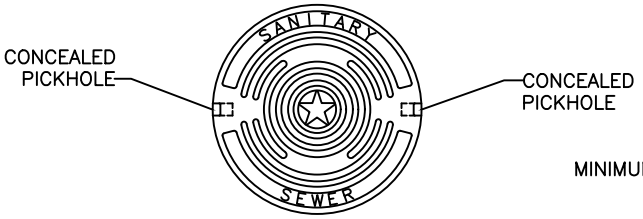
SANITARY SEWER
EXTERIOR DROP MANHOLE



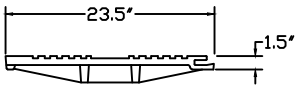
✳ THE CONNECTIONS TO EXISTING MANHOLES ARE TO BE CORE-DRILLED WITH THE USE OF A KOR-N-SEAL, GROUT, AND LINING 1' ABOVE AND BELOW PENETRATIONS PER SPECIFICATION.

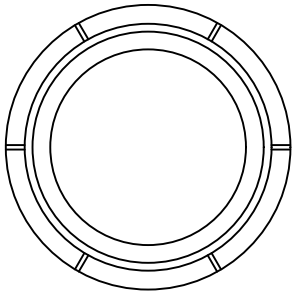
THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	SANITARY SEWER DETAIL: SS03	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

HEAVY DUTY MANHOLE LID & FRAME



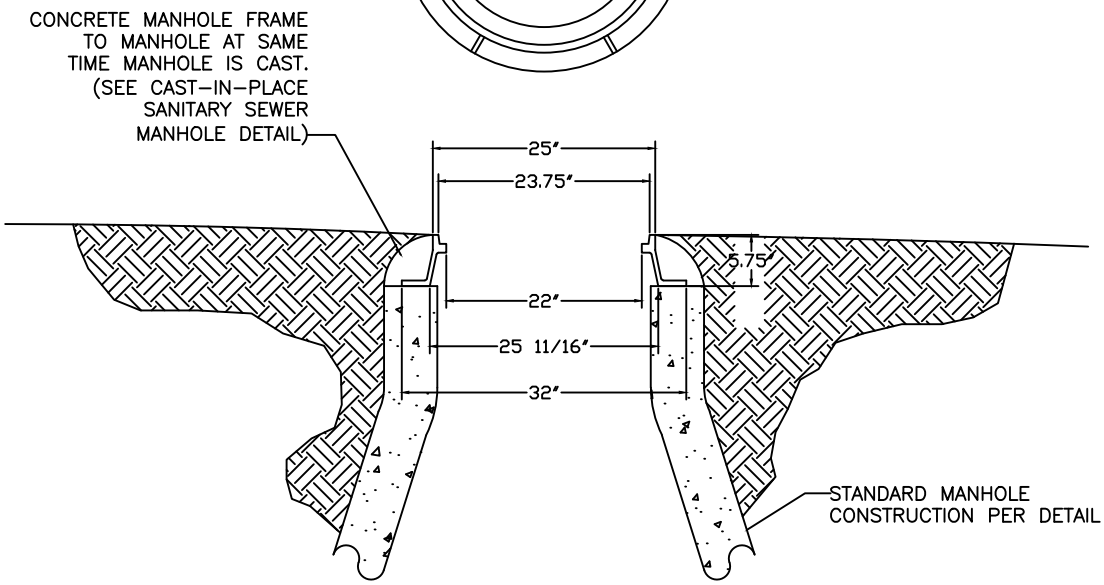
MINIMUM 260LB IN STREETS





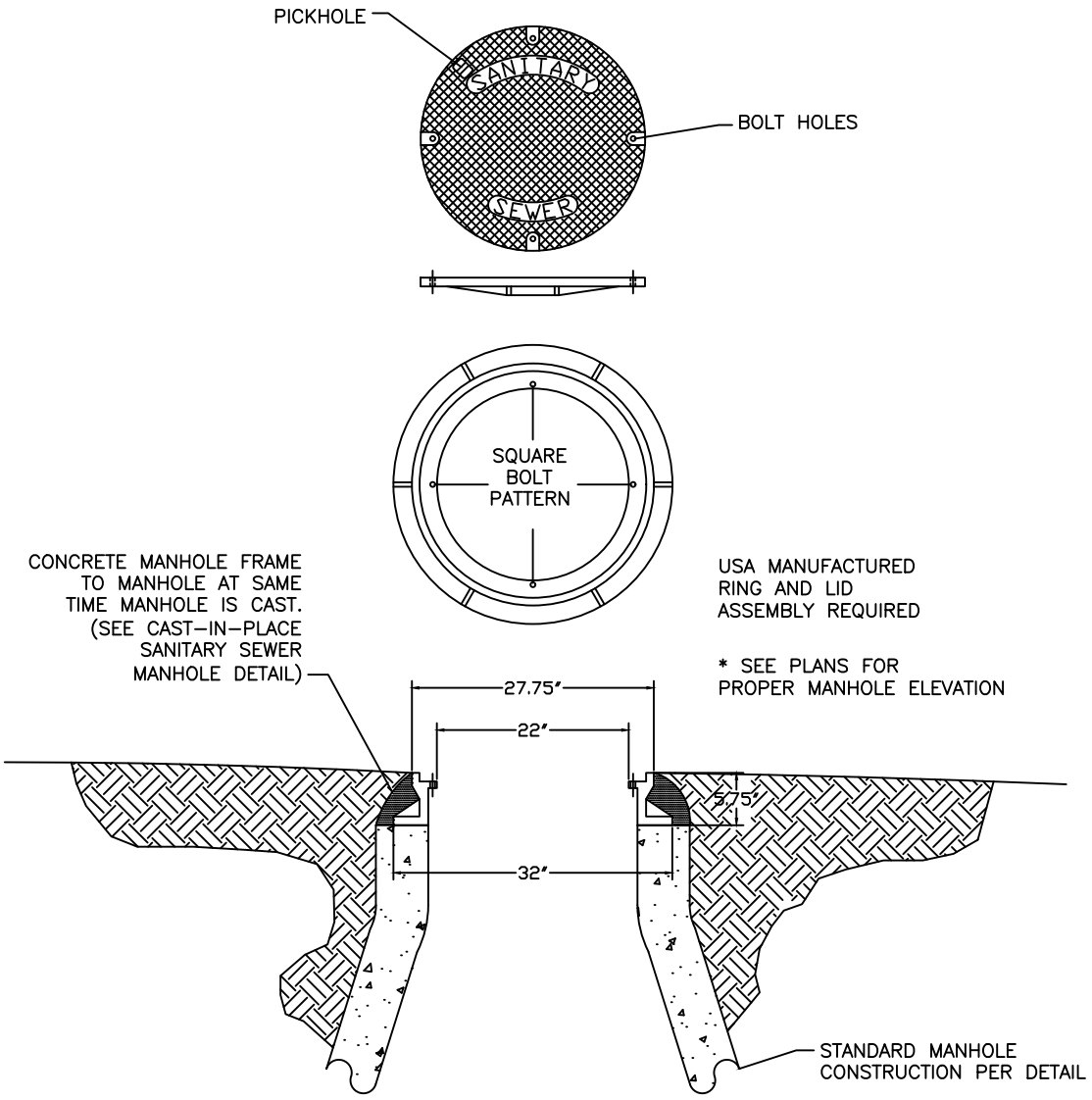
USA MANUFACTURED
RING AND LID
ASSEMBLY REQUIRED

* SEE PLANS FOR
PROPER MANHOLE ELEVATION



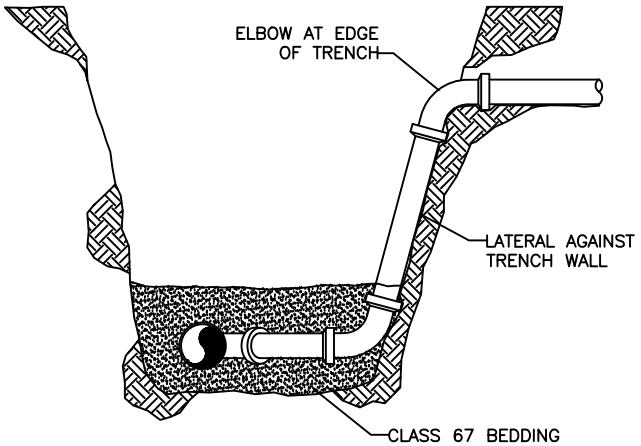
DRAWN BY: JI	CHECKED BY: PN
SANITARY SEWER DETAIL: SS04	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

WATER TIGHT BOLTED MANHOLE LID & FRAME

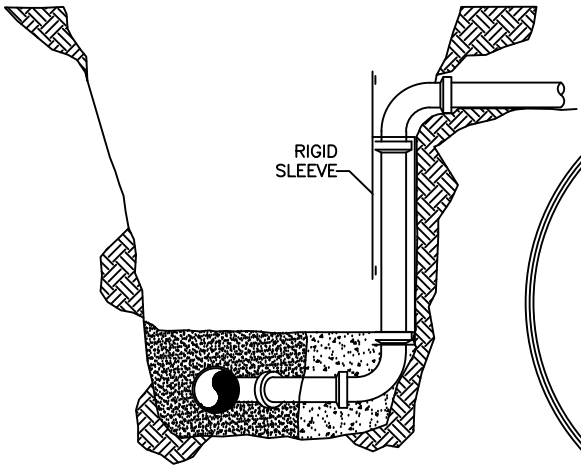


THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	SANITARY SEWER DETAIL: SS05	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

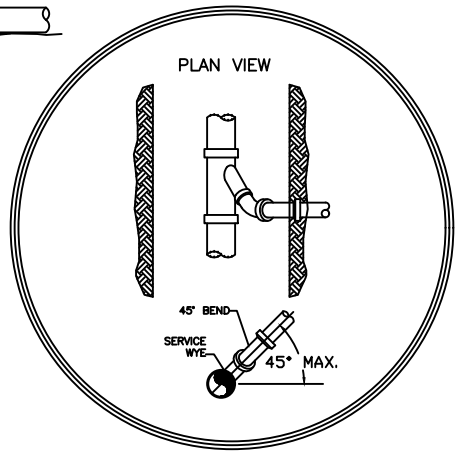
SANITARY SEWER
SERVICE WYE

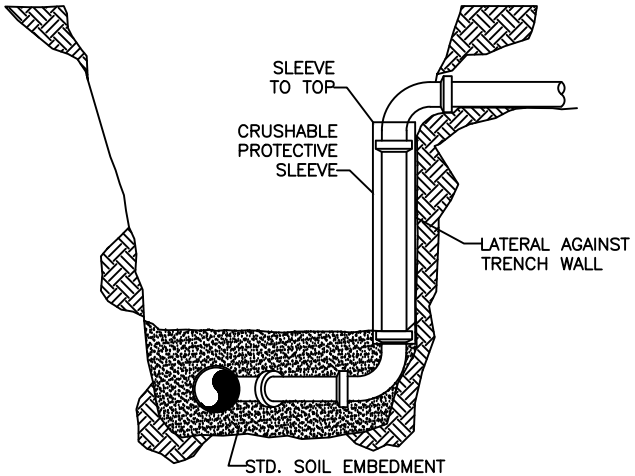


FOR MODERATE TRENCH DEPTH

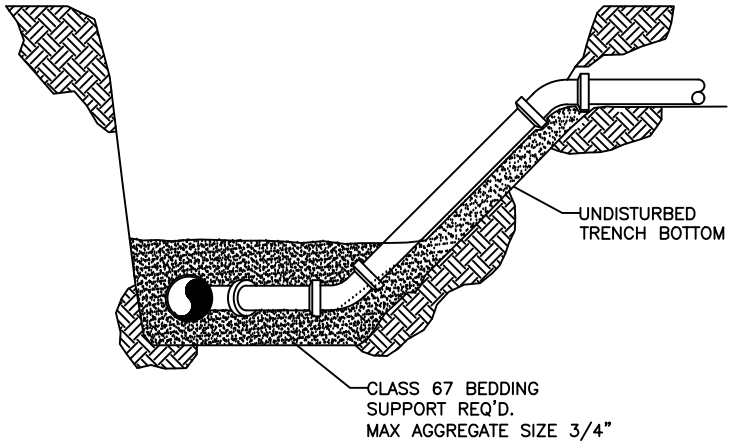


RIGID SLEEVE FOR ANY TRENCH
(CONCRETE MUST SUPPORT SLEEVE)





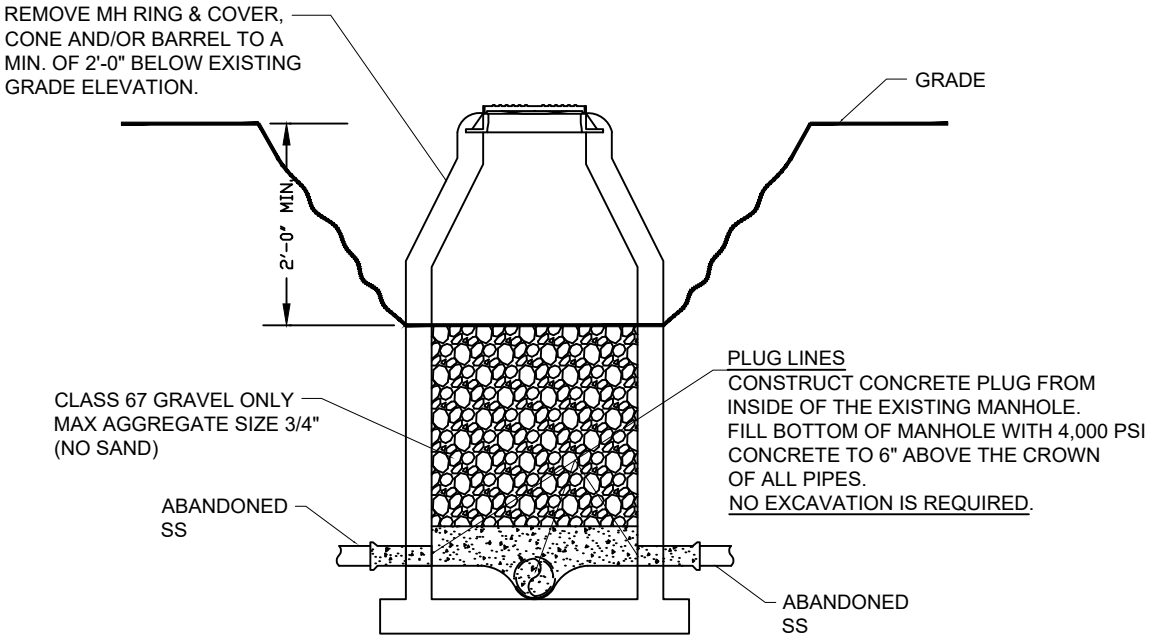
CRUSHABLE SLEEVE – ANY DEPTH
(SLEEVE OF NEAR ZERO COLUMN STRENGTH)

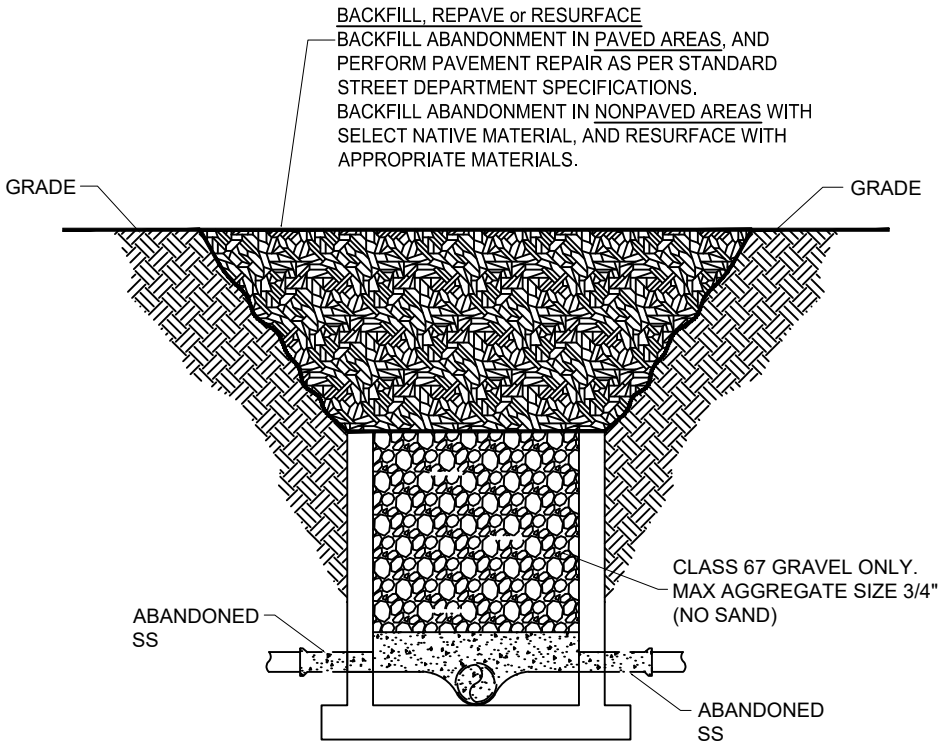


SLOPING LATERAL TRENCH – ANY DEPTH
(SLOPE AT 1:1 OR FLATTER)

DRAWN BY: JI	CHECKED BY: PN
SANITARY SEWER DETAIL: SS06	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

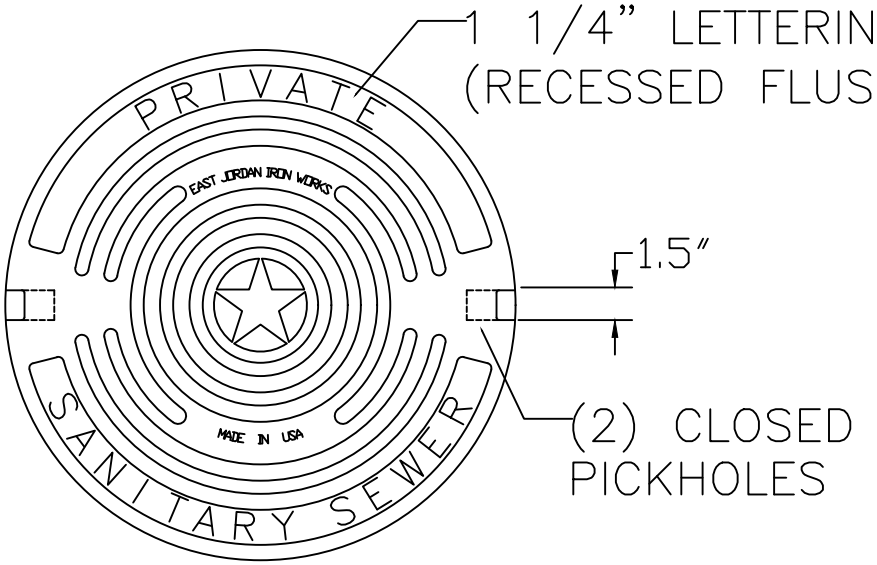
EXISTING MANHOLE ABANDONMENT DETAIL 5 FT OR DEEPER

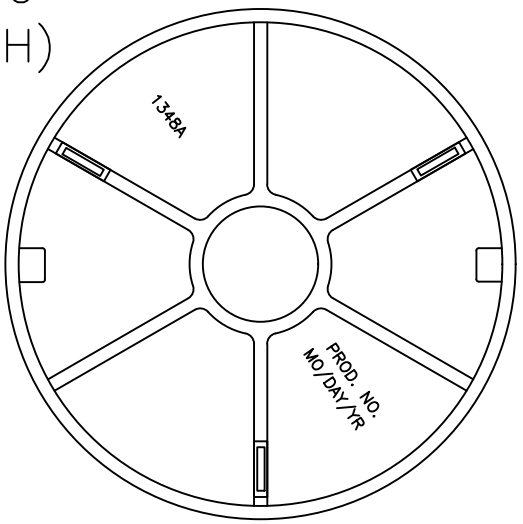




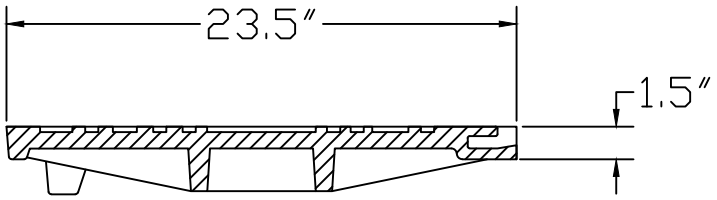
THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	SANITARY SEWER DETAIL: SS07	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

PRIVATE MANHOLE
RING AND LID

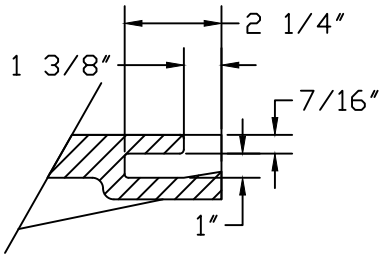




BOTTOM VIEW



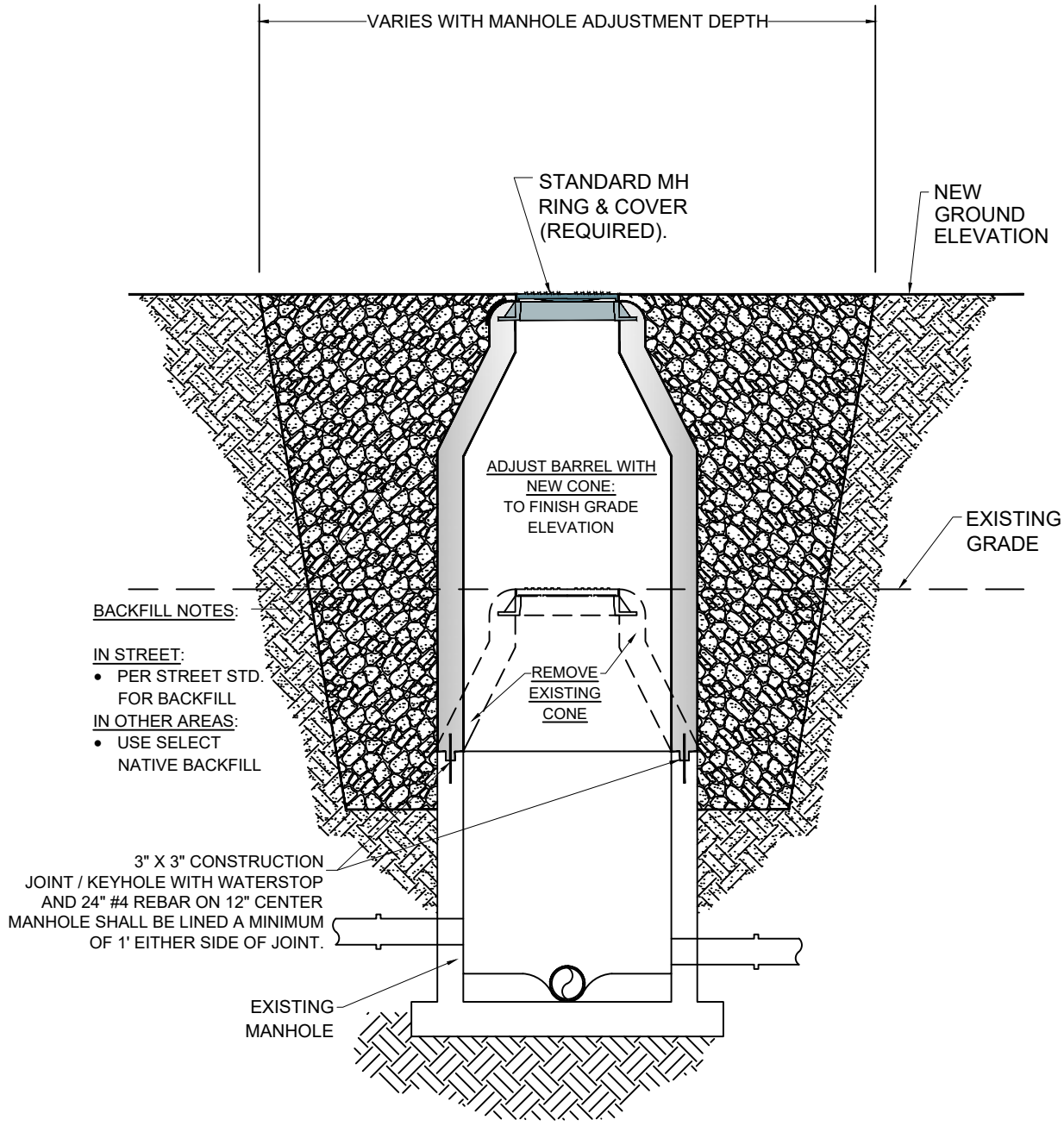
COVER SECTION



PICKHOLE DETAIL

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	SANITARY SEWER DETAIL: SS08	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

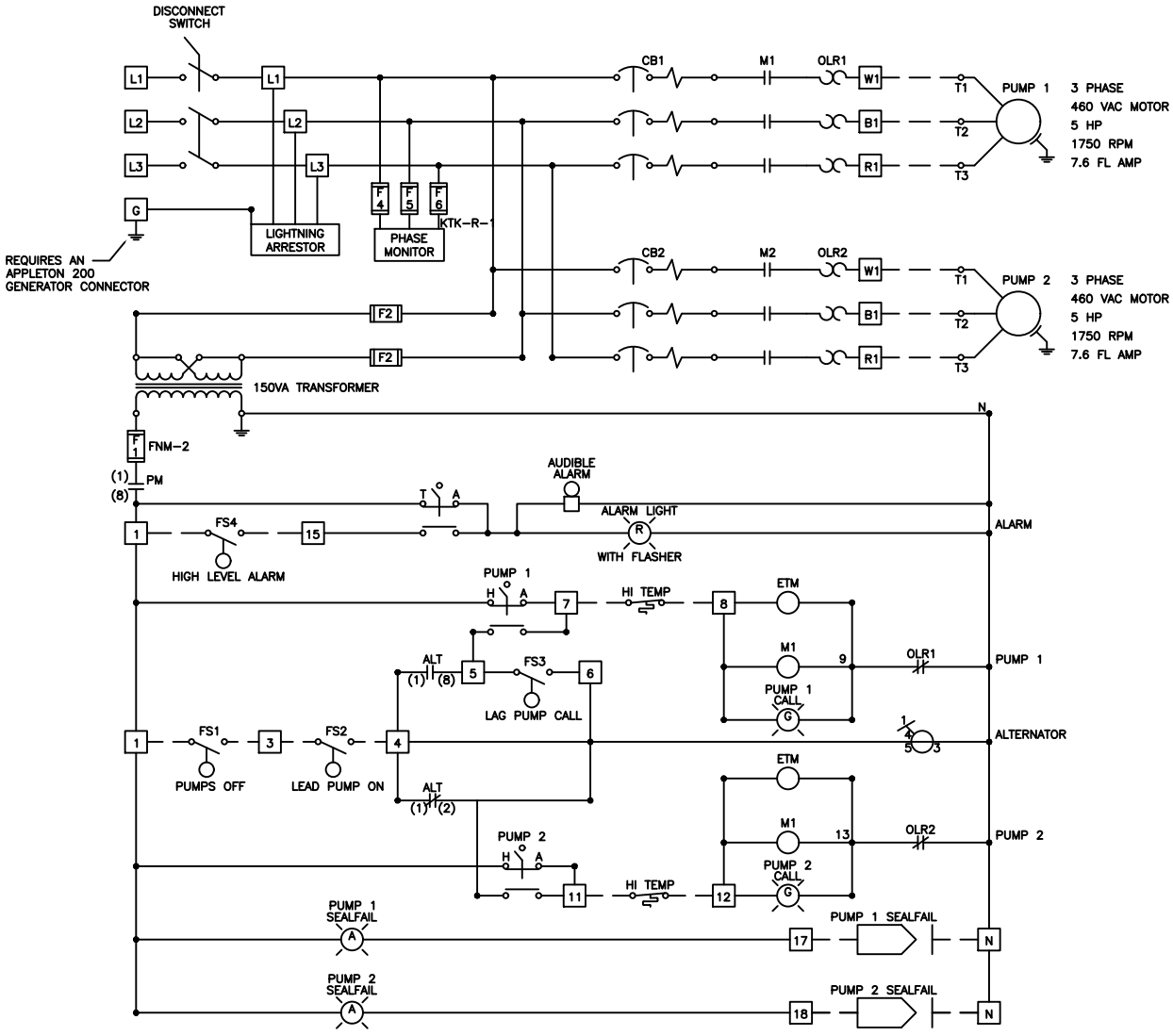
TYPICAL MANHOLE
ADJUST TO GRADE DETAIL



THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JS	CHECKED BY: AW
	SANITARY SEWER DETAIL: SS09	
	LAST REVISION DATE: 08/27/2024	
	APPROVED:	10/01/2024

DUPLEX PUMP CONTROL PANEL

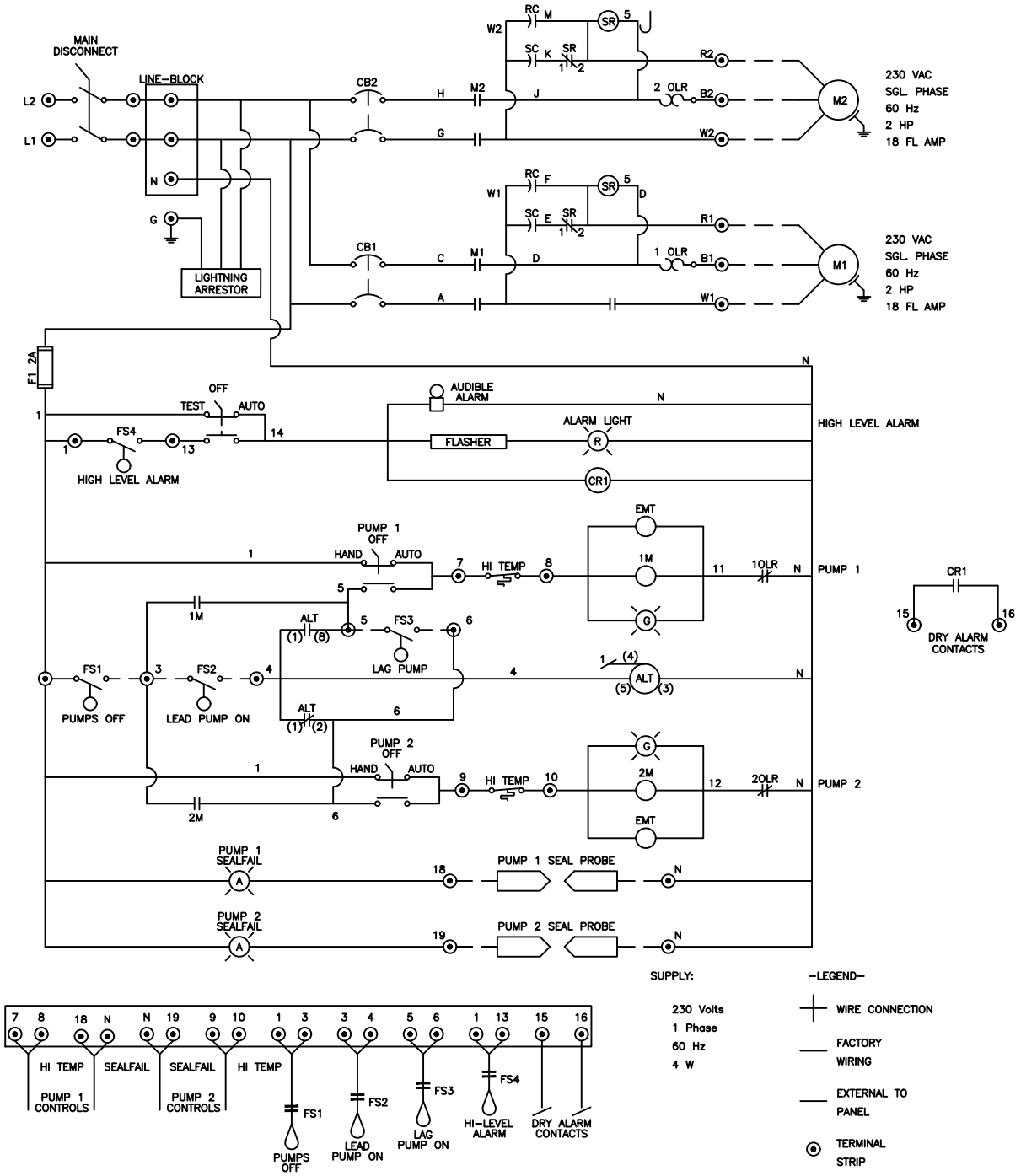
480 V / 3 PHASE



DRAWN BY: JI	CHECKED BY: PN
LIFT STATION DETAIL: LS01	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

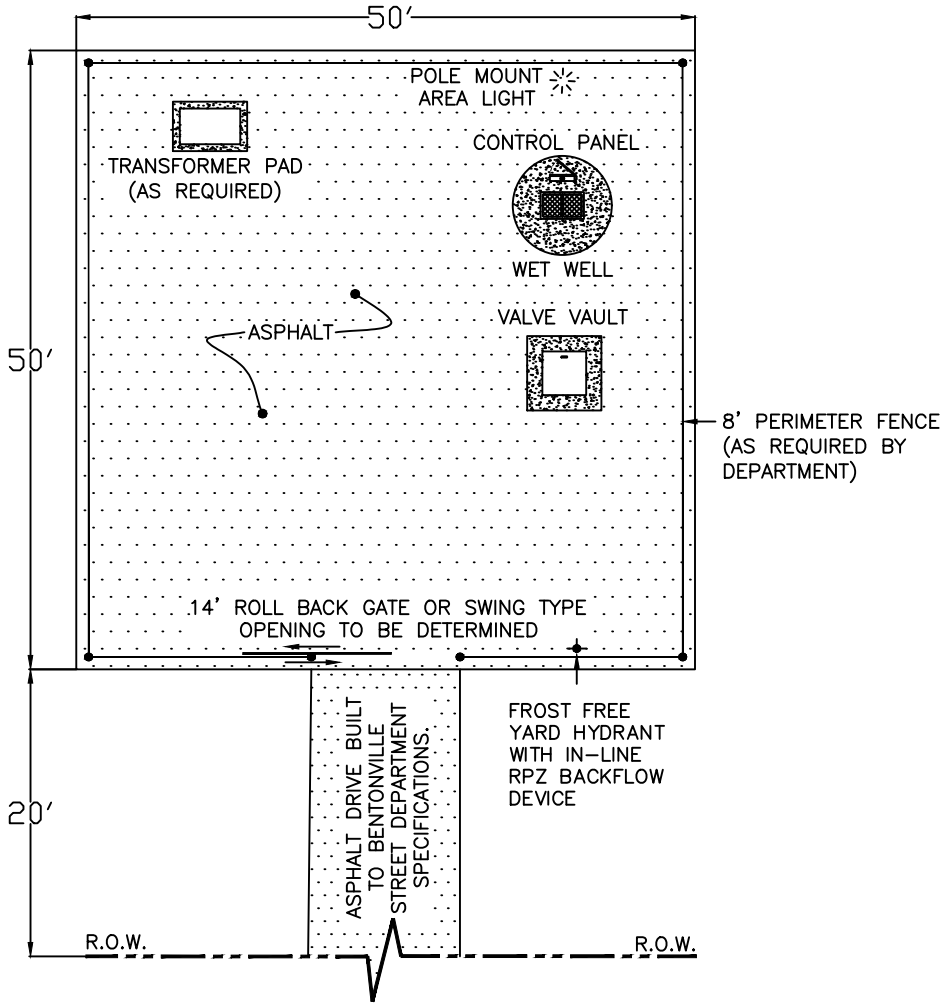
DUPLEX PUMP CONTROL PANEL

230 V / SINGLE PHASE



DRAWN BY: JI	CHECKED BY: PN
LIFT STATION DETAIL: LS02	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

LIFT STATION SITE DETAIL



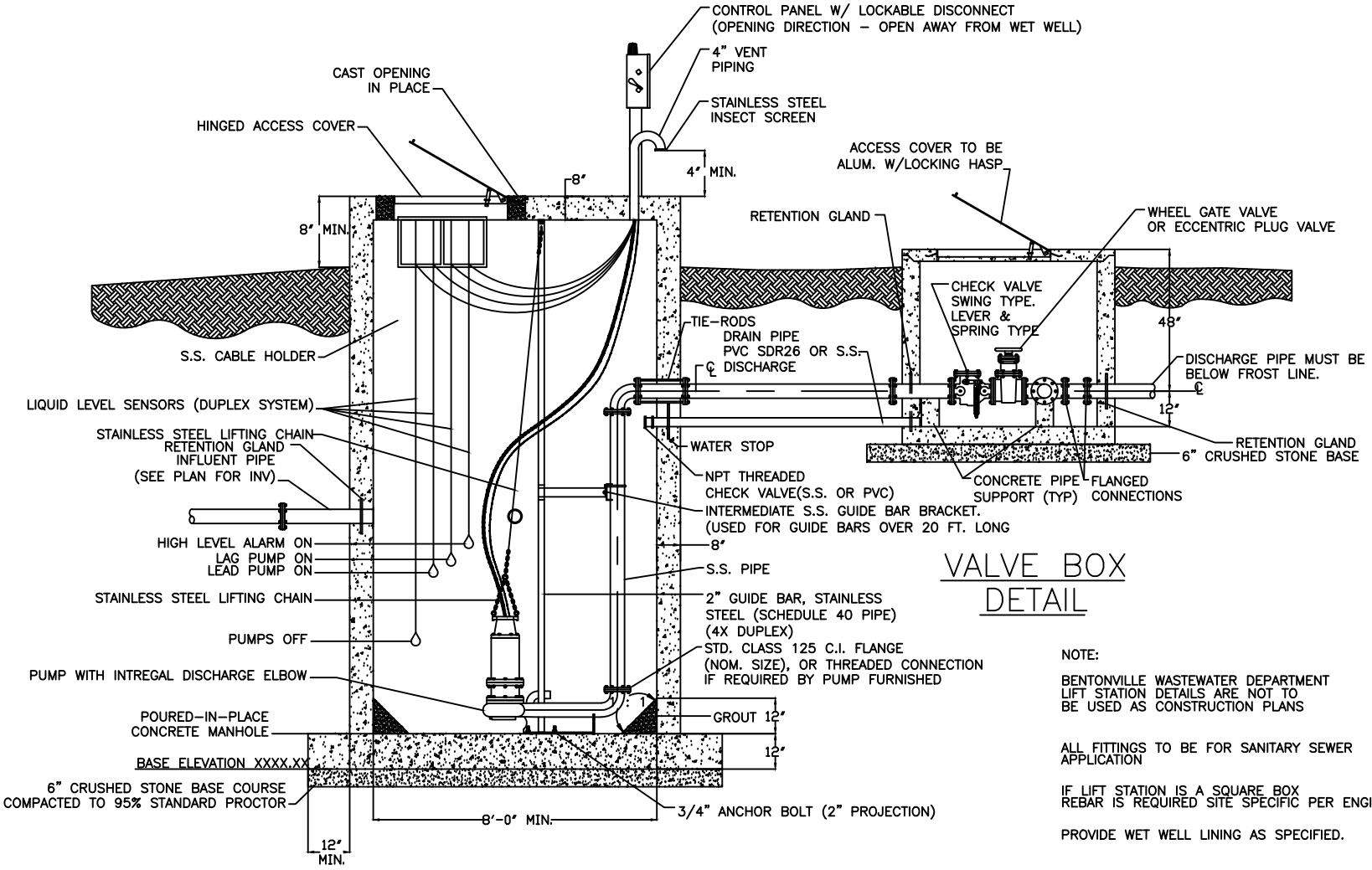
*ACTUAL SITE LAYOUT MAY VARY

BENTONVILLE WASTEWATER DEPARTMENT
LIFT STATION DETAILS ARE NOT TO
BE USED AS CONSTRUCTION PLANS

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	LIFT STATION DETAIL: LS03	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

LIFT STATION DETAIL

NON-CLOG PUMPS ABOVE 5 HP



VALVE BOX DETAIL

NOTE:

BENTONVILLE WASTEWATER DEPARTMENT LIFT STATION DETAILS ARE NOT TO BE USED AS CONSTRUCTION PLANS

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

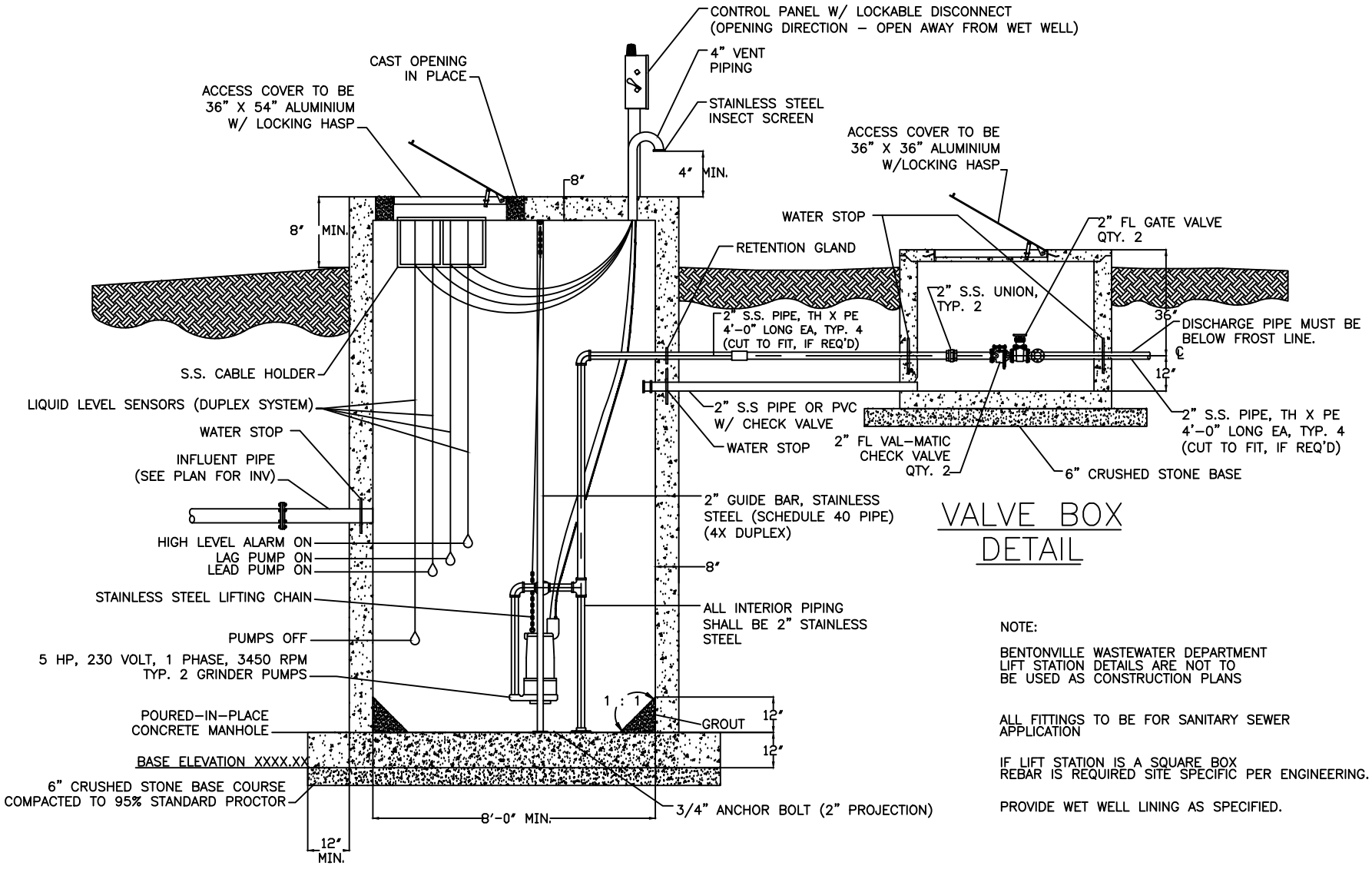
IF LIFT STATION IS A SQUARE BOX REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

PROVIDE WET WELL LINING AS SPECIFIED.

DRAWN BY: JI	CHECKED BY: PN
LIFT STATION DETAIL: LS04	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

LIFT STATION DETAIL

GRINDER PUMPS 5 HP AND LESS



VALVE BOX DETAIL

NOTE:

BENTONVILLE WASTEWATER DEPARTMENT LIFT STATION DETAILS ARE NOT TO BE USED AS CONSTRUCTION PLANS

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

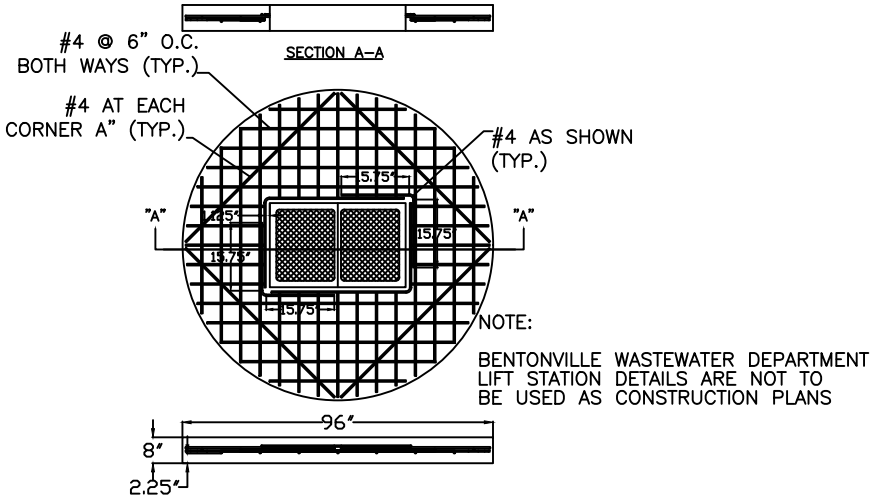
IF LIFT STATION IS A SQUARE BOX REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

PROVIDE WET WELL LINING AS SPECIFIED.

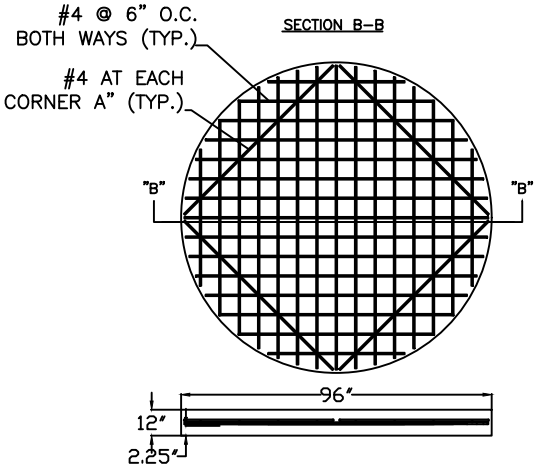
DRAWN BY: JI	CHECKED BY: PN
LIFT STATION DETAIL: LS05	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

WET WELL

TOP SLAB REINFORCEMENT DETAIL

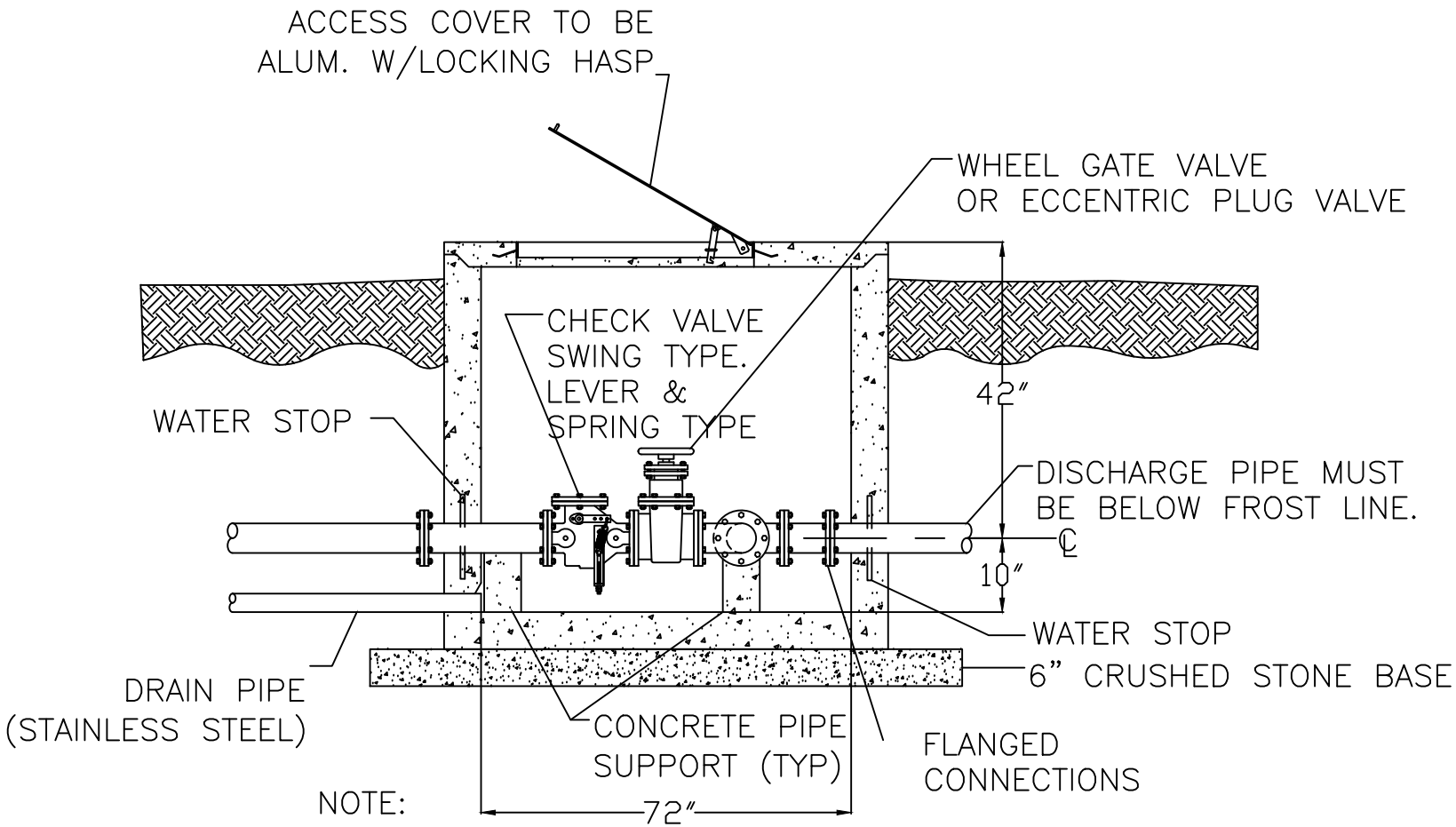


BOTTOM SLAB REINFORCEMENT DETAIL



THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	LIFT STATION DETAIL: LS06	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

LIFT STATION VALVE VAULT DETAIL

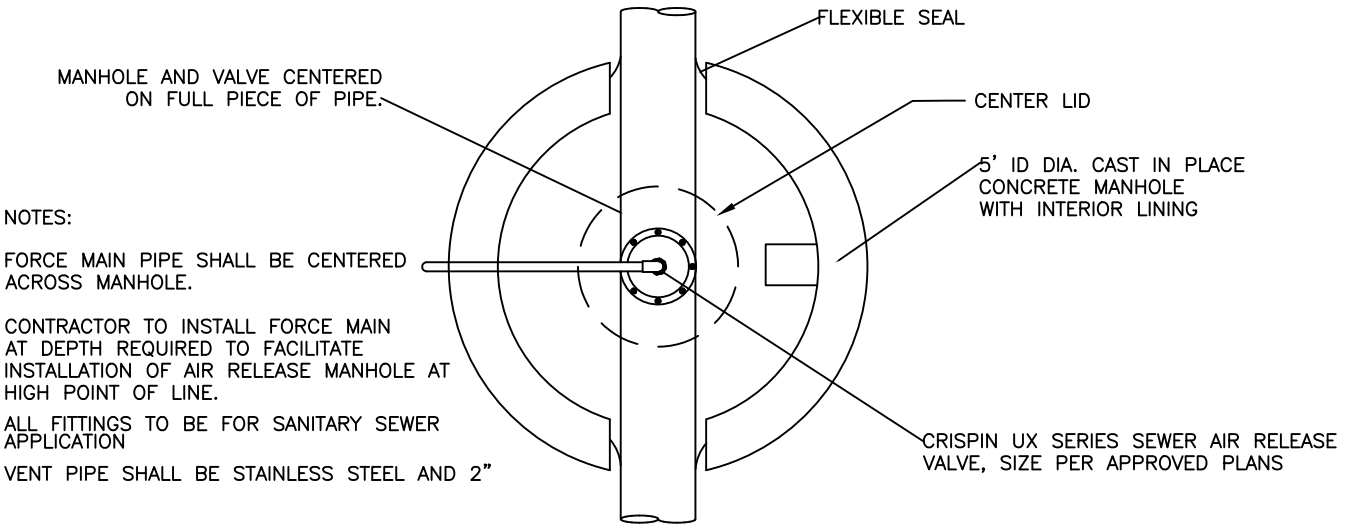


NOTE:
REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	LIFT STATION DETAIL: LS07	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

AIR VACUUM/RELEASE MANHOLE FOR FORCE MAIN

NOT TO SCALE



NOTES:

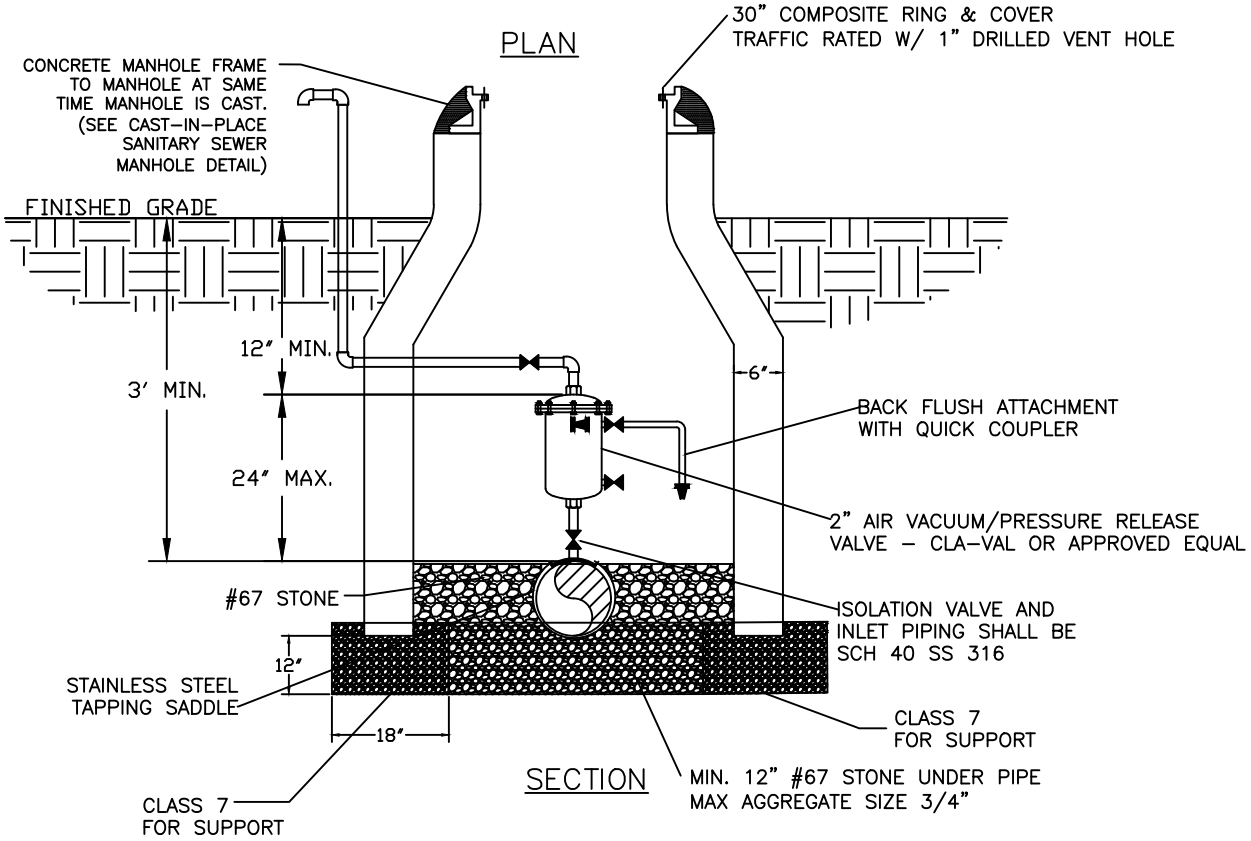
FORCE MAIN PIPE SHALL BE CENTERED ACROSS MANHOLE.

CONTRACTOR TO INSTALL FORCE MAIN AT DEPTH REQUIRED TO FACILITATE INSTALLATION OF AIR RELEASE MANHOLE AT HIGH POINT OF LINE.

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

VENT PIPE SHALL BE STAINLESS STEEL AND 2"

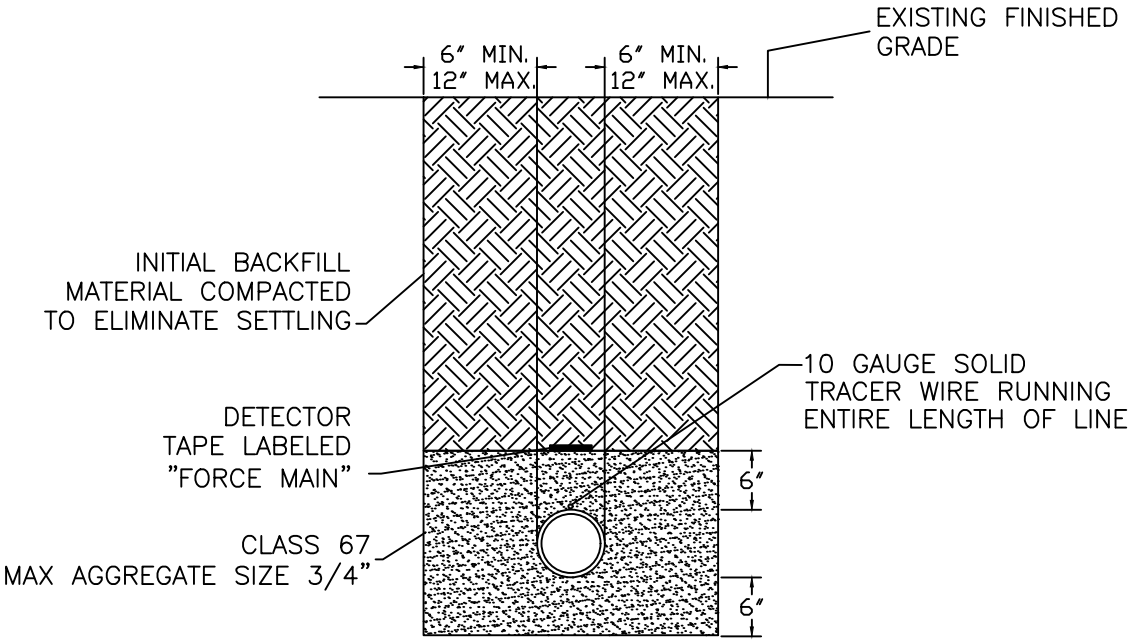
PLAN



SECTION

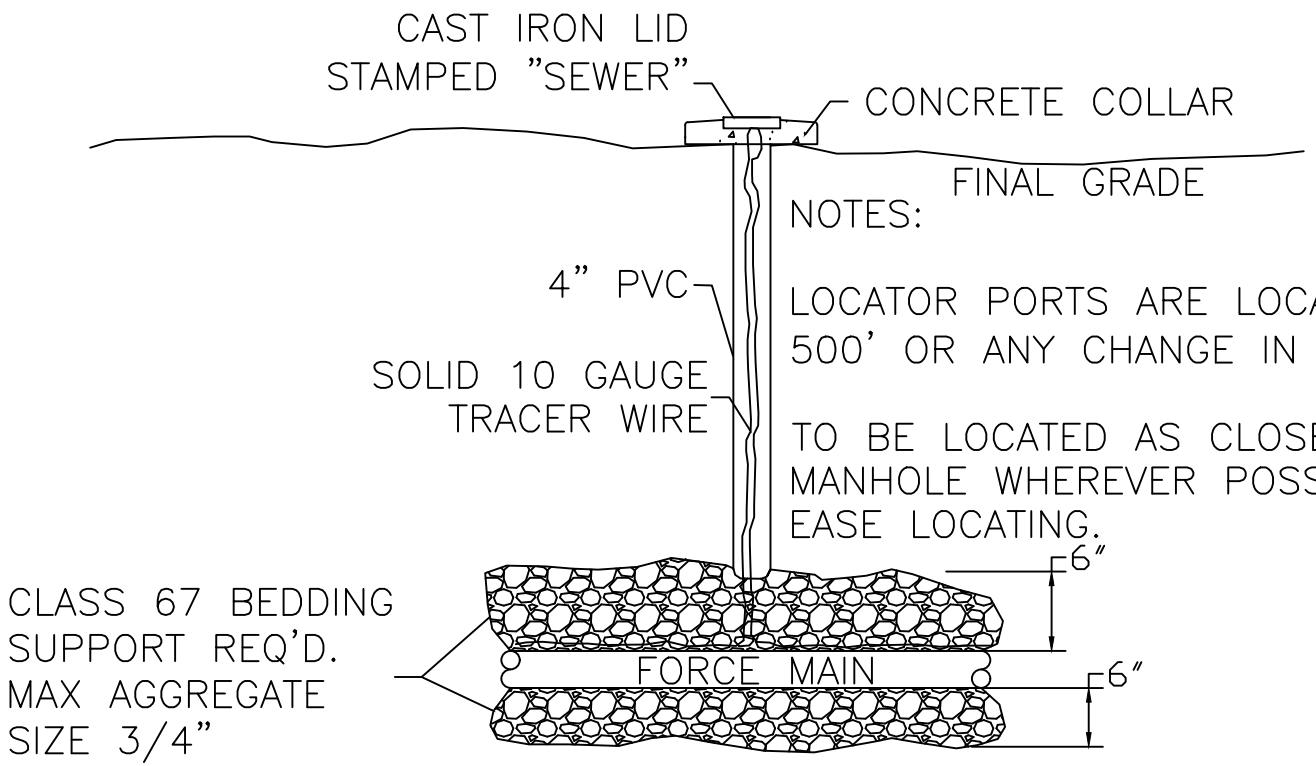
DRAWN BY: JS	CHECKED BY: AW
LIFT STATION DETAIL: LS08	
LAST REVISION DATE: 08/27/2024	
APPROVED:	10/01/2024

TYPICAL BEDDING DETAIL
FOR FORCE MAIN



THE CITY OF WATER B UTILITIES BENTONVILLE	DRAWN BY: JI	CHECKED BY: PN
	LIFT STATION DETAIL: LS09	
	LAST REVISION DATE: 01/27/2020	
	APPROVED:	06/22/2021

TRACER WIRE PORT



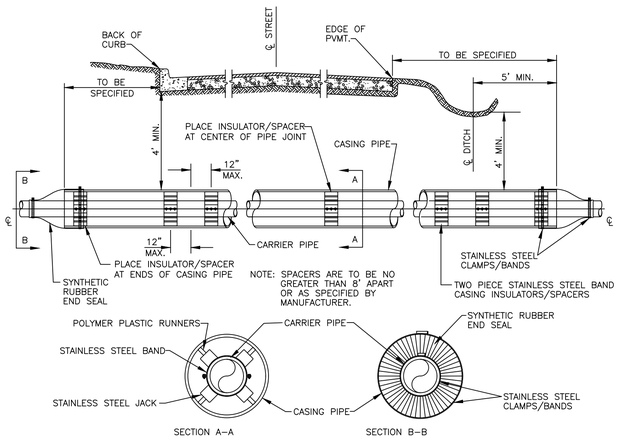
NOTES:

LOCATOR PORTS ARE LOCATED EVERY 500' OR ANY CHANGE IN DIRECTION.

TO BE LOCATED AS CLOSE TO A MANHOLE WHEREVER POSSIBLE TO EASE LOCATING.

DRAWN BY: JI	CHECKED BY: PN
LIFT STATION DETAIL: LS10	
LAST REVISION DATE: 01/27/2020	
APPROVED:	06/22/2021

ENCASEMENT DETAIL



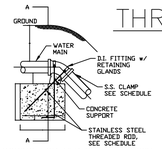
CARRIER & CASING SIZES										
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CASING	16"	16"	16"	18"	24"	24"	30"	30"	36"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

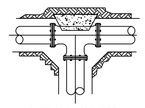
*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

GENERAL WATER/SEWER DETAIL: GWS01

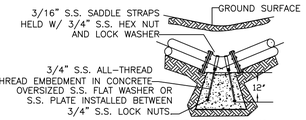
THRUST BLOCKING



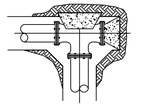
BLOCKING FOR VERTICAL TIE DOWN



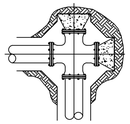
BLOCKING FOR TEE



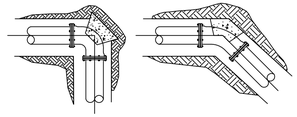
TYPICAL BLOCKING FOR VERTICAL BENDS



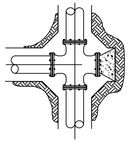
SPECIAL BLOCKING OF TEE & PLUG (WHEN DIRECTED BY WATER DEPT.)



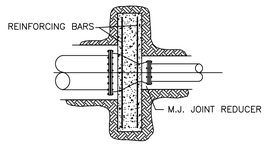
TYPICAL SECTION OF CROSS & 2 PLUG BLOCKING (WHEN DIRECTED BY WATER DEPT.)



TYPICAL BLOCKING FOR HORIZONTAL BENDS



TYPICAL SECTION OF CROSS & PLUG BLOCKING (WHEN DIRECTED BY WATER DEPT.)



THRUST SUPPORT FOR REDUCER (SIZE TO BE DETERMINED BY WATER DEPT.)

NOTES
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE.
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES AND THE DEPARTMENT.
8. 12" OF ALL THREAD EMBEDED IN CONCRETE
9. MIN. 5/8" ALL THREAD FOR SECTIONS 10FT OR UNDER

GENERAL WATER/SEWER DETAIL: GWS02

REACTION BACKING TABLE

BLOCKING SCHEDULE					
PIPE SIZE		BENDS			ROD DIA.
		45°	22 1/2°	11 1/4°	
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	3/4 IN.
	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	
	C (FT.)	5.00'	4.00'	3.00'	
	MIN. CLAMP (2 EA.)	3/8 IN. x 2 IN.			
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	3/4 IN.
	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	
	C (FT.)	6.00'	5.00'	4.00'	
	MIN. CLAMP (2 EA.)	1/2 IN. x 2 IN.			
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	1 IN.
	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	
	C (FT.)	8.00'	6.50'	5.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	1 1/4 IN.
	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	
	C (FT.)	9.50'	7.50'	6.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			

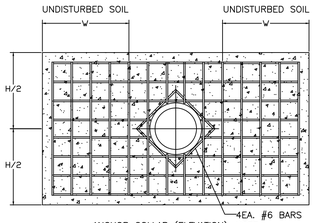
VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 250 PSI, 50 PSI SURGE AND THE WEIGHT OF CONCRETE IS 150 POUNDS PER CU. FT.

NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
3. WRAP ALL FITTINGS WITH POLY WRAP.
4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

GENERAL WATER/SEWER DETAIL: GWS03

ANCHOR COLLAR SPECIFICATIONS

ANCHOR COLLAR SCHEDULE						
PIPE SIZE	DIMENSIONS				REINFORCING BARS	
	W	H	T	M	"A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
8"	1.5'	2.5'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
12"	2.0'	4.0'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
16"	3.0'	4.5'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
20"	3.0'	5.0'	2.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
24"	3.5'	5.5'	2.0'	M.J. RETAINER GLAND	#7@6"	#6@10"
30"	6.5'	6.0'	2.5'	4"	#8@6"	#7@10"
36"	7.0'	7.0'	2.5'	4"	#8@6"	#7@10"



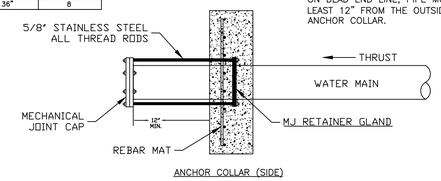
ANCHOR COLLAR (ELEVATION)

ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTE:
USE M.J. RETAINER GLANDS FOR PIPE 24" AND SMALLER.

NOTE:
PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE 4000 PSI CONCRETE COLLAR IS POURED.

NOTE:
ON DEAD END LINE, PIPE MUST EXTEND AT LEAST 12" FROM THE OUTSIDE EDGE OF ANCHOR COLLAR.

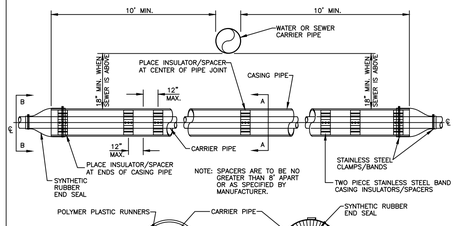


ANCHOR COLLAR (SIDE)

NOTE:
ALL-THREAD STEEL RODS SHALL BE 5/8" STAINLESS STEEL WITH STAINLESS STEEL HARDWARE.

GENERAL WATER/SEWER DETAIL: GWS04

ENCASEMENT CROSSING DETAIL



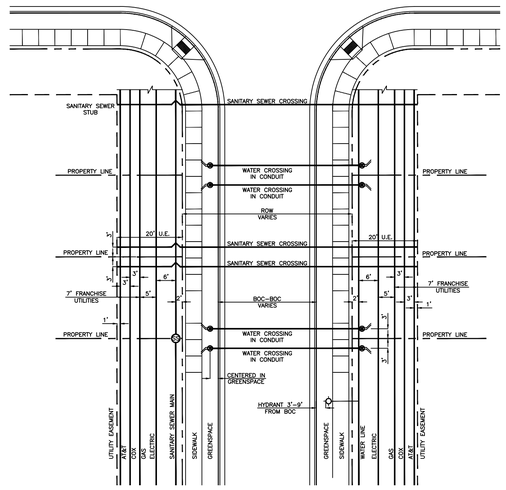
CARRIER & CASING SIZES										
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CASING	16"	16"	16"	18"	24"	24"	30"	30"	36"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED BY APPROVED METHOD.

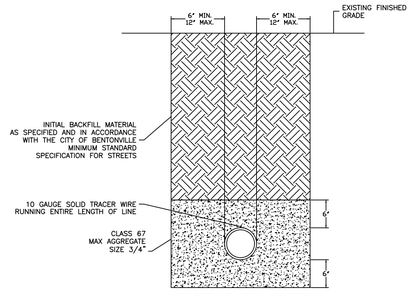
GENERAL WATER/SEWER DETAIL: GWS05

SUBDIVISION UTILITY PLACEMENT



GENERAL WATER/SEWER DETAIL: GWS06

TYPICAL BEDDING DETAIL



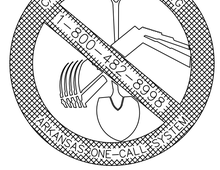
* REFER TO STREET SPECIFICATIONS FOR STREET REPAIR INFORMATION

GENERAL WATER/SEWER DETAIL: GWS07

THE CITY OF WATER B UTILITIES BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER/SEWER DETAILS



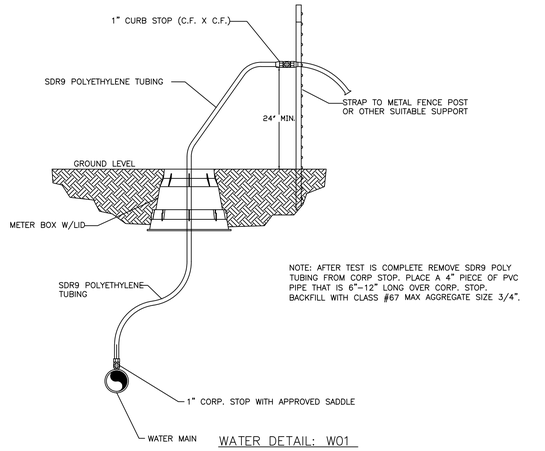
REVISIONS:

Adopted by City Council XX/XX/2024
Ordinance Number: XXXX-XXX

Changes Proposed by Water Dept. 08/27/2024

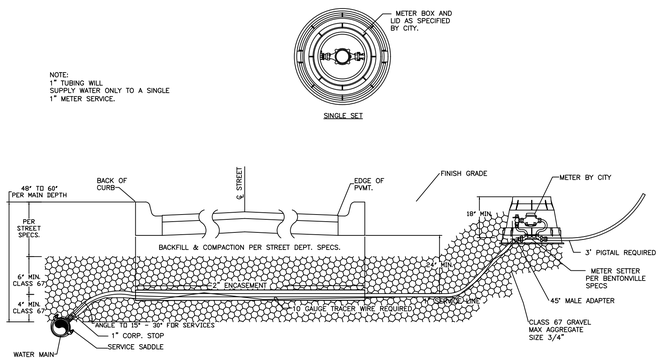
DRAWN BY:	JS	DATE:	08/27/2024
APPROVED BY:	AW	DATE:	08/27/2024
SHEET NUMBER:	1	OF	1

TEMPORARY 1" BLOW OFF ASSEMBLY SAMPLE POINTS



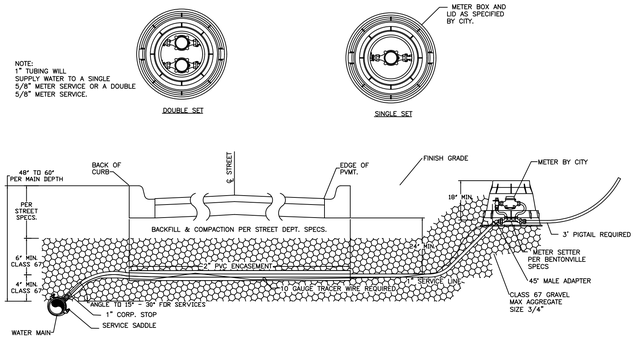
WATER DETAIL: W01

WATER SERVICE DETAIL 1"



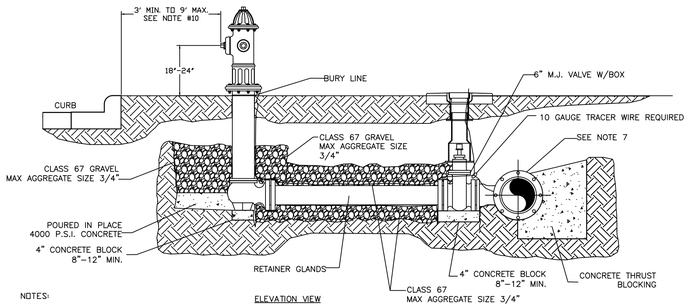
WATER DETAIL: W02

WATER SERVICE DETAIL 5/8"



WATER DETAIL: W03

FIRE HYDRANT DETAIL W/ RETAINER GLANDS



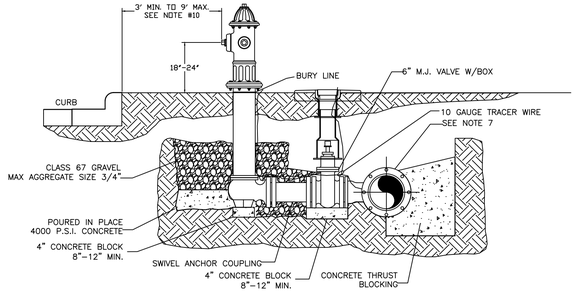
ELEVATION VIEW

NOTES:

1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRIVING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W04

FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING



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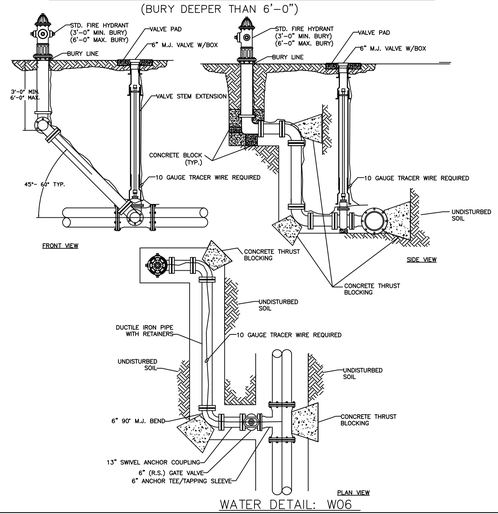
WATER DETAIL: W05

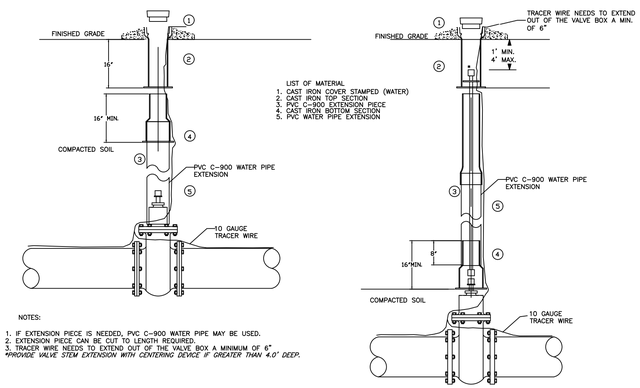
DEEP BURY FIRE HYDRANTS

(BURY DEEPER THAN 6'-0")



WATER DETAIL: W06

VALVE BOX VALVE STEM & TRACER WIRE INSTALLATION



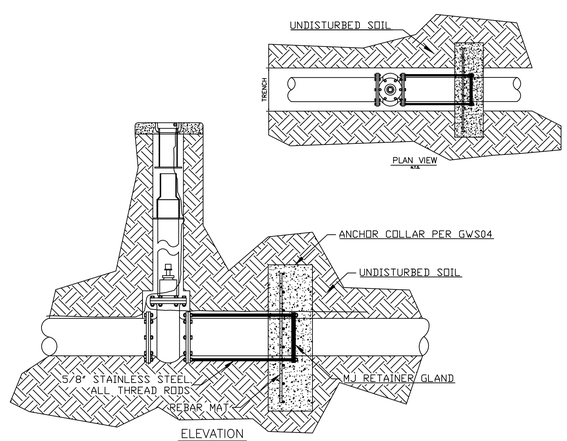
NOTES:

1. IF EXTENSION PIECE IS NEEDED, PVC C-900 WATER PIPE MAY BE USED.
2. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED.
3. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6"

*PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4.0' DEEP.

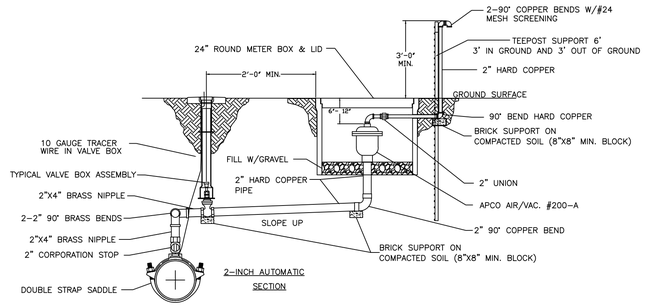
WATER DETAIL: W07

RESTRAINED GATE VALVE



WATER DETAIL: W08

2" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:

1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W09

THE CITY OF WATER B UTILITIES BENTONVILLE

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Bentonville, AR 72712
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WATER DETAILS

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REVISIONS:

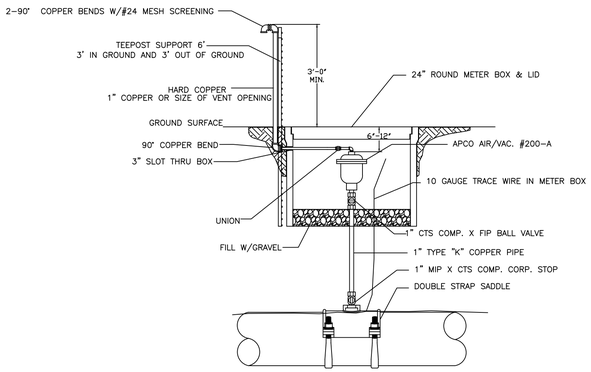
Adopted by City Council XX/XX/2024
Ordinance Number: XXXX-XXX

Changes Proposed by Water Dept. 08/27/2024

NOTES:

DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 1	OF 2

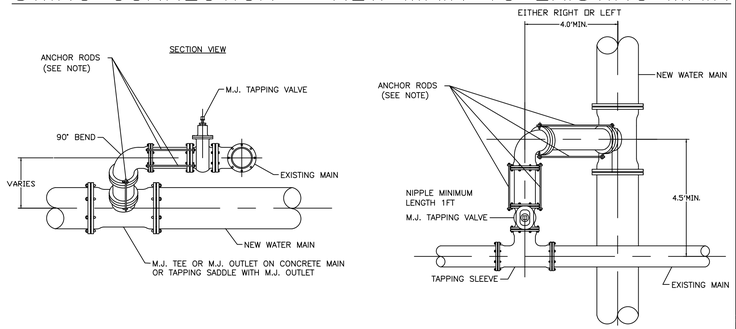
1" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W10

SWING CONNECTION – NEW MAIN TO EXISTING MAIN



THRUST BLOCKING REQUIRED AT TEES AND ELBOWS.

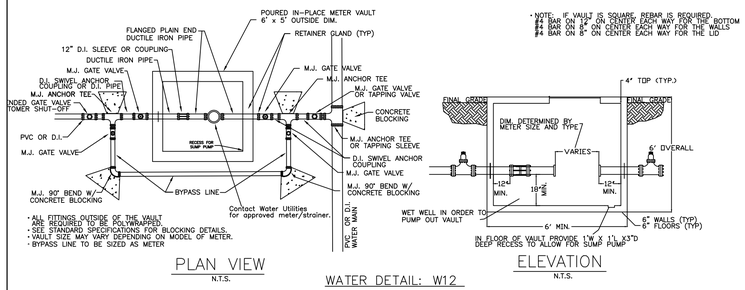
ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
2. DIMENSIONS SHOWN ARE RECOMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED)
3. PROVIDE STAINLESS STEEL "ALL THREAD(MIN 5/8")" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
5. ROTATE TEE UP & ELBOW DOWN AS REQUIRED TO MATCH.
6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

WATER DETAIL: W11

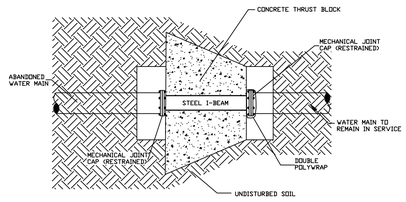
METER VAULT DETAIL FOR 4" – 8" METERS (TYPICAL)

(DIMENSIONS MAY VARY FOR METER SIZES)



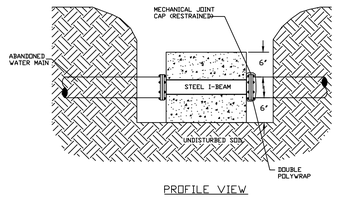
WATER DETAIL: W12

CUT/CAP DETAIL



PLAN VIEW

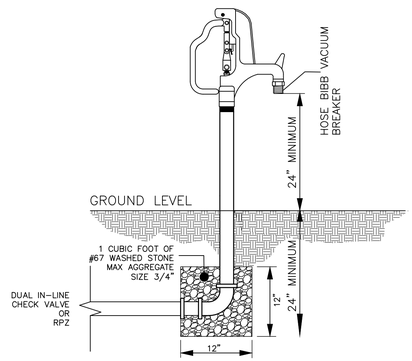
* STEEL I-BEAM TO BE SIZED BY PROJECT ENGINEER AND INCLUDED IN THE PROJECT SUBMITTAL.



PROFILE VIEW

WATER DETAIL: W13

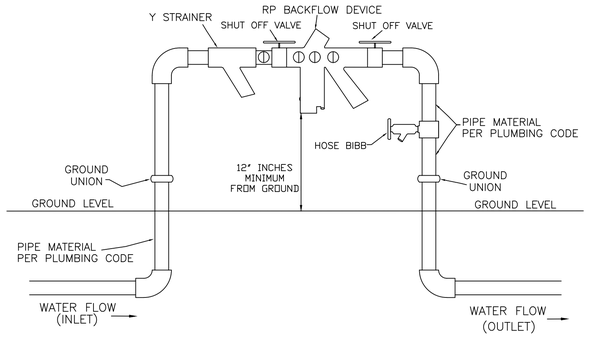
FROST FREE HOSE BIBB WITH BACKFLOW PREVENTION



ELEVATION
N.T.S.

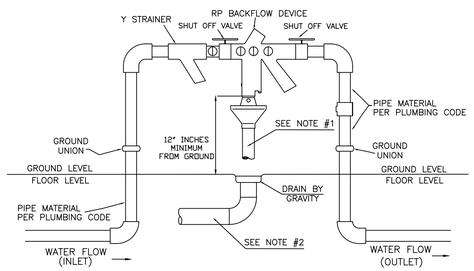
WATER DETAIL: W14

REDUCED PRESSURE (RP) BACKFLOW EXTERIOR IRRIGATION ONLY



WATER DETAIL: W15

REDUCED PRESSURE (RP) BACKFLOW INTERIOR DOMESTIC OR IRRIGATION

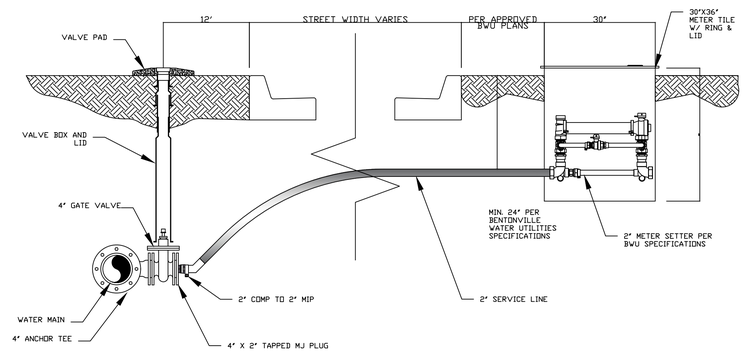


INDOOR APPLICATION ONLY NOTES:

1. AN AIR GAP DRAIN IS REQUIRED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.
2. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

WATER DETAIL: W16

WATER SERVICE DETAIL 2"



ELEVATION
N.T.S.

*ALL FITTINGS W/O PART NUMBER SHALL BE PER SPECIFICATIONS
*ALL FITTINGS MUST BE ANCHORED TO VALVE OR METER SETTER. NO IN-LINE FITTINGS WILL BE PERMITTED.

WATER DETAIL: W18

THE CITY OF WATER B UTILITIES BENTONVILLE

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Bentonville, AR 72712
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WATER DETAILS

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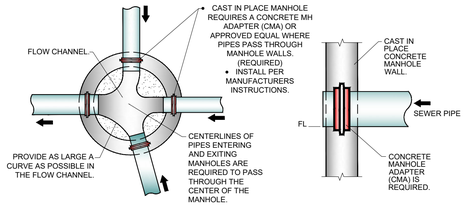
NOTES:

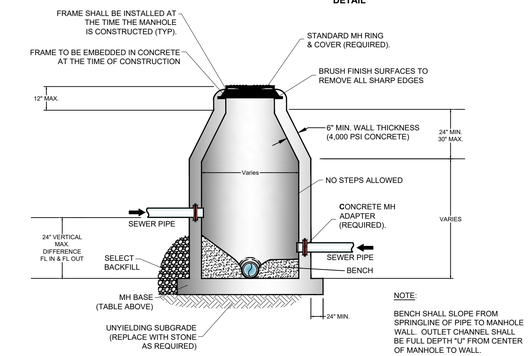
DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 2	OF 2

SANITARY SEWER
CAST IN PLACE MANHOLE



MANHOLE FLOW CHANNEL

CONCRETE MANHOLE ADAPTER (CMA) DETAIL



NOTE:

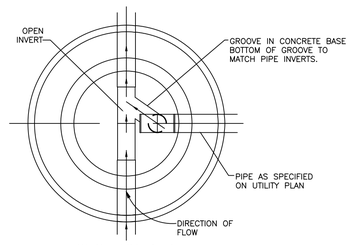
BENCH SHALL SLOPE FROM SPRINGLINE OF PIPE TO MANHOLE WALL. OUTLET CHANNEL SHALL BE FULL DEPTH "U" FROM CENTER OF MANHOLE TO WALL.

Pipe Size	Inside Diameter of Manhole	Minimum Wall Thickness	Base Thickness	Minimum Ring & Cover Size
12" OR LESS	4' DIA	6"	8"	24"
15" TO 24"	5' DIA	8"	10"	24"
>24"	6' DIA	8"	12"	30"

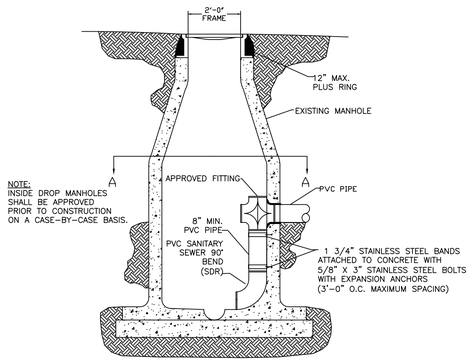
MANHOLE INFORMATION TABLE

SANITARY SEWER DETAIL: SS01

SANITARY SEWER
INTERIOR DROP MANHOLE



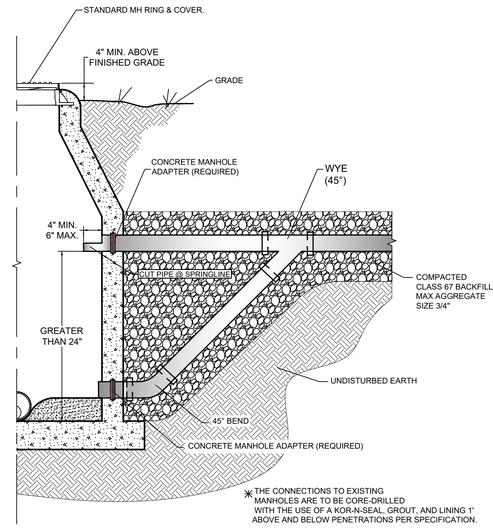
SECTION A-A



NOTE:
INSIDE DROP MANHOLES SHALL BE APPROVED PRIOR TO CONSTRUCTION ON A CASE-BY-CASE BASIS.

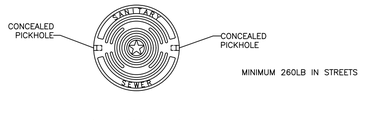
SANITARY SEWER DETAIL: SS02

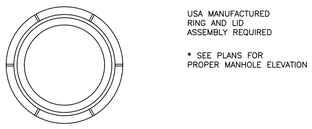
SANITARY SEWER
EXTERIOR DROP MANHOLE

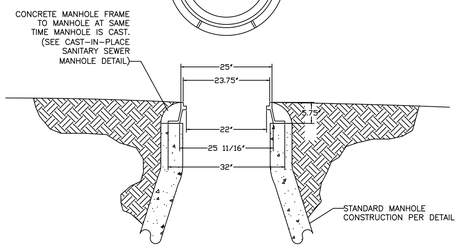


SANITARY SEWER DETAIL: SS03

HEAVY DUTY MANHOLE
LID & FRAME

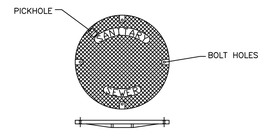


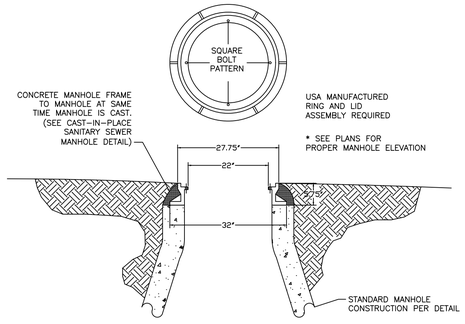




SANITARY SEWER DETAIL: SS04

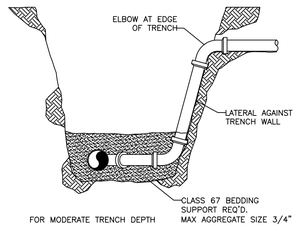
WATER TIGHT BOLTED MANHOLE
LID & FRAME

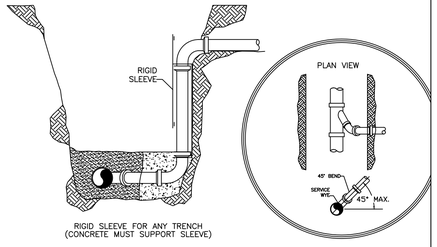


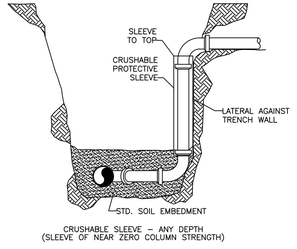


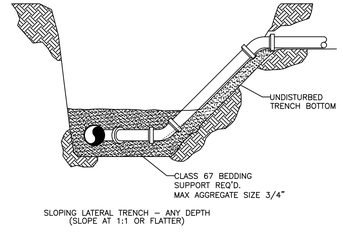
SANITARY SEWER DETAIL: SS05

SANITARY SEWER
SERVICE WYE









SANITARY SEWER DETAIL: SS06

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

SAN.SEWER DETAILS

CALL BEFORE YOU DIG 1-800-482-8998 ARKANSAS ONE-CALL SYSTEM

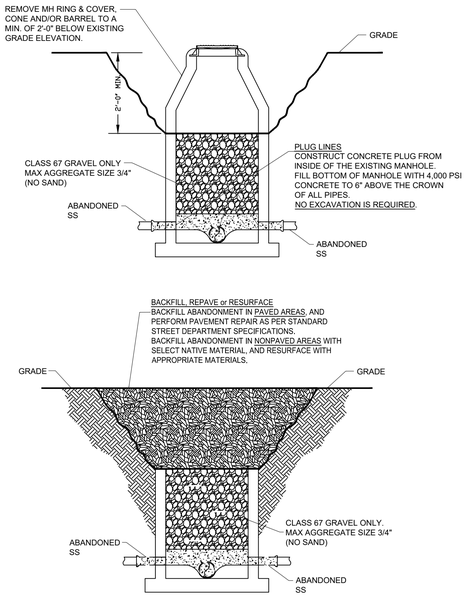
REVISIONS:

Adopted by City Council XX/XX/2024
Ordinance Number: XXXX-XXX

Changes Proposed by Water Dept. 08/27/2024

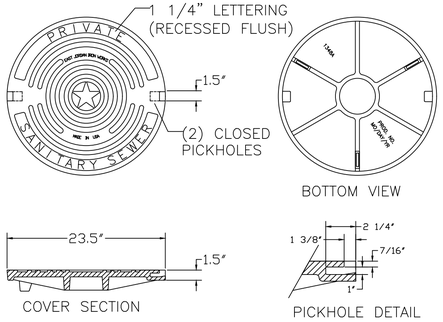
DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 1	OF 2

SANITARY SEWER MANHOLE ABANDONMENT



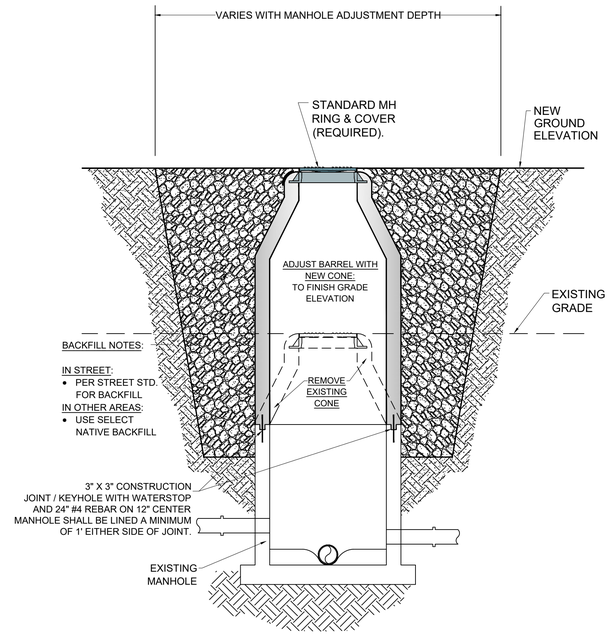
SANITARY SEWER DETAILS: SS07

PRIVATE MANHOLE RING AND LID



SANITARY SEWER DETAILS: SS08

TYPICAL MANHOLE ADJUST TO GRADE



SANITARY SEWER DETAILS: SS09

THE CITY OF WATER B UTILITIES BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

SAN.SEWER DETAILS

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REVISIONS:

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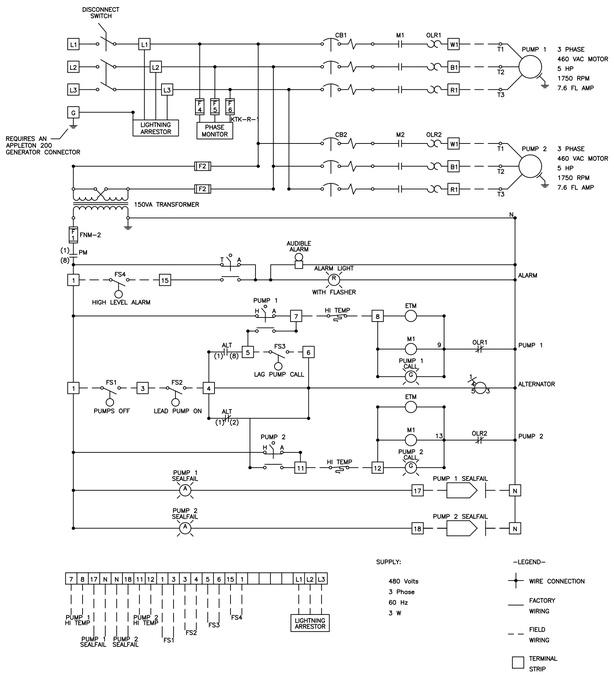
08/27/2024

NOTES:

DRAWN BY: JS	DATE: 08/27/2024
APPROVED BY: AW	DATE: 08/27/2024
SHEET NUMBER: 2	OF 2

DUPLEX PUMP CONTROL PANEL

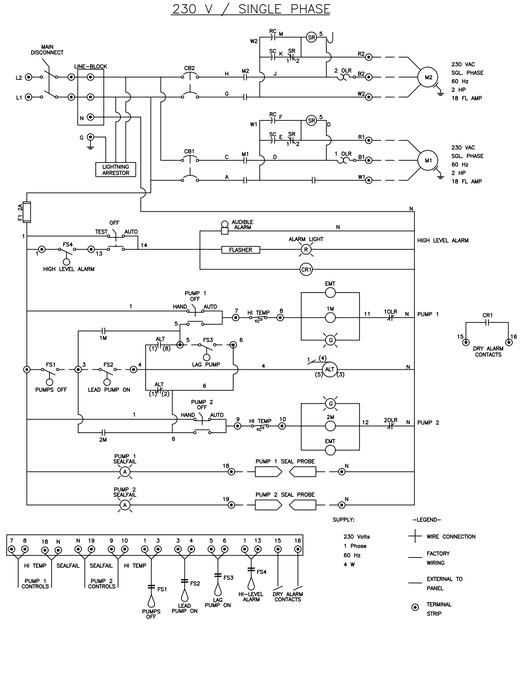
480 V / 3 PHASE



LIFT STATION DETAILS: LS01

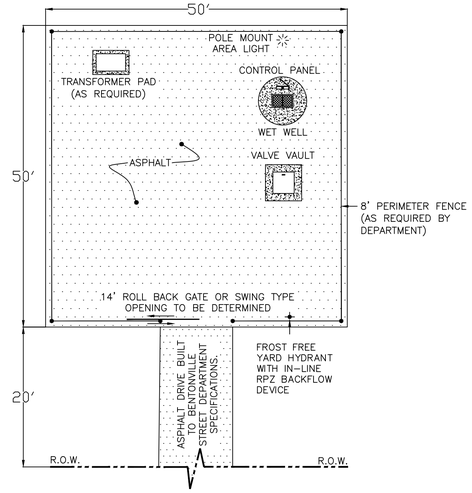
DUPLEX PUMP CONTROL PANEL

230 V / SINGLE PHASE



LIFT STATION DETAILS: LS02

LIFT STATION SITE DETAIL



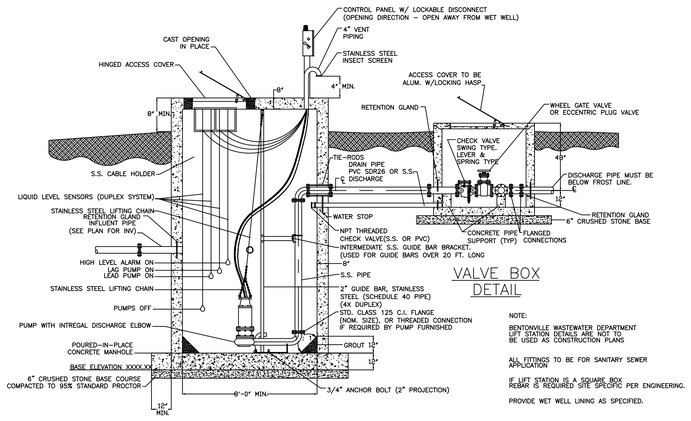
*ACTUAL SITE LAYOUT MAY VARY

BENTONVILLE WASTEWATER DEPARTMENT
LIFT STATION DETAILS ARE NOT TO
BE USED AS CONSTRUCTION PLANS

LIFT STATION DETAILS: LS03

LIFT STATION DETAIL

NON-CLOG PUMPS 5 HP AND UP



VALVE BOX DETAIL

NOTE:
BENTONVILLE WASTEWATER DEPARTMENT LIFT STATION DETAILS ARE NOT TO BE USED AS CONSTRUCTION PLANS

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

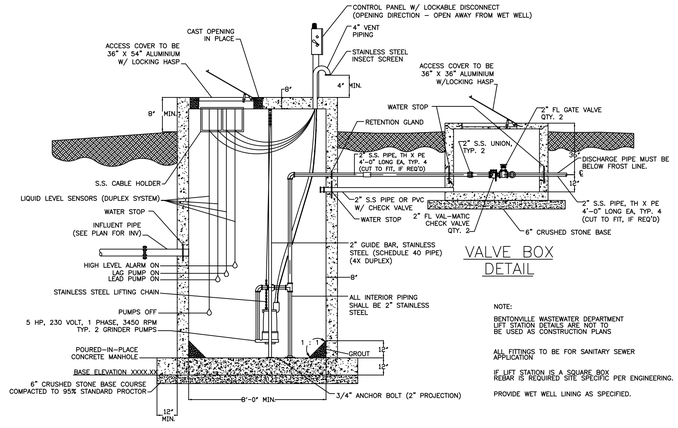
IF LIFT STATION IS A SQUARE BOX REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

PROVIDE WET WELL LINING AS SPECIFIED.

LIFT STATION DETAILS: LS04

LIFT STATION DETAIL

GRINDER PUMPS 5 HP AND LESS



VALVE BOX DETAIL

NOTE:
BENTONVILLE WASTEWATER DEPARTMENT LIFT STATION DETAILS ARE NOT TO BE USED AS CONSTRUCTION PLANS

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

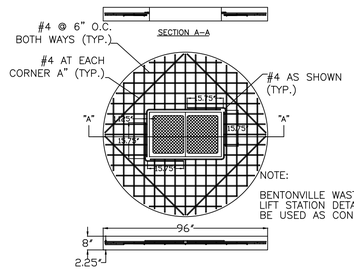
IF LIFT STATION IS A SQUARE BOX REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

PROVIDE WET WELL LINING AS SPECIFIED.

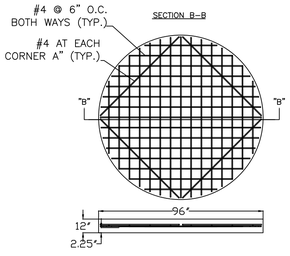
LIFT STATION DETAILS: LS05

WET WELL AND VALVE VAULT

TOP SLAB REINFORCEMENT DETAIL



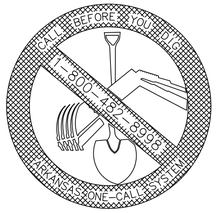
BOTTOM SLAB REINFORCEMENT DETAIL



LIFT STATION DETAILS: LS06

THE CITY OF WATER UTILITIES BENTONVILLE
3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

LIFT STATION DETAILS



REVISIONS:

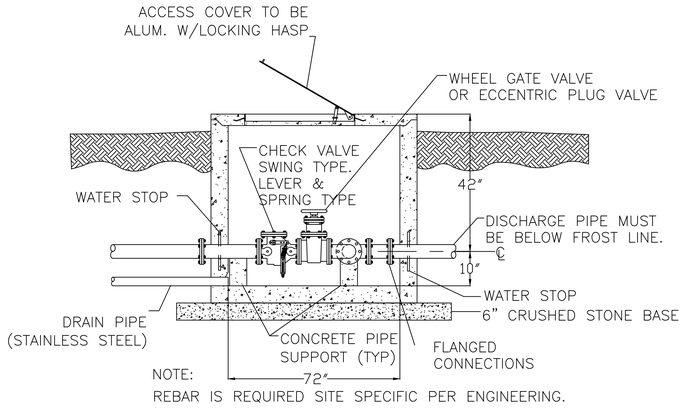
Adopted by City Council XX/XX/2024
Ordinance Number: XXXX-XXX

Changes Proposed by Water Dept. 08/27/2024

NOTES:

DRAWN BY:	JS	DATE:	08/27/2024
APPROVED BY:	AW	DATE:	08/27/2024
SHEET NUMBER:	1	OF	2

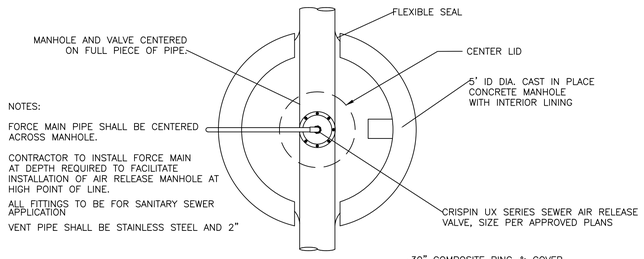
LIFT STATION VALVE VAULT DETAIL



NOTE:
REBAR IS REQUIRED SITE SPECIFIC PER ENGINEERING.

LIFT STATION DETAILS: LS07

AIR VACUUM/RELEASE MANHOLE FOR FORCE MAIN



NOTES:

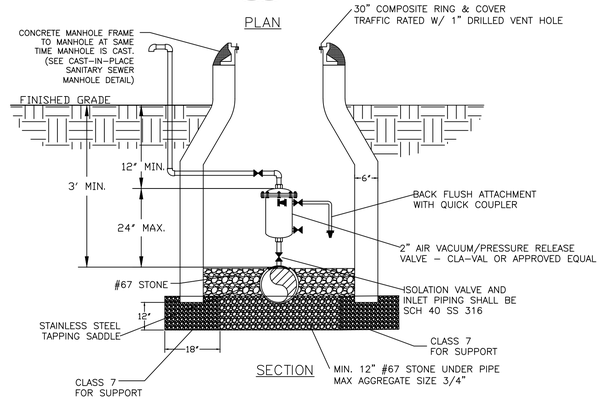
FORCE MAIN PIPE SHALL BE CENTERED ACROSS MANHOLE.

CONTRACTOR TO INSTALL FORCE MAIN AT DEPTH REQUIRED TO FACILITATE INSTALLATION OF AIR RELEASE MANHOLE AT HIGH POINT OF LINE.

ALL FITTINGS TO BE FOR SANITARY SEWER APPLICATION

VENT PIPE SHALL BE STAINLESS STEEL AND 2"

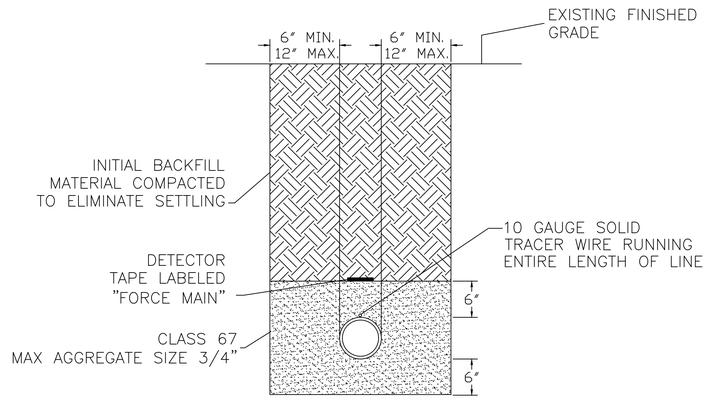
PLAN



SECTION

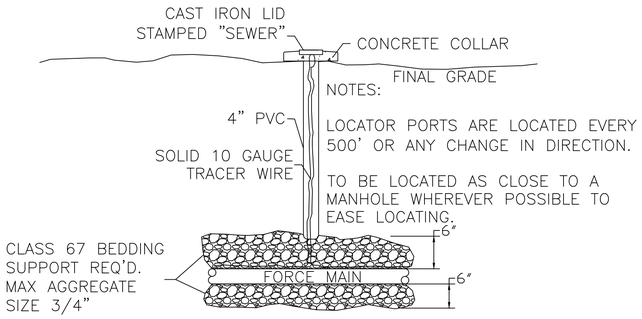
LIFT STATION DETAILS: LS08

TYPICAL BEDDING DETAIL FOR FORCE MAIN



LIFT STATION DETAILS: LS09

TRACER WIRE PORT



NOTES:

LOCATOR PORTS ARE LOCATED EVERY 500' OR ANY CHANGE IN DIRECTION.

TO BE LOCATED AS CLOSE TO A MANHOLE WHEREVER POSSIBLE TO EASE LOCATING.

LIFT STATION DETAILS: LS10

THE CITY OF WATER UTILITIES BENTONVILLE
3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
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LIFT STATION DETAILS

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SHEET NUMBER: 2	OF 2

ORDINANCE NO. _____

AN ORDINANCE APPROVING THE 2024 WATER UTILITIES DEPARTMENT SPECIFICATIONS UPDATE, FOR THE BENTONVILLE WATER UTILITIES DEPARTMENT; PROVIDING FOR THE EMERGENCY CLAUSE; AND FOR OTHER PURPOSES.

WHEREAS, Staff request council approval of an ordinance adopting revised Water Utilities Department Specifications, which will replace the existing version; and

WHEREAS, the revisions are focused on reducing water loss from the distribution system and limiting inflow and infiltration into the sewer collection system while minimizing operations and maintenance expenses;

NOW, THEREFORE, BE IT ORDAINED, BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: That the 2024 Bentonville Water Utilities Department Specifications, should be and the same are hereby adopted by reference, three copies of which are available for public review and inspection;

Section 2: Emergency Clause: The need to make this update is immediate and an emergency is hereby declared to exist, and this Ordinance shall be in full force and effect from and after the date of its passage and approval;

Section 3: Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 4: Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED this _____ **day of** _____, **2024.**

APPROVED:

_____
STEPHANIE ORMAN, Mayor

ATTEST:

_____
MALORIE MARRS, City Clerk

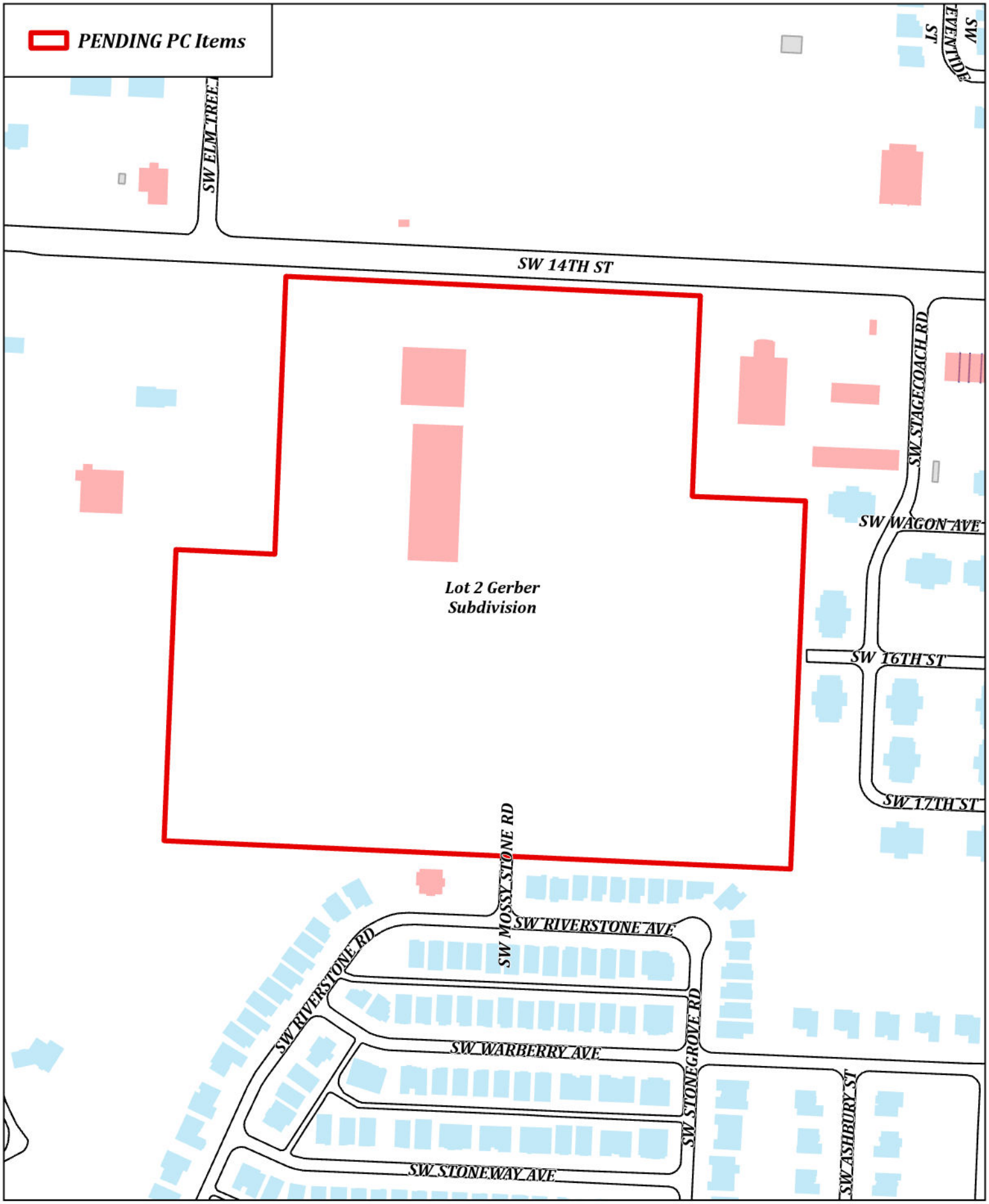
Consent Agenda Item LS24-0030

For the Planning Commission meeting on October 22, 2024

Details

Lot Split: Existing Lot 2 of Gerber Subdivision Creating New Lots 3 and 4 of Gerber Subdivision, Highway 102, C-1, Neighborhood Commercial and C-2, General Commercial, LS24-0030

A lot split of existing Lot 2 of Gerber Subdivision Creating New Lots 3 and 4 of Gerber Subdivision. Per the requirements of the Master Street Plan, the existing right-of-way is adequate along Southwest Regional Airport Boulevard.



LS24-0030
Lot 2 Gerber Subdivision
Lot Split

LOT SPLIT FOR LOT 2 OF GERBER SUBDIVISION

CREATING LOTS 3 & 4

SW 14TH STREET
BENTON COUNTY
BENTONVILLE, AR 72712

SURVEY DESCRIPTION

PARENT PARCEL: LOT 2 GERBER SUBDIVISION (INSTRUMENT # L202241026)
A PART OF THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF THE SAID FRACTIONAL FORTY ACRE TRACT, AND RUNNING THENCE N02°20'31"E 614.23 FEET; THENCE S87°18'31"E 208.56 FEET; THENCE N02°17'13"E 586.15 FEET TO THE SOUTHERN RIGHT OF WAY OF SOUTHWEST 14TH STREET (ARKANSAS STATE HIGHWAY 102), AND RUNNING ALONG SAID RIGHT OF WAY S87°18'31"E 874.93 FEET; THENCE LEAVING SAID RIGHT OF WAY S02°19'18"W 423.03 FEET; THENCE S87°40'42"E 238.97 FEET; THENCE S02°19'16"W 776.34 FEET TO THE SOUTHEAST CORNER OF THE SAID FRACTIONAL FORTY ACRE TRACT; THENCE N87°25'08"W 1322.32 FEET TO THE POINT OF BEGINNING, CONTAINING IN ALL 31.27 ACRES, MORE OR LESS. SUBJECT TO EASEMENTS AND RIGHTS OF WAY OF RECORD.

LOT 3
A PART OF THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

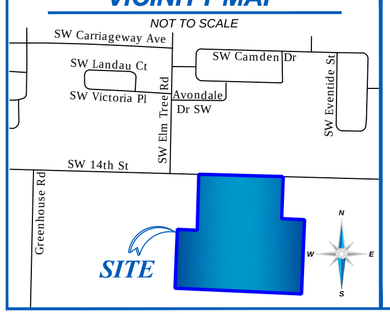
BEGINNING AT A FOUND 5/8" REBAR MARKING THE SOUTHWEST CORNER OF SAID FRACTIONAL FORTY ACRE TRACT AND RUNNING THENCE N02°17'39"E 614.04 FEET TO A FOUND 1/2" REBAR; THENCE S87°17'19"E 208.99 FEET TO A SET 5/8" REBAR; THENCE S02°17'39"W 74.57' TO A SET 5/8" REBAR; THENCE S87°23'57"E 395.74' TO A SET 5/8" REBAR; THENCE N02°17'39"E 660.06' TO A SET 5/8" REBAR ON THE SOUTH RIGHT-OF-WAY OF SOUTHWEST 14TH STREET (ARKANSAS STATE HIGHWAY 102); THENCE ALONG SAID RIGHT-OF-WAY S87°17'19"E 479.18' TO A SET 5/8" REBAR; THENCE LEAVING SAID RIGHT-OF-WAY S02°20'30"W 423.03' TO A SET 5/8" REBAR; THENCE S87°39'30"E 239.12' TO A SET 5/8" REBAR; THENCE S02°19'15"W 776.25' TO A FOUND 1/2" REBAR MARKING THE SOUTHEAST CORNER OF SAID FRACTIONAL FORTY ACRE TRACT; THENCE N87°23'57"W 1322.32' TO THE POINT OF BEGINNING, CONTAINING 25.275 ACRES, MORE OR LESS. SUBJECT TO EASEMENTS AND RIGHT-OF-WAYS OF RECORD.

LOT 4
A PART OF THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A FOUND 5/8" REBAR MARKING THE SOUTHWEST CORNER OF SAID FRACTIONAL FORTY ACRE TRACT AND RUNNING THENCE N02°17'39"E 614.04 FEET TO A FOUND 1/2" REBAR; THENCE S87°17'19"E 208.99 FEET TO A SET 5/8" REBAR BEING THE TRUE POINT OF BEGINNING; THENCE N02°17'39"E 586.25' TO A FOUND 1/2" CAPPED REBAR "1659" ON THE SOUTH RIGHT-OF-WAY OF SOUTHWEST 14TH STREET (ARKANSAS STATE HIGHWAY 102); THENCE ALONG SAID RIGHT-OF-WAY S87°17'19"E 395.75' TO A SET 5/8" REBAR; THENCE LEAVING SAID RIGHT-OF-WAY S02°17'39"W 660.06' TO A SET 5/8" REBAR; THENCE N87°23'57"W 395.74' TO A SET 5/8" REBAR; THENCE N02°17'39"E 74.57' TO THE POINT OF BEGINNING, CONTAINING 6.000 ACRES MORE OR LESS. SUBJECT TO EASEMENTS AND RIGHT-OF-WAYS OF RECORD.

VICINITY MAP

NOT TO SCALE



MISCELLANEOUS NOTES

STATE RECORDING NUMBER:
500-19N-31W-0-02-140-04-1826

COMPLETED FIELD WORK:
SEPTEMBER 30, 2022

REFERENCE DOCUMENTS:
1. WARRANTY DEED FILED UNDER INSTRUMENT NUMBER L201946829.
2. SURVEY PLAT FILED UNDER INSTRUMENT NUMBER L202241026.

BASIS OF BEARING:
THE BASIS OF BEARING OF THIS SURVEY IS GRID NORTH, BASED ON ARKANSAS STATE PLANE COORDINATE SYSTEM, NORTH ZONE NAD83.

SOME FEATURES SHOWN ON THIS PLAT MAY BE SHOWN OUT OF SCALE FOR CLARITY.

DIMENSIONS ON THIS PLAT ARE EXPRESSED IN FEET AND DECIMAL PARTS THEREOF UNLESS OTHERWISE NOTED. MONUMENTS WERE FOUND AT POINTS WHERE INDICATED.

EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS PLAT, THIS SURVEY DOES NOT PURPORT TO REFLECT OF ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT PROPERTY: EASEMENTS, OTHER THAN POSSIBLE EASEMENTS WHICH WERE VISIBLE AT THE TIME OF SURVEY; RESTRICTIVE COVENANTS; SUBDIVISION RESTRICTIONS OR OTHER LAND USE REGULATIONS; AND ANY OTHER FACTS WHICH AN ACCURATE TITLE SEARCH MAY DISCLOSE.

BEFORE ANY WORK IN THE RIGHT-OF-WAY COMMENCES, CONTRACTOR AND OR OWNER IS TO OBTAIN RIGHT-OF-WAY PERMIT FROM THE CITY OF BENTONVILLE TRANSPORTATION DEPARTMENT.

OWNER/DEVELOPER SHALL COORDINATE WITH ALL LOCAL UTILITIES TO ENSURE THAT EACH LOT HAS WATER, SEWER AND ELECTRIC SERVICE.

SIDEWALKS SHALL BE THE RESPONSIBILITY OF THE BUILDER/OWNER AT TIME OF BUILDING PERMIT ISSUANCE.

THERE MAY NOT BE FENCES OR ANY OTHER STRUCTURES BUILT IN ANY DRAINAGE EASEMENTS.

APPROVAL OF THE PLAT DOES NOT CARRY ANY ASSURANCES THAT THE TRACT OR TRACTS WILL QUALIFY FOR A SEPTIC SYSTEM PERMIT FROM THE ARKANSAS HEALTH DEPARTMENT.

APPROVAL OF THIS PLAN DOES NOT IN ANY WAY INDICATE THAT ANY OF THE LOTS ON THIS PLAN ARE BUILDABLE ACCORDING TO THE PLANNING REGULATIONS OF BENTON COUNTY, ARKANSAS, NOR AN ENDORSEMENT BY THE PLANNING BOARD OF SAID BUILDABILITY OF SAID LOTS.

ALL STRUCTURES MUST MAINTAIN A MINIMUM OF 20' CLEARANCE FROM ALL ELECTRIC LINES.

THERE APPEARS TO BE EVIDENCE OF DELINEATED WETLAND AREAS, PER THE U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY WEBSITE. NO MARKERS FROM A FIELD DELINEATION OF WETLANDS CONDUCTED BY A QUALIFIED SPECIALIST WERE OBSERVED DURING THE COURSE OF THE SURVEY.

SETBACKS SHALL BE PER THE CURRENT ZONING DISTRICT AS STATED IN THE MOST RECENT CITY OF BENTONVILLE ZONING CODE. FOR MORE INFO VISIT WWW.BENTONVILLEPLANNING.COM OR CALL THE PLANNING DEPARTMENT @ 479-271-3122.

NO RESIDENTIAL LOT SHALL BE PERMITTED DIRECT ACCESS TO A COLLECTOR OR ARTERIAL STREET. ALL RESIDENTIAL SUBDIVISION DEVELOPMENT CONTIGUOUS TO A COLLECTOR OR ARTERIAL STREET SHALL ORIENT FRONTAGE TO A LOCAL STREET, AND BACK OF THE PROJECT, WITHOUT ACCESS TO THE SAID MAJOR STREETS.

THERE ARE NO WAIVERS, VARIANCES AND/OR CONDITIONAL USES AT THE TIME OF PREPARING THIS PLAT OR PLAN.

WE HEREBY GRANT TO THE CITY OF BENTONVILLE A BLANKET AVIGATION EASEMENT OVER THE ENTIRETY OF THIS (SUBDIVISION, LOT SPLIT, PROPERTY LINE ADJUSTMENT) PURSUANT TO MUNICIPAL CODE SECTION 401.12.

PROPERTY IS LOCATED IN AIRPORT ZONE C (3) OUTER SAFETY ZONE (OSZ).

SIGNATURE BLOCKS

CERTIFICATE OF OWNER:
WE THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OFF, PLATTED, AND SUBDIVIDED AND DO HEREBY LAY OFF, PLAT, SUBDIVIDE SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT AND DO HEREBY DEDICATE TO THE USE OF THE PUBLIC THE STREETS, ALLEYS, DRIVES, EASEMENTS, ETC. AS SHOWN ON SAID PLAT.

DATE OF EXECUTION: _____

SIGNED:_____
NAME & ADDRESS

SOURCE OF TITLE: D.R. _____ PAGE _____

CERTIFICATE OF SURVEYING ACCURACY:
I, HEATH A. MYERS, HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A BOUNDARY SURVEY MADE BY ME AND BOUNDARY MARKERS AND LOT CORNERS SHOWN HEREON ACTUALLY EXIST AND THEIR LOCATION, TYPE AND MATERIAL ARE CORRECTLY SHOWN AND ALL MINIMUM REQUIREMENTS OF THE ARKANSAS MINIMUM STANDARDS FOR LAND SURVEYORS HAVE BEEN MET.

_____
DATE OF EXECUTION

_____
HEATH A. MYERS
REGISTERED PROFESSIONAL LAND SURVEYOR
NO. AR 1826
STATE OF ARKANSAS

CERTIFICATE OF APPROVAL:
PURSUANT TO THE BENTONVILLE SUBDIVISION REGULATIONS AND ALL OTHER CONDITIONS AND APPROVAL HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE AUTHORITY OF THE SAID RULES AND REGULATIONS.

DATE OF EXECUTION: _____

SIGNED:_____
COMMUNITY DEVELOPMENT DIRECTOR

STATE OF ARKANSAS
COUNTY OF_____
SUBSCRIBED AND SWORN BEFORE ME THIS _____DAY OF _____ 2024.

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES _____

FLOOD ZONE INFORMATION

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE "X" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 05007C0255K, WHICH BEARS AN EFFECTIVE DATE OF 06/05/2012 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

ZONE "X" - AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM 100-YEAR FLOOD.

BLE-FLOOD ELEVATION 1%

UTILITY INFORMATION

THE LOCATION OF UTILITIES SHOWN HEREON ARE FROM OBSERVED EVIDENCE OF ABOVE GROUND APPURTENANCES ONLY. THE SURVEYOR WAS NOT PROVIDED WITH UNDERGROUND PLANS OR SURFACE GROUND MARKINGS TO DETERMINE THE LOCATION OF ANY SUBTERRANEAN USES.

DATE	REVISION HISTORY	BY
8/19/24	PLANNING COMMENTS	TPN
9/11/24	PLANNING COMMENTS	TPN
9/26/24	PLANNING COMMENTS	TPN

OWNER/DEVELOPER

AMERCO REAL ESTATE COMPANY
2727 N CENTRAL AVE
PHOENIX AZ 85004

VAISHNO GROUPS LLC
4105 SW ACRES AVE
BENTONVILLE, AR 72713

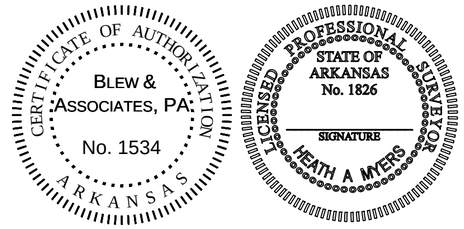
DAVID_POLLOCK@UHAUL.COM

ZONING INFORMATION

CURRENT ZONING:
C-2, GENERAL COMMERCIAL

SETBACK REQUIREMENTS
FRONT: 20 FEET
SIDE: 7 FEET WHEN ADJACENT TO NON- RESIDENTIAL DISTRICT, 30 FEET WHEN ADJACENT TO RESIDENTIAL DISTRICT.
REAR: 30 FEET WHEN ADJACENT TO RESIDENTIAL DISTRICT, 20 FEET WHEN ADJACENT TO NON-RESIDENTIAL DISTRICT.

I HEREBY CERTIFY THIS TO BE TRUE AND CORRECT
TO THE BEST OF MY KNOWLEDGE AND BELIEF
ON THIS THE 26TH DAY OF SEPTEMBER, 2024.

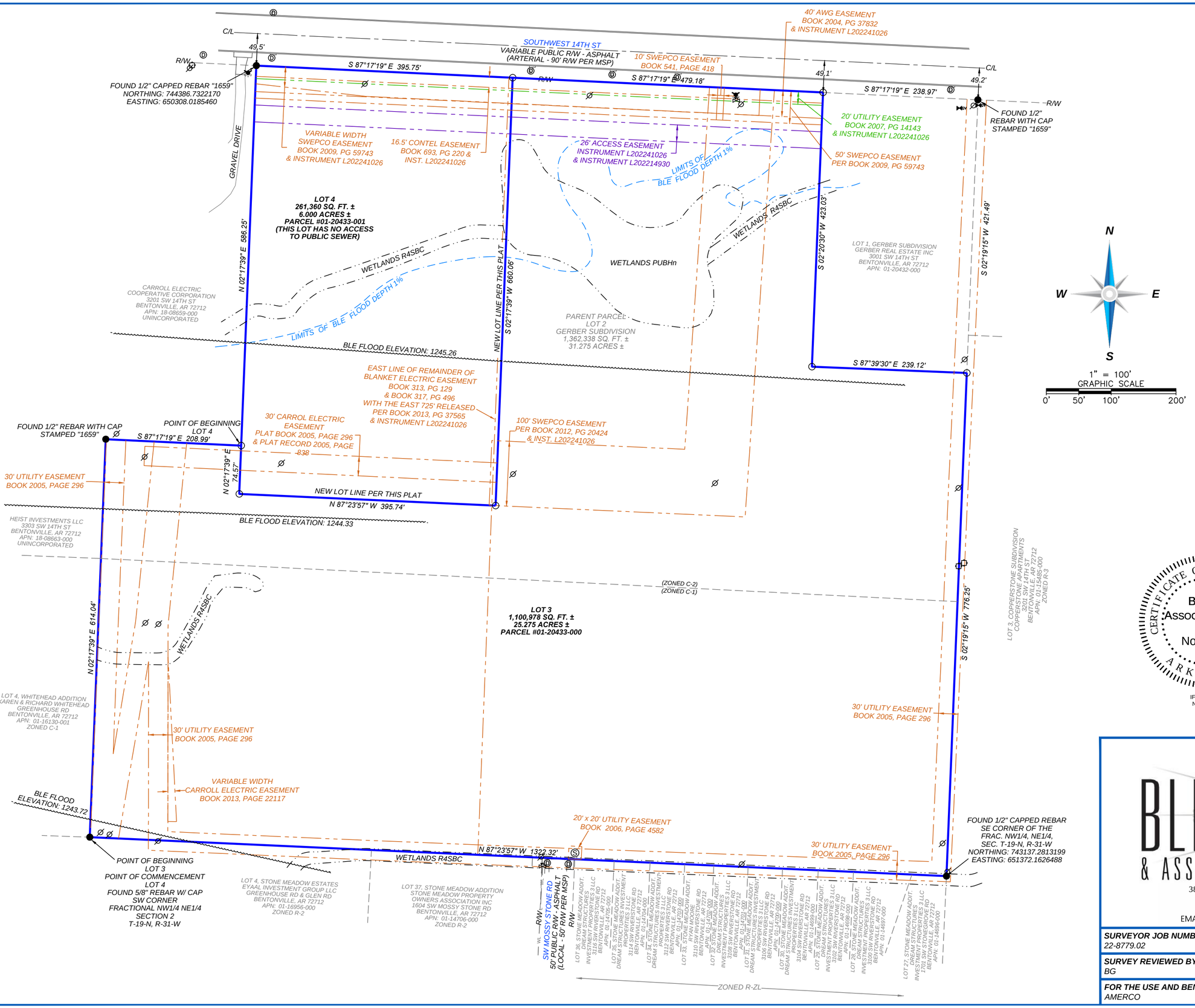


IF THE SIGNATURE ON THIS SEAL IS NOT AN ORIGINAL AND NOT BLUE IN COLOR THEN IT SHOULD BE ASSUMED THAT THIS PLAT MAY HAVE BEEN ALTERED. THE ABOVE CERTIFICATION SHALL NOT APPLY TO ANY COPY THAT DOES NOT BEAR AN ORIGINAL SEAL AND SIGNATURE.

BLEW & ASSOCIATES, P.A.
Surveying
Engineering
Mapping
3825 N. SHILOH DRIVE - FAYETTEVILLE, AR 72703
EMAIL:SURVEY@BLEWINC.COM
OFFICE: 479.443.4506 ·FAX: 479.582.1883
EMAIL: SURVEY@BLEWINC.COM·WWW.BLEWINC.COM

SURVEYOR JOB NUMBER: 22-8779.02	**SURVEY DRAWN BY:** CB/TPN - 10/14/2022
SURVEY REVIEWED BY: BG	**SCALE:** N/A
FOR THE USE AND BENEFIT OF: AMERCO	**SHEET 1 OF 2**

City Of Bentonville Project #LS24-0030



LEGEND & SYMBOLS

- FOUND MONUMENT (AS NOTED)
- SET 5/8" REBAR CAPPED "1826"
- (MSP) MASTER STREET PLAN
- GV GAS VALVE
- FIRE HYDRANT
- POWER POLE
- STORM MANHOLE
- ELECTRIC BOX
- WV WATER VALVE
- BOUNDARY LINE
- RIGHT-OF-WAY LINE (R/W)
- CENTERLINE (C/L)
- FENCE LINE
- SETBACK LINE
- LIMITS OF BLE FLOODZONE
- EASEMENT LINE

I HEREBY CERTIFY THIS TO BE TRUE AND CORRECT
TO THE BEST OF MY KNOWLEDGE AND BELIEF
ON THIS THE 26TH DAY OF SEPTEMBER, 2024.

CERTIFICATE OF AUTHORIZATION
BLEW & ASSOCIATES, PA.
No. 1534
ARKANSAS

LICENSED PROFESSIONAL SURVEYOR
STATE OF ARKANSAS
No. 1826
SIGNATURE
HEATH A MYERS

IF THE SIGNATURE ON THIS SEAL IS NOT AN ORIGINAL AND
NOT BLUE IN COLOR THEN IT SHOULD BE ASSUMED THAT
THIS PLAT MAY HAVE BEEN ALTERED. THE ABOVE
CERTIFICATION SHALL NOT APPLY TO ANY COPY THAT
DOES NOT BEAR AN ORIGINAL SEAL AND SIGNATURE.

BLEW & ASSOCIATES, P.A.
Surveying
Engineering
Mapping
3825 N. SHILOH DRIVE - FAYETTEVILLE, AR 72703
EMAIL:SURVEY@BLEWINC.COM
OFFICE: 479.443.4506 ·FAX: 479.582.1883
EMAIL: SURVEY@BLEWINC.COM·WWW.BLEWINC.COM

SURVEYOR JOB NUMBER: 22-8779.02	**SURVEY DRAWN BY:** CB/TPN - 10/14/2022
SURVEY REVIEWED BY: BG	**SCALE:** 1" = 100'
FOR THE USE AND BENEFIT OF: AMERCO	**SHEET 2 OF 2**

City Of Bentonville Project #LS24-0030

ORDINANCE NO._____

AN ORDINANCE ACCEPTING A LOT SPLIT OF LOT 2 OF GERBER SUBDIVISION CREATING NEW LOTS 3 AND 4 OF GERBER SUBDIVISION TO THE CITY OF BENTONVILLE, ARKANSAS; AND FOR OTHER PURPOSES.
(PROJECT NUMBER: LS24-0030)

WHEREAS, pursuant to the provisions of the Land Development Code of the Bentonville Municipal Code, the lot split of LOT 2 OF GERBER SUBDIVISION creating new LOTS 3 AND 4 OF GERBER SUBDIVISION, Benton County, Arkansas, was submitted to the Bentonville Planning Commission on October 15, 2024;

WHEREAS, said lot split is attached hereto as Exhibit "A";

WHEREAS, the Bentonville Planning Commission considered said lot split on the date stated, and at other times, and voted to recommend the approval of said lot split to the City Council; and

WHEREAS, the lot split of real property as described herein has been submitted to the City Council of the City of Bentonville and, after consideration and deliberation, said Council is of the opinion that said lot split should be approved.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the lot split of LOT 2 OF GERBER SUBDIVISION creating new LOTS 3 AND 4 OF GERBER SUBDIVISION to the City of Bentonville, Arkansas, should be and the same is hereby accepted and approved for all purposes;

Section 2: That the Mayor and City Clerk be and are hereby authorized and directed to evidence the acceptance of said lot split by certifying said acceptance on the approved lot split;

Section 3 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk

Consent Agenda Item LS24-0033

For the Planning Commission meeting on October 22, 2024

Details

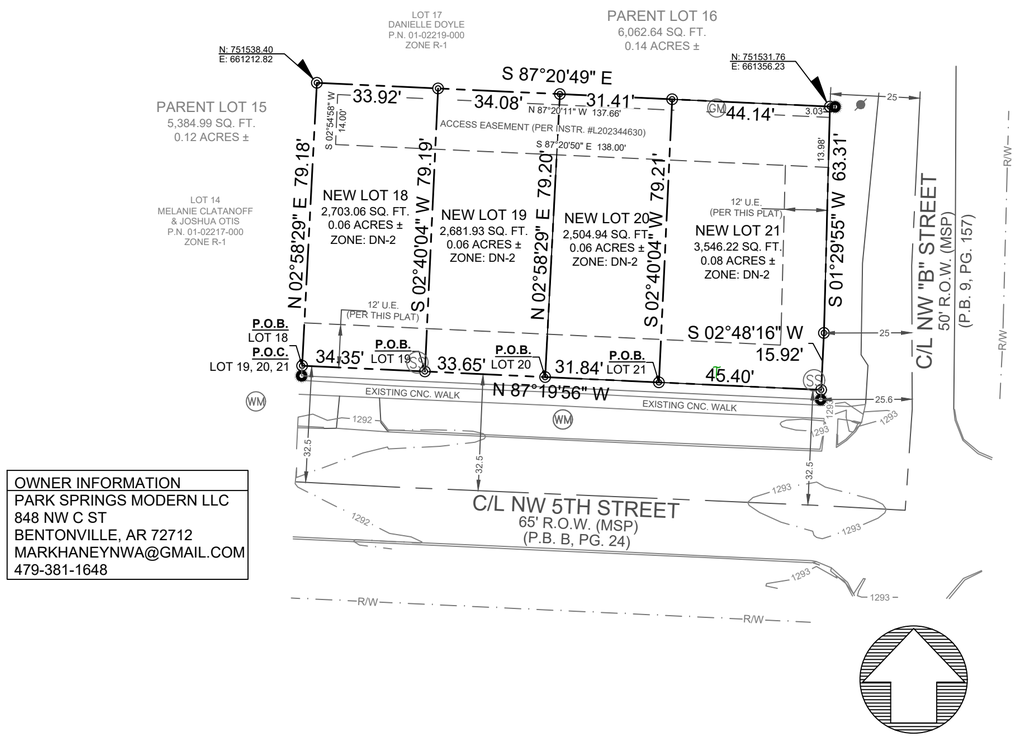
Lot Split: Lots 15 and 16 of Block 16 of Demings 2nd Addition, creating Lots 18,19, 20, and 21. NFD LLC. DN-2, Medium-Density Downtown Neighborhood Residential, LS24-0033.

A lot split of Lots 15 and 16 of Block 16 of Demings 2nd Addition, creating Lots 18,19,20, and 21. Per the requirements of the Master Street Plan, the existing right-of-way is adequate along Northwest 5th street and Northwest B Street. The plat will dedicate a 12-foot utility easement along Northwest 5th and Northwest B street.

N
W E
S

LS24-0033
Lots 15 & 16 Block 16 Demings 2nd Addition
Lot Split

THE CITY OF BENTONVILLE

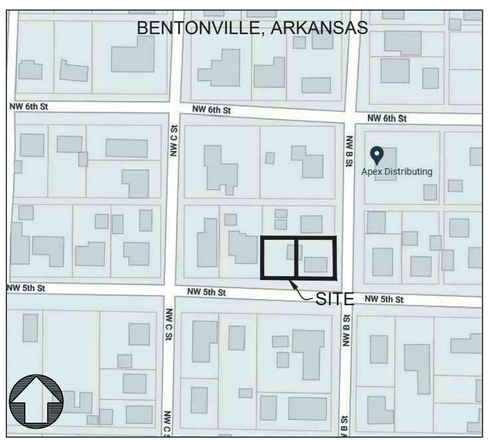


0 30 60

OWNER INFORMATION
PARK SPRINGS MODERN LLC
848 NW C ST
BENTONVILLE, AR 72712
MARKHANEYNWA@GMAIL.COM
479-381-1648

LEGEND

- FOUND PIPE
- FOUND REBAR
- SET 1/2" REBAR W/CAP (LS #1370)
- SANITARY SEWER MANHOLE
- WATER METER
- GAS METER
- UTILITY POLE
- PROPERTY LINE
- RIGHT OF WAY LINE
- CENTERLINE
- EASEMENT LINE



VICINITY MAP
(N.T.S.)

PARENT TRACT:

LOTS 15 & 16, DEMINGS 2ND ADDITION, CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN IN THE BENTON COUNTY RECORDS.

FLOOD CERTIFICATION:

I CERTIFY THAT I HAVE EXAMINED THE OFFICIAL FLOOD INSURANCE HAZARD RATE MAP PANEL NO. 05007C0090J (EFFECTIVE DATE SEPTEMBER 28, 2007) AND FOUND IN THE DESCRIBED PROPERTY HEREON LIES IN ZONE "X", AN AREA HAVING NO SPECIAL FLOOD HAZARDS.

LEGAL DESCRIPTION - LOT 21:

LOT 21, DEMINGS 2ND ADDITION, CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF LOT 15, DEMINGS 2ND ADDITION, THENCE S 87°19'56" E A DISTANCE OF 99.840 FEET TO THE POINT OF BEGINNING; THENCE N 02°40'04" E A DISTANCE OF 79.21 FEET; THENCE S 87°20'49" E A DISTANCE OF 44.14 FEET; THENCE S 01°29'55" W A DISTANCE OF 63.31 FEET; THENCE S 02°48'16" W A DISTANCE OF 15.92 FEET; THENCE N 87°19'56" W A DISTANCE OF 45.40 FEET TO THE POINT OF BEGINNING, WITH AN AREA OF 3557.70 SQUARE FEET, OR 0.082 ACRES, MORE OR LESS, AND SUBJECT TO ALL RIGHTS-OF-WAY, EASEMENTS AND RESTRICTIVE COVENANTS OF RECORD OR FACT.

CERTIFICATE OF AUTHORIZATION
COA CERTIFICATE NUMBER: 3049

NOTES:

1. EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS PLAT, THIS SURVEY DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT REAL ESTATE: EASEMENTS, OTHER THAN POSSIBLE EASEMENTS WHICH WERE VISIBLE AT THE TIME OF MAKING OF THIS SURVEY; BUILDING SETBACK LINES; RESTRICTIVE COVENANTS; SUBDIVISION RESTRICTIONS; ZONING OR OTHER LAND-USE REGULATIONS, AND ANY OTHER FACTS WHICH AN ACCURATE AND CURRENT TITLE COMMITMENT MAY DISCLOSE.

2. BASIS OF BEARINGS: ARKANSAS STATE PLANE COORDINATE SYSTEM, NORTH ZONE.

3. DEED REFERENCE: WARRANTY DEED BOOK L2021, PAGE 70361.

4. DECLARATION IS MADE TO ORIGINAL PURCHASER OF THE SURVEY. IT IS NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

5. THIS SURVEY IS VALID ONLY IF THE DRAWING INCLUDES THE SEAL AND SIGNATURE OF THE SURVEYOR.

6. SETBACKS SHALL BE PER THE CURRENT ZONING DISTRICT AS STATED IN THE MOST RECENT CITY OF BENTONVILLE ZONING CODE. FOR MORE INFO VISIT WWW.BENTONVILLEPLANNING.COM OR CALL THE PLANNING DEPARTMENT AT (479) 271-3122.

7. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP, TITLE EVIDENCE, OR ANY OTHER FACTS WHICH AN ACCURATE AND CURRENT TITLE COMMITMENT MAY DISCLOSE.

8. SIDEWALKS SHALL BE THE RESPONSIBILITY OF THE BUILDER/OWNER AT TIME OF BUILDING PERMIT ISSUANCE.

9. THERE MAY NOT BE FENCES OR ANY OTHER STRUCTURES BUILT IN ANY DRAINAGE EASEMENTS.

10. OWNER/DEVELOPER SHALL COORDINATE WITH ALL LOCAL UTILITIES TO INSURE THAT EACH LOT HAS WATER, SEWER AND ELECTRIC SERVICE.

11. BEFORE ANY WORK IN THE RIGHT-OF-WAY COMMENCES, CONTRACTOR AND/OR OWNER IS TO OBTAIN RIGHT-OF-WAY PERMIT FROM THE CITY OF BENTONVILLE TRANSPORTATION DEPARTMENT.

12. ALL STRUCTURES MUST MAINTAIN MINIMUM OF 20' CLEARANCES FROM ALL ELECTRIC LINES.

13. THERE ARE NO WAIVERS, VARIANCES AND/OR CONDITIONAL USES AT THE TIME OF PREPARING THIS PLAT OR PLAN

14. WE HEREBY GRANT TO THE CITY OF BENTONVILLE A BLANKET AVIGNATION EASEMENT OVER THE ENTIRETY OF THIS LOT SPLIT PURSUANT TO MUNICIPAL CODE SECTION 401.12 AND 401.13.

15. NO RESIDENTIAL LOT SHALL BE PERMITTED DIRECT ACCESS TO A COLLECTOR OR ARTERIAL STREET. ALL RESIDENTIAL SUBDIVISION DEVELOPMENT CONTIGUOUS TO A COLLECTOR OR ARTERIAL STREET SHALL ORIENT FRONTAGE TO A LOCAL STREET, AND BACK OF THE PROJECT, WITHOUT ACCESS TO THE SAID MAJOR STREETS.

LEGAL DESCRIPTION - LOT 18:

LOT 18, DEMINGS 2ND ADDITION, CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF LOT 15, DEMINGS 2ND ADDITION, THENCE N 02°58'29" E A DISTANCE OF 79.18 FEET; THENCE S 87°20'49" E A DISTANCE OF 33.92 FEET; THENCE S 02°40'04" W A DISTANCE OF 79.19 FEET; THENCE N 87°19'56" W A DISTANCE OF 34.35 FEET TO THE POINT OF BEGINNING, WITH AN AREA OF 2703.06 SQUARE FEET, OR 0.062 ACRES, MORE OR LESS, AND SUBJECT TO ALL RIGHTS-OF-WAY, EASEMENTS AND RESTRICTIVE COVENANTS OF RECORD OR FACT.

LEGAL DESCRIPTION - LOT 19:

LOT 19, DEMINGS 2ND ADDITION, CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF LOT 15, DEMINGS 2ND ADDITION, THENCE S 87°19'56" E A DISTANCE OF 34.348 FEET TO THE POINT OF BEGINNING; THENCE N 02°40'04" E A DISTANCE OF 79.19 FEET; THENCE S 87°20'49" E A DISTANCE OF 34.08 FEET; THENCE S 02°58'29" W A DISTANCE OF 79.20 FEET; THENCE N 87°19'56" W A DISTANCE OF 33.65 FEET TO THE POINT OF BEGINNING, WITH AN AREA OF 2681.93 SQUARE FEET, OR 0.062 ACRES, MORE OR LESS, AND SUBJECT TO ALL RIGHTS-OF-WAY, EASEMENTS AND RESTRICTIVE COVENANTS OF RECORD OR FACT.

LEGAL DESCRIPTION - LOT 20:

LOT 20, DEMINGS 2ND ADDITION, CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF LOT 15, DEMINGS 2ND ADDITION, THENCE S 87°19'56" E A DISTANCE OF 68.000 FEET TO THE POINT OF BEGINNING; THENCE N 02°58'29" E A DISTANCE OF 79.20 FEET; THENCE S 87°20'49" E A DISTANCE OF 31.41 FEET; THENCE S 02°40'04" W A DISTANCE OF 79.21 FEET; THENCE N 87°19'56" W A DISTANCE OF 31.84 FEET TO THE POINT OF BEGINNING, WITH AN AREA OF 2504.94 SQUARE FEET, OR 0.058 ACRES, MORE OR LESS, AND SUBJECT TO ALL RIGHTS-OF-WAY, EASEMENTS AND RESTRICTIVE COVENANTS OF RECORD OR FACT.

CERTIFICATE OF SURVEY ACCURACY:

I, ROBERT J. CASTER HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A BOUNDARY SURVEY MADE BY ME AND BOUNDARY MARKERS AND LOT CORNERS SHOWN HEREON ACTUALLY EXIST AND THEIR LOCATION, SIZE, TYPE AND MATERIAL ARE CORRECTLY SHOWN AND ALL MINIMUM REQUIREMENTS OF THE ARKANSAS MINIMUM STANDARDS FOR LAND SURVEYORS HAVE BEEN MET.

DATE OF EXECUTION _____

SIGNED: _____
REGISTERED LAND SURVEYOR
NO. 1370
STATE OF ARKANSAS

CERTIFICATE OF OWNERSHIP AND DEDICATION:

WE THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OFF, PLATTED, AND SUBDIVIDED AND DO HEREBY LAY OFF, PLAT, SUBDIVIDE SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT AND DO HEREBY DEDICATE TO THE USE OF THE PUBLIC THE STREETS, ALLEYS, DRIVES, EASEMENTS, ETC. AS SHOWN ON SAID PLAT.

DATE OF EXECUTION: _____

PRINT NAME: _____

SIGNATURE: _____

STATE OF ARKANSAS, COUNTY OF BENTON, SUBSCRIBED AND SWORN BEFORE ME THIS _____ DAY OF _____, 20__.

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

CERTIFICATE OF APPROVAL:

PURSUANT TO THE BENTONVILLE LAND DEVELOPMENT CODE AND ALL OTHER CONDITIONS AND APPROVAL HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE AUTHORITY OF THE SAID RULES AND REGULATIONS.

DATE OF EXECUTION: _____

SIGNED _____
COMMUNITY DEVELOPMENT DIRECTOR

BENTONVILLE PROJECT #LS24-0033

CASTER & ASSOCIATES
LAND SURVEYING, INC.
2715 SE "I" Street, Suit 5
Bentonville, AR 72712
(479) 268-4464

REGISTERED
STATE OF ARKANSAS
NO.1370
SIGNATURE
ROBERT J. CASTER
PROFESSIONAL LAND SURVEYOR

SCALE: 1" = 30' | DATE: 09/20/2024

LOT SPLIT
LOTS 15 & 16, BLK. 16 DEMINGS 2ND ADDITION CREATING LOTS 18, 19, 20 & 21

501 NW "B" STREET
BENTONVILLE, BENTON COUNTY, AR

JOB #	DRAWN BY:	CHK'D BY:	PAGE
21-235.1	JRC	RJC	1 OF 1

ORDINANCE NO._____

AN ORDINANCE ACCEPTING A LOT SPLIT OF LOTS 15 AND 16, BLOCK 16 OF DEMINGS 2ND ADDITION CREATING NEW LOTS 18, 19, 20, AND 21, BLOCK 16 OF DEMINGS 2ND ADDITION TO THE CITY OF BENTONVILLE, ARKANSAS; AND FOR OTHER PURPOSES.

(PROJECT NUMBER: LS24-0033)

WHEREAS, pursuant to the provisions of the Land Development Code of the Bentonville Municipal Code, the lot split of LOTS 15 AND 16, BLOCK 16 OF DEMINGS 2ND ADDITION creating new LOTS 18, 19, 20, AND 21, BLOCK 16 OF DEMINGS 2ND ADDITION**,** Benton County, Arkansas, was submitted to the Bentonville Planning Commission on October 15, 2024;

WHEREAS, said lot split is attached hereto as Exhibit "A";

WHEREAS, the Bentonville Planning Commission considered said lot split on the date stated, and at other times, and voted to recommend the approval of said lot split to the City Council; and

WHEREAS, the lot split of real property as described herein has been submitted to the City Council of the City of Bentonville and, after consideration and deliberation, said Council is of the opinion that said lot split should be approved.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the lot split of LOTS 15 AND 16, BLOCK 16 OF DEMINGS 2ND ADDITION creating new LOTS 18, 19, 20, AND 21, BLOCK 16 OF DEMINGS 2ND ADDITION to the City of Bentonville, Arkansas, should be and the same is hereby accepted and approved for all purposes;

Section 2: That the Mayor and City Clerk be and are hereby authorized and directed to evidence the acceptance of said lot split by certifying said acceptance on the approved lot split;

Section 3 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____

Stephanie Orman, Mayor

ATTEST:

_____

Malorie Marrs, City Clerk

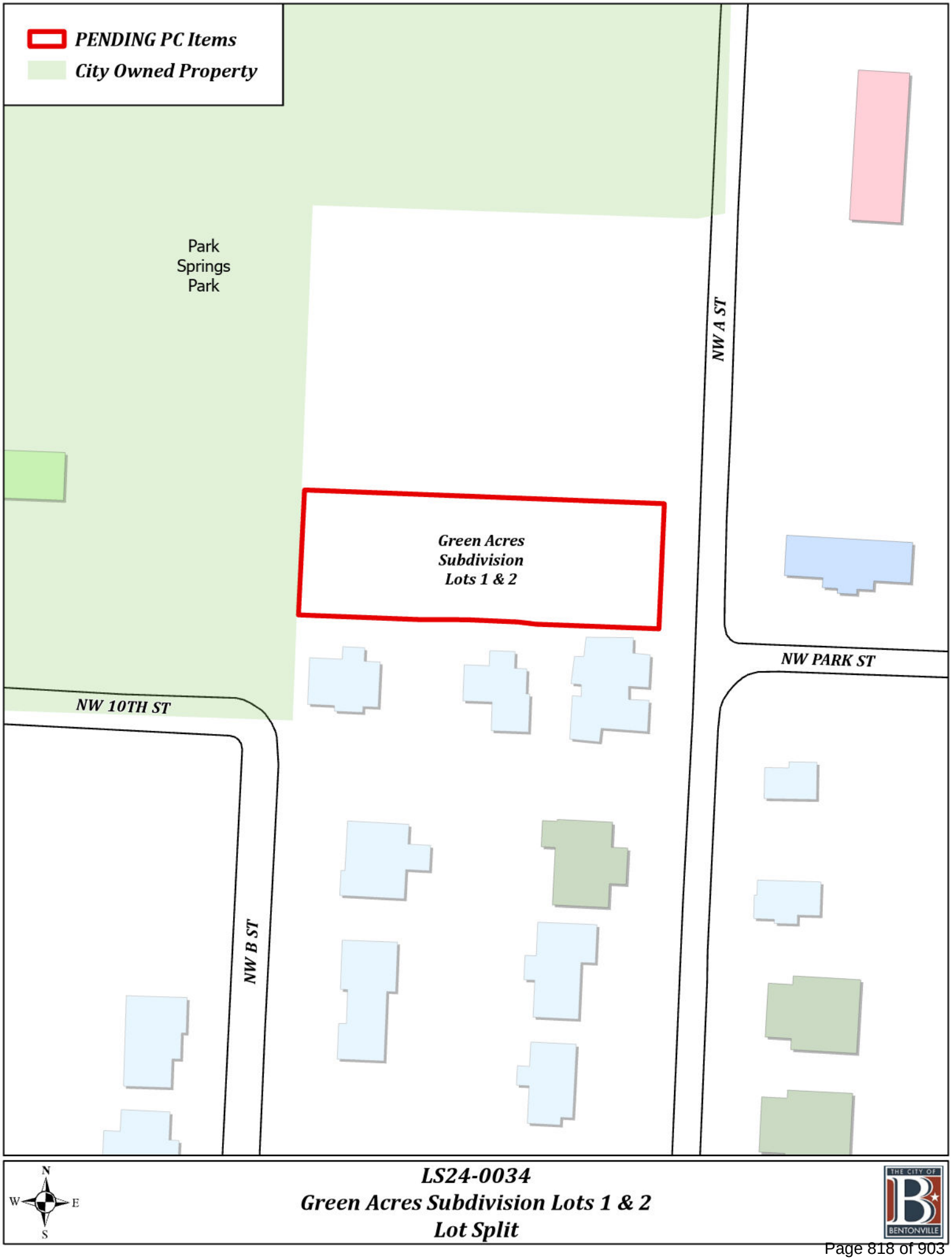
Consent Agenda Item LS24-0034

For the Planning Commission meeting on October 22, 2024

Details

Lot Split: Existing Lots 1 and 2 Green Acres Subdivision Creating New Lots 8, 9, and 10 of Green Acres Subdivision, 1003 Northwest A Street, DN-2, Downtown Medium Density Residential, LS24-0034

A lot split of existing Lots 1 and 2 of Green Acres Subdivision Creating New Lots 8, 9, and 10 of Green Acres Subdivision. Per the requirements of the Master Street Plan, the existing right-of-way is adequate along Northwest A Street. The plat dedicates a 20' utility easement along Northwest A Street and a variable width access easement to serve the newly created lots.



LS24-0034
Green Acres Subdivision Lots 1 & 2
Lot Split

LOT SPLIT OF LOTS 1 & 2, GREEN ACRES SUBDIVISION CREATING NEW LOTS 8, 9 & 10

CERTIFICATE OF AUTHORIZATION
BATES & ASSOCIATES, INC.
#1335
ARKANSAS ENGINEER

ADJACENT LAND OWNERS

1) BENTONVILLE RE DEVELOPMENT LLC
NW A ST
BENTONVILLE, AR
LOT 7
PARCEL #01-02750-000
ZONED: R-1

2) MARK RUSSELL LLC
1016 NW A ST
BENTONVILLE, AR 72712
LOT 35, BLOCK 2
PARCEL #01-04516-000
ZONED: DN-2

3) OBREGON GUINEA LLC & CANJURA GUZMAN LLC
106 NW PARK ST ABCD
BENTONVILLE, AR
LOT 1, BLOCK 2
PARCEL #01-04515-000
ZONED: R-3

4) BREWER, LEVI & CASSIDY
1001 NW A ST
BENTONVILLE, AR
PARCEL #01-02755-000
LOT 3
ZONED: DN-2

5) VANDIVER, CLARENCE R & VANDIVER, REBECCA
1002 NW B ST
BENTONVILLE, AR
PARCEL #01-02754-000
ZONED: R-1

6) CLEMONS REVOCABLE TRUST, VELMA F
1000 NW B ST
BENTONVILLE, AR
PARCEL #01-02753-000
LOT 4
ZONED: R-1

7) CITY OF BENTONVILLE
NW 10TH ST
BENTONVILLE, AR
PARCEL #01-16746-000
LOT 2
ZONED: R-1

FIELD WORK:
FEBRUARY 26, 27 & 28, 2024
AUGUST 5 & 21, 2024

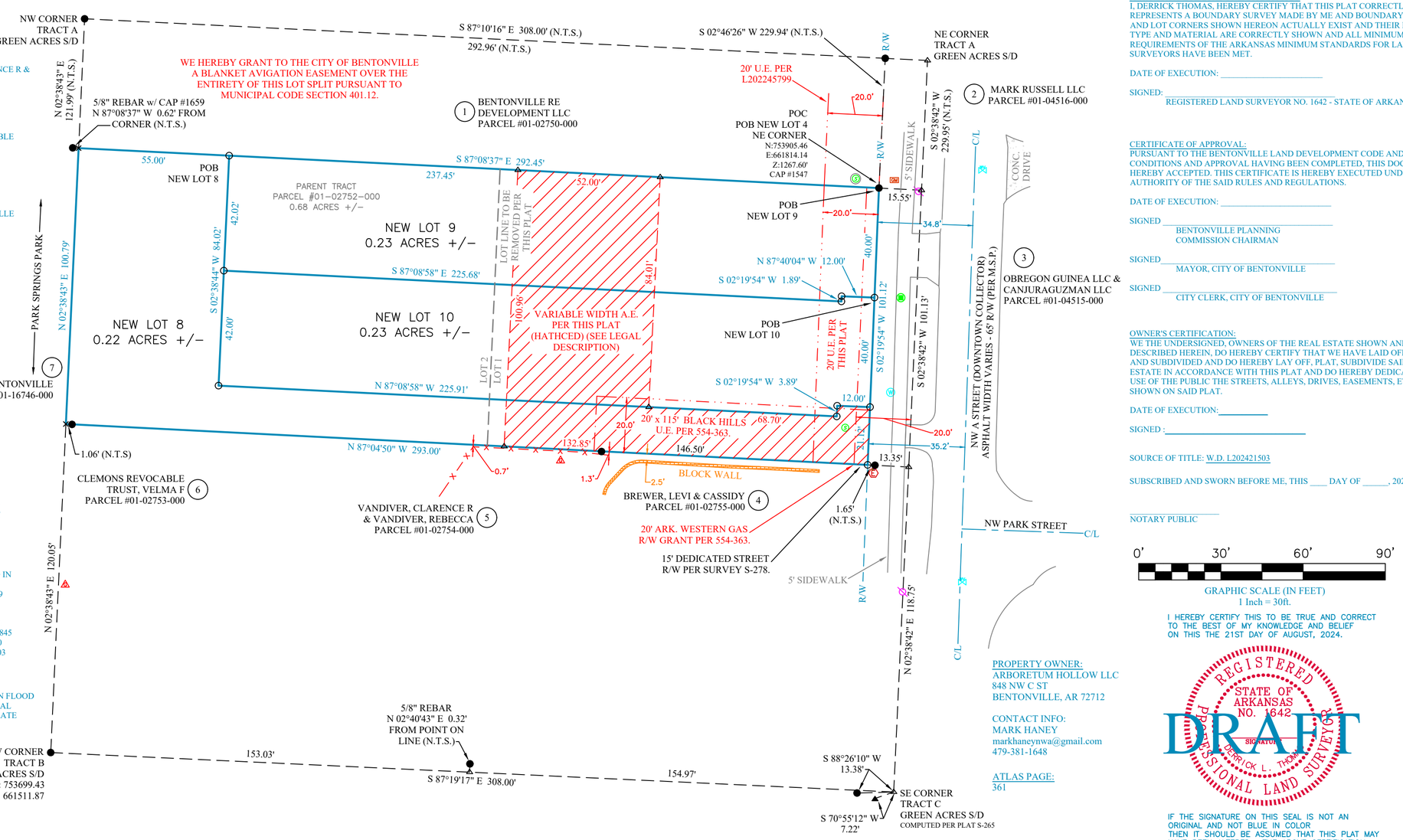
BASIS OF BEARING:
GPS OBSERVATION - AR NORTH ZONE
NAD83(2011) HORIZONTAL DATUM

PROPERTY ZONED:
DN-2

BUILDING SETBACK NOTE:
SETBACKS SHALL BE PER THE CURRENT ZONING DISTRICT AS STATED IN THE MOST RECENT CITY OF BENTONVILLE ZONING CODE. FOR MORE INFO VISIT www.bentonvilleplanning.com OR CALL THE PLANNING DEPARTMENT @ 479-271-3122

REFERENCE DOCUMENTS:
1) FINAL PLAT OF GREEN ACRES SUBDIVISION FILED IN BOOK S AT PAGE 265
2) PLAT OF SURVEY FILED IN BOOK 2012 AT PAGE 179
3) PLAT OF SURVEY FILED IN BOOK S AT PAGE 278
4) PLAT OF SURVEY FILED IN BOOK 13 AT PAGE 302
5) PLAT OF SURVEY FILED IN BOOK A15 AT PAGE 116
6) PLAT OF SURVEY FILED IN BOOK L2023 AT PAGE 2845
7) WARRANTY DEED FILED IN BOOK 719 AT PAGE 870
8) WARRANTY DEED FILED AS DOCUMENT L202421503

FLOOD CERTIFICATION:
NO PORTION OF THIS PROPERTY IS LOCATED WITHIN FLOOD ZONE "A" OR "AE" AS DETERMINED BY THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP FOR BENTON COUNTY, ARKANSAS.
(FIRM PANEL #05007C0090J. DATED 09/ 28/ 2007)



PROPERTY OWNER:
ARBORETUM HOLLOW LLC
848 NW C ST
BENTONVILLE, AR 72712

CONTACT INFO:
MARK HANEY
markhaneynwa@gmail.com
479-381-1648

ATLAS PAGE:
361

CERTIFICATE OF SURVEYING ACCURACY:
I, DERRICK THOMAS, HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A BOUNDARY SURVEY MADE BY ME AND BOUNDARY MARKERS AND LOT CORNERS SHOWN HEREON ACTUALLY EXIST AND THEIR LOCATION, TYPE AND MATERIAL ARE CORRECTLY SHOWN AND ALL MINIMUM REQUIREMENTS OF THE ARKANSAS MINIMUM STANDARDS FOR LAND SURVEYORS HAVE BEEN MET.

DATE OF EXECUTION: _____

SIGNED: _____
REGISTERED LAND SURVEYOR NO. 1642 - STATE OF ARKANSAS

CERTIFICATE OF APPROVAL:
PURSUANT TO THE BENTONVILLE LAND DEVELOPMENT CODE AND ALL OTHER CONDITIONS AND APPROVAL HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE AUTHORITY OF THE SAID RULES AND REGULATIONS.

DATE OF EXECUTION: _____

SIGNED _____
BENTONVILLE PLANNING COMMISSION CHAIRMAN

SIGNED _____
MAYOR, CITY OF BENTONVILLE

SIGNED _____
CITY CLERK, CITY OF BENTONVILLE

OWNER'S CERTIFICATION:
WE THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OFF, PLATTED, AND SUBDIVIDED AND DO HEREBY LAY OFF, PLAT, SUBDIVIDE SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT AND DO HEREBY DEDICATE TO THE USE OF THE PUBLIC THE STREETS, ALLEYS, DRIVES, EASEMENTS, ETC. AS SHOWN ON SAID PLAT.

DATE OF EXECUTION: _____

SIGNED : _____

SOURCE OF TITLE: W.D. L202421503

SUBSCRIBED AND SWORN BEFORE ME, THIS ____ DAY OF _____, 2024.

_____
NOTARY PUBLIC

0' 30' 60' 90'
GRAPHIC SCALE (IN FEET)
1 Inch = 30ft.

I HEREBY CERTIFY THIS TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF ON THIS THE 21ST DAY OF AUGUST, 2024.

REGISTERED STATE OF ARKANSAS NO. 1642 SURVEYOR SIGNATURE DERRICK L. THOMAS PROFESSIONAL LAND SURVEYOR

DRAFT

IF THE SIGNATURE ON THIS SEAL IS NOT AN ORIGINAL AND NOT BLUE IN COLOR THEN IT SHOULD BE ASSUMED THAT THIS PLAT MAY HAVE BEEN ALTERED. THE ABOVE CERTIFICATION SHALL NOT APPLY TO ANY COPY THAT DOES NOT BEAR AN ORIGINAL SEAL AND SIGNATURE.

DATE:

RECORDING NUMBER/DATE			
DATE	09/06/24	09/12/24	
REVISION	REVISED PER 1ST SUBMITTAL COMMENTS	REVISED PER 1ST SUBMITTAL COMMENTS	

BOUNDARY LINE (MEASURED)
LOT LINE
TIE LINE
CENTERLINE OF ROAD
RIGHT-OF-WAY
FENCE
BUILDING SETBACK
UTILITY EASEMENT

WATER VALVE
WATER METER
CLEANOUT
SANITARY SEWER MH
ELECTRIC PEDESTAL
AC CONDENSER UNIT
GAS MAIN
GAS METER
LIGHT
POWER POLE

LEGEND:
THESE STANDARD SYMBOLS WILL BE FOUND IN THE DRAWING.
(R) RECORD BEARING & DISTANCE
(M) MEASURED BEARING & DISTANCE
FOUND 5/8" REBAR
FOUND RAILROAD SPIKE
COMPUTED POINT
SET STAKE
SET 5/8" REBAR/CAP

SURVEY DESCRIPTIONS:

PARENT TRACT PARCEL #01-02752-000:
LOTS 1 & 2, TRACT B IN GREEN ACRES SUBDIVISION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

NEW LOT 8:
LOTS 1 & 2, TRACT B IN GREEN ACRES SUBDIVISION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS TO-WIT: BEGINNING AT A POINT WHICH IS N87°08'37"W 237.45' FROM AN EXISTING REBAR MARKING THE NORTHEAST CORNER OF SAID LOT 1 AND RUNNING THENCE S02°38'44"W 84.02', THENCE S87°08'58"E 225.91', THENCE N02°19'54"E 3.89', THENCE S87°40'04"E 12.00' TO THE WEST RIGHT-OF-WAY IN NORTHWEST A STREET, THENCE ALONG SAID RIGHT-OF-WAY S02°19'54"W 21.12', THENCE LEAVING SAID RIGHT-OF-WAY N87°04'50"W 293.00', THENCE N02°38'43"E 100.79', THENCE S87°08'37"E 55.00' TO THE POINT OF BEGINNING, CONTAINING 0.22 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

NEW LOT 9:
LOTS 1 & 2, TRACT B IN GREEN ACRES SUBDIVISION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS TO-WIT: BEGINNING AT AN EXISTING REBAR IN THE WEST RIGHT-OF-WAY OF NORTHWEST A STREET AND RUNNING THENCE ALONG SAID RIGHT-OF-WAY S02°19'54"W 40.00', THENCE LEAVING SAID RIGHT-OF-WAY N87°40'04"W 12.00', THENCE S02°19'54"W 1.89', THENCE N87°08'58"W 225.68', THENCE N02°38'44"E 42.02', THENCE S87°08'37"E 237.45' TO THE POINT OF BEGINNING, CONTAINING 0.23 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

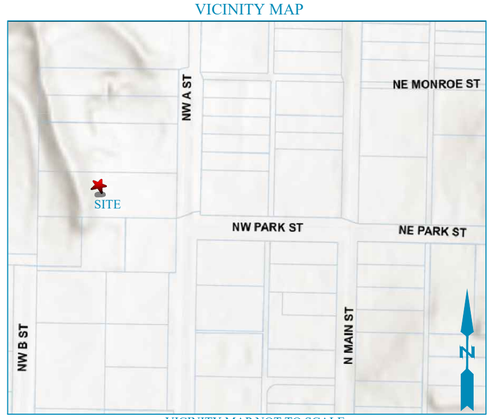
NEW LOT 10:
LOTS 1 & 2, TRACT B IN GREEN ACRES SUBDIVISION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS TO-WIT: BEGINNING AT A POINT IN THE WEST RIGHT-OF-WAY OF NORTHWEST A STREET WHICH IS S02°19'54"W 40.00' FROM AN EXISTING REBAR MARKING THE NORTHEAST CORNER OF SAID LOT 1 AND RUNNING THENCE ALONG SAID RIGHT-OF-WAY S02°19'54"W 40.00', THENCE LEAVING SAID RIGHT-OF-WAY N87°40'04"W 12.00', THENCE S02°19'54"W 3.89', THENCE N87°08'58"W 225.91', THENCE N02°38'44"E 42.00', THENCE S87°08'58"E 225.68', THENCE N02°19'54"E 1.89', THENCE S87°40'04"E 12.00' TO THE POINT OF BEGINNING, CONTAINING 0.23 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

VARIABLE WIDTH ACCESS EASEMENT PER THIS PLAT:
A VARIABLE WIDTH ACCESS EASEMENT LOCATED IN A PART OF LOTS 1 & 2, TRACT B IN GREEN ACRES SUBDIVISION TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, SAID EASEMENT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS TO-WIT: BEGINNING AT A POINT WHICH IS THENCE S02°19'54"W 80.00' FROM AN EXISTING REBAR MARKING THE NORTHEAST CORNER OF SAID LOT 1 AND RUNNING THENCE S02°19'54"W 21.12', THENCE N87°04'50"W 132.85', THENCE N02°51'02"E 100.97', THENCE S87°08'37"E 52.00', THENCE S02°51'02"W 84.01', THENCE S87°08'58"E 68.70', THENCE N02°19'54"E 3.89', THENCE S87°40'04"E 12.00' TO THE POINT OF BEGINNING, CONTAINING 0.15 ACRES, MORE OR LESS.

PLAT NOTES:
1. SOME FEATURES AND/OR SYMBOLS ON THIS PLAT MAY BE SHOWN OUT OF SCALE FOR VISUAL CLARITY.
2. THE LOCATION OF UTILITIES SHOWN HEREON ARE FROM OBSERVED EVIDENCE OF ABOVE GROUND APPURTENANCES, GIS, AND/OR UTILITY MAPS PROVIDED BY LOCAL UTILITY COMPANIES. NOT ALL UTILITY COMPANIES MAY HAVE RESPONDED TO OUR REQUEST FOR MAPS AND/OR INFORMATION. ALL UTILITY LINES APPEARING ON THIS PLAT, AS WELL AS THOSE THAT MAY EXIST UNDERGROUND NEED TO BE VERIFIED PRIOR TO DOING ANY TYPE OF EXCAVATION OR DESIGN. SOME UTILITY LINES MAY ALSO EXIST THAT WERE NOT SHOWN ON THIS PLAT.
3. SIDEWALKS SHALL BE THE RESPONSIBILITY OF THE BUILDER/OWNER AT TIME OF BUILDING PERMIT ISSUANCE.
4. OWNER/DEVELOPER SHALL COORDINATE WITH ALL LOCAL UTILITIES TO INSURE THAT EACH LOT HAS WATER, SEWER AND ELECTRIC SERVICE.
5. BEFORE ANY WORK IN THE RIGHT-OF-WAY COMMENCES, CONTRACTOR AND OR OWNER IS TO OBTAIN RIGHT-OF-WAY PERMIT FROM THE CITY OF BENTONVILLE TRANSPORTATION DEPARTMENT.
6. THERE MAY NOT BE ANY FENCES OR ANY OTHER STRUCTURES BUILT IN ANY DRAINAGE EASEMENTS.
7. THERE ARE NO WAIVERS, VARIANCES, OR CONDITIONAL USES BEING REQUESTED WITH THIS PROJECT.
8. NO RESIDENTIAL LOT SHALL BE PERMITTED DIRECT ACCESS TO A COLLECTOR OR ARTERIAL STREET. ALL RESIDENTIAL SUBDIVISION DEVELOPMENT CONTIGUOUS TO A COLLECTOR OR ARTERIAL STREET SHALL ORIENT FRONTAGE TO A LOCAL STREET, AND BACK OF THE PROJECT, WITHOUT ACCESS TO THE SAID MAJOR STREETS.
9) THIS PROPERTY IS LOCATED IN ZONE D (4) TRAFFIC PATTER ZONE (TPZ) - CITY OF BENTONVILLE MUNICIPAL AIRPORT

BEUD NOTES:
1. OWNER TO CONTACT NEW SERVICE COORDINATOR (271-3139) TO DISCUSS ELECTRIC SERVICE PRIOR TO BEGINNING ANY CONSTRUCTION. FAILURE TO CONTACT BEUD PRIOR TO CONSTRUCTION WILL RESULT IN DELAYS TO GET ELECTRIC SERVICE.
2. BEUD'S STANDARD PRACTICE IS TO PLACE UNDERGROUND EQUIPMENT (TRANSFORMERS, SECONDARY PEDESTALS, JUNCTION BOXES, ETC) ON THE LOT LINE OF A DEVELOPMENT. ANY ADJUSTMENTS TO THE PROPERTY LINE THAT RESULT IN OUR EQUIPMENT NOT BEING ON THE LOT LINE WILL REQUIRE THE DEVELOPER TO PAY FOR THE COST OF BEUD TO RELOCATE THE EQUIPMENT TO THE LOT LINE.
3. ALL STRUCTURES MUST MAINTAIN MINIMUM OF 20' CLEARANCES FROM ALL ELECTRIC LINES.
4. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO COORDINATE WITH THE NEW SERVICE COORDINATOR @ 479-271-3139 TO DETERMINE IF EQUIPMENT IS IN CONFLICT.
5. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO PAY FOR ANY COSTS ASSOCIATED WITH MOVING OF EQUIPMENT. THIS INCLUDES BUT IS NOT LIMITED TO ANY COSTS ASSOCIATED WITH LOSS OF EQUIPMENT (WIRE AND ELBOWS) AND LABOR AND MATERIAL TO MOVE THE EQUIPMENT TO THE NEW LOT LINE.

VICINITY MAP



VICINITY MAP NOT TO SCALE

BENTONVILLE PROJECT #LS24-0034

BATES Engineers • Surveyors
7230 S. Pleasant Ridge Dr. · Fayetteville, Arkansas 72704 · 479.442.9350

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FOR USE AND BENEFIT OF:
MARK HANEY

ADDRESS:
1003 NORTHWEST A STREET
BENTONVILLE, ARKANSAS

DATE: 09/19/24
SCALE: 1"=30'
SURVEYED:
DRAFTED: AH, BA
DRAFT DATE: 09/19/24
REVIEWED: DT
COA #1335

LOCATION:
LOTS 1 & 2
TRACT B
GREEN ACRES
SUBDIVISION

DRAWING #24-029 SPLIT V.2

ORDINANCE NO._____

AN ORDINANCE ACCEPTING A LOT SPLIT OF LOTS 1 AND 2 OF GREEN ACRES SUBDIVISION CREATING NEW LOTS 8, 9, AND 10 OF GREEN ACRES SUBDIVISION TO THE CITY OF BENTONVILLE, ARKANSAS; AND FOR OTHER PURPOSES.

(PROJECT NUMBER: LS24-0034)

WHEREAS, pursuant to the provisions of the Land Development Code of the Bentonville Municipal Code, the lot split of LOTS 1 AND 2 OF GREEN ACRES SUBDIVISION creating new LOTS 8, 9, AND 10 OF GREEN ACRES SUBDIVISION**,** Benton County, Arkansas, was submitted to the Bentonville Planning Commission on October 15, 2024;

WHEREAS, said lot split is attached hereto as Exhibit "A";

WHEREAS, the Bentonville Planning Commission considered said lot split on the date stated, and at other times, and voted to recommend the approval of said lot split to the City Council; and

WHEREAS, the lot split of real property as described herein has been submitted to the City Council of the City of Bentonville and, after consideration and deliberation, said Council is of the opinion that said lot split should be approved.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the lot split of LOTS 1 AND 2 OF GREEN ACRES SUBDIVISION creating new LOTS 8, 9, AND 10 OF GREEN ACRES SUBDIVISION to the City of Bentonville, Arkansas, should be and the same is hereby accepted and approved for all purposes;

Section 2: That the Mayor and City Clerk be and are hereby authorized and directed to evidence the acceptance of said lot split by certifying said acceptance on the approved lot split;

Section 3 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 4 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____

Stephanie Orman, Mayor

ATTEST:

_____

Malorie Marrs, City Clerk

Future Land Use Map Amendment - Hall - A-1, Agriculture to R-E, Residential Estate

9823 Gaston Road

PC Date: 10/15/2024

Staff Report Details

Project Number	RZ24-0036
Applicant / Current Owner	Fletcher Hall
Site Area	+/- 4.88 Acres
Current Zoning	A-1, Agriculture
Requested Zoning	R-E, Residential Estate
Current Future Land Use Map Designation	A-1, Agriculture
Requested Future Land Use Map Designation	Residential Estate
Development Type / Use	Single Family Residence
Related projects	N/A

Property Description

The subject property is located at 9823 Gaston Road. The property is presently zoned A-1, Agriculture, with a land use designation of Agriculture. The property has direct access to Gaston Road. Surrounding zoning districts include R-E, Residential Estate to the north, A-1, Agriculture to the south, Benton County to the west and the City of Rogers to the east.

Project Details

The applicant has requested a rezoning of the property from A-1, Agriculture to R-E, Residential Estate. The applicant states in their narrative they are requesting the zeroing in order to split the 4.88 acres into one additional estate lot.

Relationship to the General Plan / Projected Traffic Impact

The property is presently zoned A-1, Agriculture and designated as Agriculture on the Future Land Use Map. The applicant is requesting to change the future land use classification and zoning to Residential Estate.

Relationship to the General Plan / Projected Traffic Impact

Residential estate areas include large detached single-family residential properties at least one acre in size. These areas may also include public uses that support residents.

This zoning request does not align with the Future Land Use Map. This location is within Priority Area 3 of the Community Plan, Edge Growth Development, recommending R-E, Residential Estate for the Residential Estate land use.

Priority Area 3, Edge Growth, Focuses on development in areas proximate to existing infrastructure in order to capitalize on municipal investment that has already taken place

Regarding traffic, the applicant states there will be no impact on local traffic.

Public Comment

Has Staff received Public Comment at the time of this report? : **No**

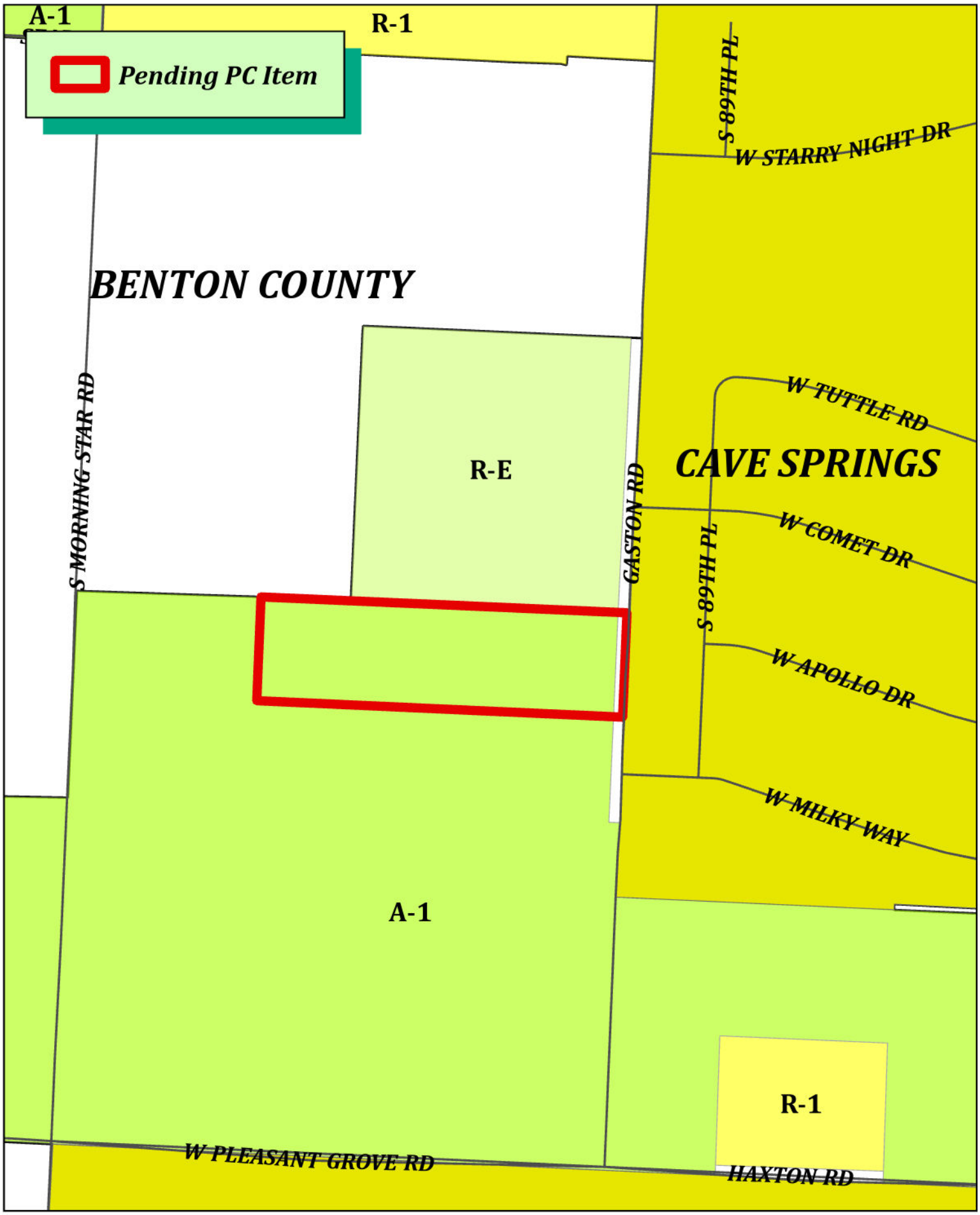
Analysis / Waivers

The subject property is surrounded by agricultural and large lot estate lots and the requested land use and zoning changes support the goals of the Bentonville Community Plan, Priority Area 3, Edge Growth.

Conclusion

Given this property's location within a rural area as well as the Community Plan's call for Edge Growth in this area of the city, staff recommends approval of this request.

Additional Details



RZ24-0036
Fletcher Hall
A-1 to R-E

Scale
1" = 90'

To: Bentonville City Planning Commission

From: Fletcher Hall

4.8 Acres Gaston Rd. (Parcel 01-18936-000) is zoned Agricultural-1 and I'm proposing new rezoning to R-E. The current owner is Fletcher Hall. I need to rezone in order to split the land one more time. Rezoning to R-E will still be in line with the current residents in the area.

RESOLUTION NO. _____

A RESOLUTION AMENDING THE CITY OF BENTONVILLE FUTURE LAND USE MAP FOR A SPECIFIC AREA FROM AGRICULTURE TO RESIDENTIAL ESTATE; AND FOR OTHER PURPOSES.
(PROJECT NUMBER: RZ24-0036)

WHEREAS, Roger Song duly filed a petition with the Planning Commission requesting that the hereinafter described property situated in Benton County, Arkansas, be changed from its present land use classification of AGRICULTURE to RESIDENTIAL ESTATE, which property is described as follows:

PART OF THE SOUTHWEST QUARTER {SW1/4) OF THE NORTHEAST QUARTER (NE 1/4), SECTION 26, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, AND BEING MORE PARTICULARLY DESCRIBED AS; BEGINNING AT THE NE CORNER OF THE SW 1/4 OF THE NE /4 OF SAID SECTION 26, THENCE S02°21°29"W 249.63 FEET: THENCE N87°25'14"W 875.22 FEET; THENCE NO2°20'57"E 248.13 FEET; THENCE S87°31'08"E 875.25 FEET TO THE POINT OF BEGINNNG, CONTAINING 217.823.39 SQUARE FEET OR 5.00 ACRES, MORE OR LESS. ALSO KNOWN AS LOT 1, FRAZIER ADDITION, TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN ON PLAT RECORD L20202026989;

WHEREAS, the Planning Commission duly met and considered the application and duly set the petition for public hearing to be held October 15, 2024 at the Council Chambers of the City of Bentonville;

WHEREAS, public notice of said hearing having been published in the Northwest Arkansas Democrat Gazette for the time and in the manner required by law; and

WHEREAS, the Planning Commission voted to recommend to the City Council that the petition be approved and that said future land use classification as presented on the property be changed.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the above described real property is hereby changed from its present land use classification of AGRICULTURE to RESIDENTIAL ESTATE on the City of Bentonville Future Land Use Map;

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED AND APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk

ORDINANCE NO. _____

AN ORDINANCE CHANGING REAL ESTATE IN THE CITY OF BENTONVILLE, ARKANSAS, FROM ITS PRESENT ZONING CLASSIFICATION OF A-1, AGRICULTURAL TO R-E, RESIDENTIAL ESTATE; AND FOR OTHER PURPOSES.
(PROJECT NUMBER: RZ24-0036)

WHEREAS, Roger Song duly filed a petition with the Planning Commission requesting that the hereinafter described property situated in Benton County, Arkansas, be changed from its present zoning classification of A-1, AGRICULTURAL to R-E, RESIDENTIAL ESTATE to be used in accordance with city zoning laws and state laws, which property is described as follows:

PART OF THE SOUTHWEST QUARTER {SW1/4) OF THE NORTHEAST QUARTER (NE 1/4), SECTION 26, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, AND BEING MORE PARTICULARLY DESCRIBED AS; BEGINNING AT THE NE CORNER OF THE SW 1/4 OF THE NE /4 OF SAID SECTION 26, THENCE S02°21°29"W 249.63 FEET: THENCE N87°25'14"W 875.22 FEET; THENCE NO2°20'57"E 248.13 FEET; THENCE S87°31'08"E 875.25 FEET TO THE POINT OF BEGINNNG, CONTAINING 217.823.39 SQUARE FEET OR 5.00 ACRES, MORE OR LESS. ALSO KNOWN AS LOT 1, FRAZIER ADDITION, TO THE CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN ON PLAT RECORD L20202026989;

WHEREAS, the Planning Commission duly met and considered the application and duly set the petition for public hearing to be held October 15, 2024 in the Council Chambers of the City of Bentonville;

WHEREAS, public notice of said hearing having been published in the Northwest Arkansas Democrat-Gazette for the time and in the manner required by law; and

WHEREAS, the Planning Commission voted to recommend to the City Council that the petition be approved and that said property be rezoned from its present classification of A-1, AGRICULTURAL to R-E, RESIDENTIAL ESTATE.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the above described real property is hereby changed from its present zoning classification of A-1, AGRICULTURAL to R-E, RESIDENTIAL ESTATE to be used in accordance with the city zoning laws and state laws;

Section 2 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk

	Future Land Use Map Amendment - Vaishno Groups, LLC - General Commercial to Medium Density Residential (MDR)
	Southwest 14th Street
	PC Date: 10/15/2024

Staff Report Details

Project Number	PRD24-0007
Applicant / Current Owner	Olsson/Vaishno Groups, LLC
Site Area	+/- 25.27 Acres
Current Zoning	C-2, General Commercial & C-1, Neighborhood Commercial
Requested Zoning	Planned Residential Development (PRD)
Current Future Land Use Map Designation	General Commercial
Requested Future Land Use Map Designation	Medium Density Residential (MDR)
Development Type / Use	Multi-family and townhomes
Related projects	LS24-0030

Property Description

The subject property is a single parcel with currently two zoning designations: C-2, General Commercial from the street frontage to approximately 765 feet south, and C-1, Neighborhood Commercial making up the remainder of the southern portion of the property. The current land use for the entire property is General Commercial. Surrounding zoning districts include C-2, General Commercial to the East and West; C-1, Neighborhood Commercial to the West; R-3, Medium-High Density Multifamily Residential to the East; R-2, Medium Density Two Family and Townhome Residential to the South; R-ZL, Zero Lot Line Residential to the South; and unincorporated county to the North and West. Surrounding land uses include General Commercial to the East and West; High Density Residential (HDR) to the East; Low Density Residential (LDR) to the South, Open Space to the Southwest, and Utility/Transportation to the North and West. The property has direct access to Southwest 14th Street and Southwest Mossy Stone Road, the stub from the south, as well as Southwest 16th Street, a private street stub from the East.

Project Details

This project is returning to Planning Commission with a new public hearing as the legal description provided with the original request was incorrect. In keeping with City and State code regarding rezonings, a new public hearing and vote of the item must be held.

Project Details

The applicant is proposing a Planned Residential Development (PRD) consisting of a mix of residential types and units, including four (4) townhome structures of a total of sixteen (16) units and four (4) multifamily structures consisting of 292 units. One (1) leasing office, one (1) maintenance structure, and one (1) trash structure are also proposed on site. Altogether, the proposed development would consist of 308 total units: of the townhome units, all sixteen (16) will be 3-bed; of the multifamily units, 158 will be 1-bed, 114 will be 2-bed, and twenty (20) will be 3-bed.

Also included on the site are additional amenities for residents as well as the Razorback Greenway Connection that is required with the Master Trail Plan and is being coordinated with the Uhaul project next door.

2 parking spaces are provided for each townhome - 2 garage spaces. 614 total spaces are provided for the multifamily portion, delivering a parking ratio of 2.08 spaces per unit, above the 1.5 spaces per unit that we typically require from multifamily developments. 72 bicycle parking spaces are also proposed. Access to the development is proposed through a new curb cut along Southwest 14th Street that will tie into a cross connection to both the Uhaul project and the existing neighboring Caliber Collision. The project also proposes a new cross connection to the West to the property presently in the County, and ties into existing street stubs to the South and East.

Open space is provided in excess of the required 15% that includes trail and pet park amenities.

Each townhome building is proposed to be two (2) stories at a maximum height of 33 feet 11 inches. Exterior materials are proposed to consist of 15% brick, and 85% cementitious siding. The four (4) story multi-family structures are proposed at a maximum height of 51 feet 6 inches, and consist of a mix of 10% brick and 90% cementitious siding. The three (3) story multi-family structure has a proposed maximum height of 47 feet 2 inches and consists of 10% brick and 90% cementitious siding, making use of both primary and special use primary materials. The leasing office is a proposed one (1) story building that consists of a brick skirting and cementitous siding. The mail kiosk is proposed as a one (1) story structure that is a mix of brick and cementitious siding. The trash enclosure is proposed to be mostly brick with a wooden gate.

The applicant lists allowed uses that are limited to residential uses or amenity uses that are customarily associated with multi-family developments.

Please see the applicant's materials for additional information and drawings.

Relationship to the General Plan / Projected Traffic Impact

Traffic will likely increase to this site as it is presently undeveloped. The site design provides easy access to 14th Street. Traffic going through either of the street stub connections is likely to be minimal as few destinations are directly accessed through those connections. Access to the Greenway Connector as well as the future trail section along 14th Street should provide residents' opportunity to access nearby destinations on foot or by bike. The traffic study conducted for the site does recommend a right-turn lane be added to eastbound 14th Street.

The Community Plan, in Chapter 4, Land Use and Strategic Growth, identifies this property as New Growth, meaning the property is vacant or undeveloped and is an area of change that is most likely to "develop and accommodate Bentonville's anticipated growth in population, commerce, and employment." This project also lies within Priority Area 3, Edge Growth, which as identified in the Community Plan is an area

Relationship to the General Plan / Projected Traffic Impact

where "land that is proximate to existing infrastructure should be considered for new growth and development," and contains 3 primary goals:

1. Accommodate anticipated long-term population growth
2. Maintain a desirable neighborhood character
3. Minimize the need for additional below-grade and surface infrastructure to accommodate growth.

This development seems to meet all three goals. Both the New Growth and Edge Growth designations coincide on this property and indicate that this property is considered a strong candidate for development and capability to accommodate Bentonville's growth. The proposed layout of the development situates the lower-density, lower-intensity townhome uses along the perimeter near existing single-family homes in the southeast of the property. This would maintain the existing neighborhood character of a mix of low-density residential uses that already exists within the Stone Meadows neighborhood. Lastly, utility access is either already on site or can be readily extended to the existing system with short connections.

This priority area further directs edge growth in a responsible manner by discouraging zoning requests for new residential development in areas located more than a quarter-mile from existing public utilities, preventing premature development within unincorporated Benton County, approving new subdivisions only if they are within a quarter-mile of existing infrastructure and serve as logical connections or extensions, and lastly encouraging preservation of land for or integration of local commercial uses in new residential subdivisions. This proposal appears to meet several of these directives: first, the proposal is within a quarter-mile of existing public utilities and infrastructure and the development, while not a subdivision, does provide connections to existing or future commercial uses along the 14th Street frontage.

Chapter 5 of the Community Plan references Neighborhoods and Housing and directs 5 goals for residential areas to strive for. These include:

1. Providing a variety of housing types that meet the spectrum of demands from Bentonville's diverse population.
2. Improving the character of existing neighborhoods and ensuring that future neighborhoods reflect a compatible and high level of design.
3. Providing proximity to, or integrate within neighborhood development, resident-based services such as parks, trails, public facilities, and local commerce.
4. Using creative, market-driven tools to maintain housing availability for all socioeconomic levels.
5. Providing the residential environments that support the city's economic engine, employment base, and commerce.

The proposed development would meet several of these goals by providing a multifamily housing product in a part of town where there is an existing mix of uses, particularly residential uses with single-family, two-family, townhomes, and multifamily residential uses within the vicinity. The design of the development is of a high level, incorporating quality materials and several architectural design features; the development is also sited in a way that places the least intense, and most compatible residential use - townhomes - nearest to the existing neighborhood. Given that this neighborhood is already a mixed residential neighborhood, the townhomes act as a logical extension of that mix as well as a buffer or separation between the less dense existing homes and the higher-density apartments. Recreation uses are integrated into this project, as well as the connection to the Razorback Greenway which is a part of the Master Trails Plan. The addition of more housing units would serve to support the city's economic engine and employment base in particular.

Relationship to the General Plan / Projected Traffic Impact

This chapter also discusses supporting aging in place by increasing housing diversity at the block and neighborhood level that "allow[s] for down-sizing within the local area."

Chapter 6 of the Community Plan identifies this property as an Area of New Neighborhood Investment. The Plan identifies 8 features that new neighborhoods in these designated places provide:

1. Logical connections to the surrounding roadway network. This development is making use of all of the street stubs already in place for this purpose and providing additional connections to undeveloped properties or properties that are under construction.

2. A well-connected neighborhood grid. While not a typical subdivision, and not possessing any public streets, the proposed development is laid out in a grid-like fashion with all drive aisles connected and the only dead ends being stub out to future development. This development also connects to the existing stubs to improve connectivity to and between existing neighboring residential areas.

3. Dedicated recreational open spaces and detention areas. This development provides both of these features.

4. Adequate right-of-way for on-street bike routes or dedicated bikeways. The proposed development provides the Razorback Greenway Connector through the site in accordance with the Master Trails Plan.

5. Buffers abutting impactful non-residential uses or arterial streets. The development is sited to be at the rear of the site away from the major arterial and commercial uses up towards the street.

6. Local access to adjacent commercial corridors and nodes. The proposal provides a shared access drive across the front of the property to connect to adjacent commercial uses.

7. Local housing diversity and compatible character. The development provides a mix of housing, both townhomes and multifamily, which are placed in a way to increase density in parts of the development further away from existing low-density uses. The design of the exterior of the buildings in the development are traditional in style and similar in materiality.

8. Attractive design of the public realm. The development preserves greenspace and wetlands near the front of the property. A sidepath will be required along the 14th Street frontage.

Chapter 6 of the Community Plan, which deals primarily with commerce and industry, does identify the 14th Street corridor west of Been Road, of which a portion of this subject property is apart, having a core focus being "development as a primarily mixed commercial corridor fronting on 14th, with thriving adjacent residential neighborhoods located to the north and south, and industrial and office uses on the northeast end." Further, the diagram identifies the frontage along 14th Street, roughly 350-feet deep as being a part of this area, but specifically calling out the use of residential setback this distance to allow for commercial up front. In this development proposal, the frontage is largely remaining undeveloped but for the shared access drive. This would preserve this frontage for future commercial development in line with this chapter. However, the existence of extensive wetlands will likely curtail the pressure on this portion of the 14th Street frontage to develop further.

Relationship to the General Plan / Projected Traffic Impact

Chapter 8, dealing with open space, only identifies the wetlands existing on this property.

Public Comment

Has Staff received Public Comment at the time of this report? : **No**

Analysis / Waivers

The applicant has proposed a development consisting of a mix of housing types, preservation of open space, connectedness to the existing neighborhoods, and sensitive site planning to existing residential uses and neighborhoods. The proposal also provides a buffer of denser residential uses between existing less-dense uses and a major commercial and traffic corridor - 14th Street. The site design offers internal connectivity, options for recreation and multimodal uses, and traditional, compatible architecture to surrounding residential uses.

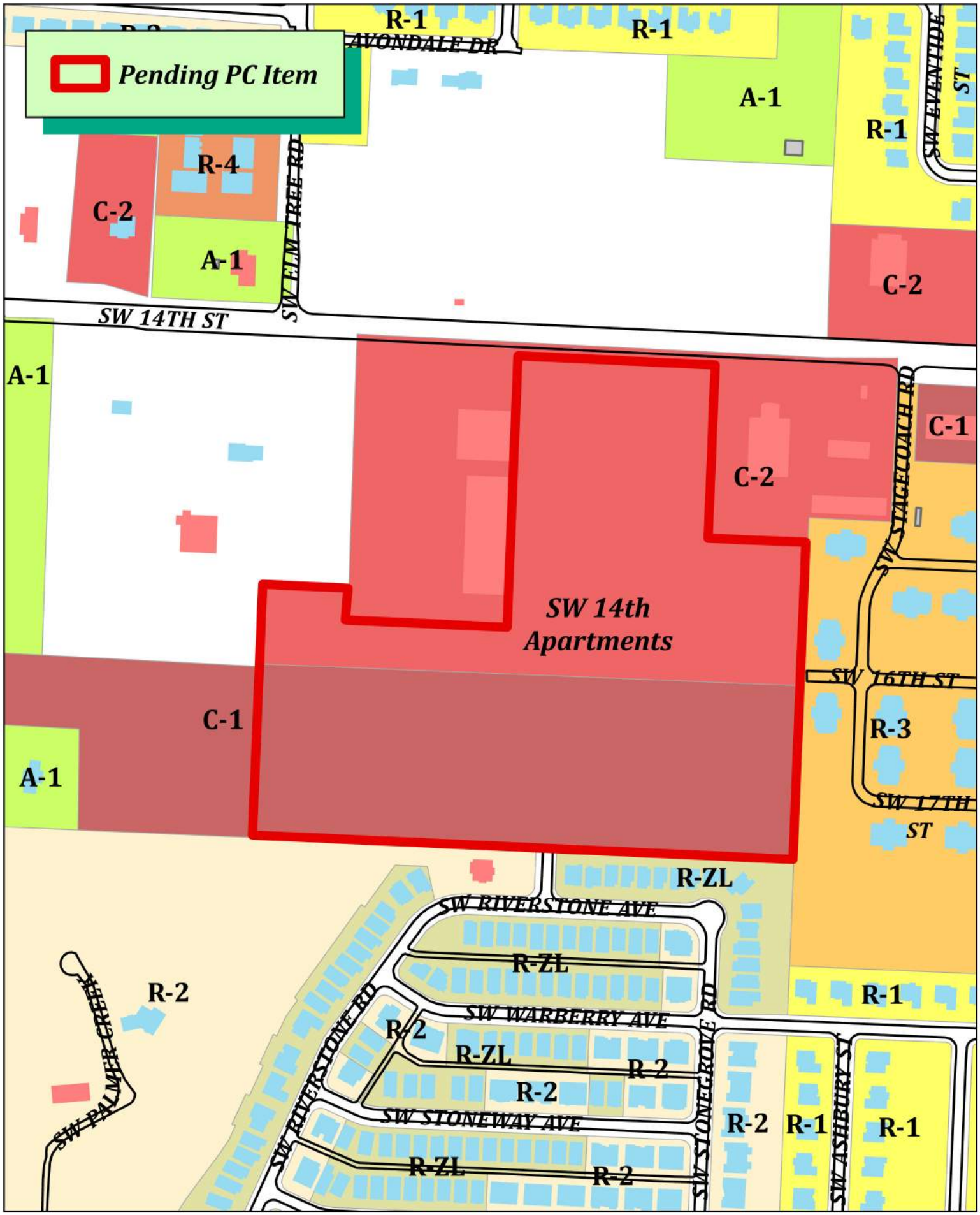
The proposal meets all recommendations of the Community Plan and the requirements of the PRD zoning district.

Conclusion

Staff recommends approval of this PRD with the following conditions:

1. Inbound traffic shall be free flowing at Drive 1 to prevent queuing into 14th Street. To that end, the applicant shall construct a minimum 200-foot taper for an eastbound right-turn lane on Southwest 14th Street at Drive 1 as referenced in the traffic report, or as approved by ArDOT, with the LSD.
2. The sidepath as shown in the Master Trails Plan shall be built with the accompanying LSD.
3. Drive 1, as referenced in the Traffic Report, shall be constructed with two 12-foot outbound lanes and one 14-foot inbound lane in accordance with the access management policies of NWARPC.
4. Applicant shall provide a drainage basin in the Southwest corner of the project as shown on the PRD site plan.
5. The southerly connection shown on the site plan to Mossy Stone Road shall be for pedestrian and bikes only, or as approved by the Fire Marshal.

Additional Details



PRD24-0007
SW 14th Street Multifamily
SW 14TH ST

PROPERTY OWNER

Vaishno Groups, LLC.
Attn: Anil Kumar Puram
4105 SW Acres Ave.
Bentonville, AR 72713

PROPERTY INFORMATION

Parcel ID: 01-20433-000	Acreage: 25.27 acres

PROJECT INFORMATION

Total Acreage	25.27 acres
Current Zoning	C-1 (Neighborhood Commercial) & C-2 (General Commercial)
Proposed Zoning	PRD – Planning Residential Development
Current Land Use	General Commercial
Proposed Land Use	Medium-Density Residential

APPLICANT / REPRESENTATIVE

Connor Lemmerhirt
Olsson Associates
3537 North Steele Blvd
Fayetteville, AR 72703

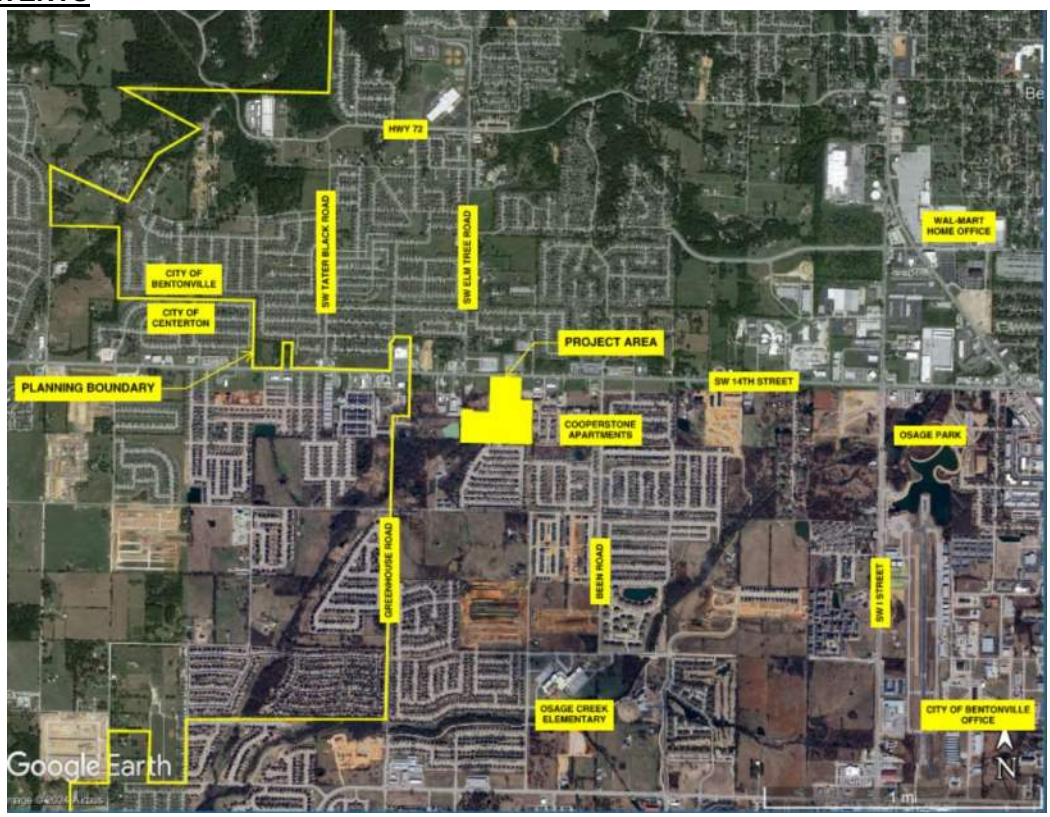
DEVELOPER

Tellus Partners
4983 New Peachtree Road, Suite B
Chamblee, GA 30341
Cell: 404-798-5974

ARCHITECT

English Associates, Inc.
3084 Mercer University Dr., Suite 100
Atlanta, GA 30341
Phone: 470-395-6263

PRD EXTENTS



INTENT

On behalf of the developer, Olsson Associates is pleased to present a proposed Planned Residential Development to the City of Bentonville for consideration. The 25.27-acre SW 14th Street Multifamily site will consist of a residential development with multifamily and townhome uses bordered by SW 14th Street to the north, Copperstone Apartments (R-3 zoning) to the east, Stone Meadow Subdivision (R-ZL zoning) to the south and undeveloped land to the west (C-2 zoning). The current property is dual zoned as C-1 (Neighborhood Commercial) and C-2 (General Commercial). The development will consist of 308 total units split into 28 three-story apartment units, 264 four-story apartment units and 16 two-story townhome units with associated site improvements such as off-street parking, site amenities, private drives, courtyard areas, an extension of the Razorback Greenway trail, detention ponds and utility infrastructure which will meet the requirements of PRD zoning as shown in the Master Site Plan. The development is not planned to be phased at this time.

As part of the site amenities within the development, a leasing office at the northeast corner of the site will contain an outdoor pool, fitness center, café and conference rooms for tenant use. Site amenities will also include a dog park at the southwest corner of the site, courtyards for public use, trash compaction, recycling facilities, grilling area, public bike path with rest area and open areas for athletics.

The request to rezone from Neighborhood and General Commercial (C-1 & C-2) to Planned Residential Development (PRD) is to meet the permitted modifications allowed by the PRD development criteria and will mostly adhere to the zoning district regulations established for R-3 zoning. A list of uses and modifications to be associated with this PRD are listed below.

ALLOWED PROPERTY USES

Multi-Family Residential Apartments
Townhouses
Leasing Office
Outdoor Pool & Associated Courtyard Space for Tenant & Guest Use
Indoor & Outdoor Amenities for Tenant & Guest Use
Indoor & Outdoor Amenities for Tenant, Guest and Public Use
Covered Carports
Attached Garages
Property Maintenance Structure

BUILDING SETBACKS

Front: 90’
Interior Side: 35’
Exterior Side: 35’
Rear: 50’

BUILDING HEIGHTS

See Building Elevations
Max. Allowed Building Height: 60’

EXTERIOR BUILDING FINISH MATERIALS

See Building Elevations for Materials and Percentages

PARKING:

The development will provide an adequate amount of parking for all uses which will include vehicle and bicycle spaces. The proposed design includes 646 total vehicle parking spaces which will provide a parking ration of 2.08 which is well above the minimum 1.50 parking ratio that is typically required for multi-family developments. Due to the incorporation of the Razorback Greenway into this development, 72 bicycle parking spaces will be provided independent of the vehicle parking for pedestrian use.

STRUCTURAL DESIGN

The project is comprised of:

A. One – 3 story building with Type VA constriction protected with a NFPA 13F Fire Suppression System

B. Three – 4 story buildings with Type VA constriction protected with a NFPA 13F Fire Suppression System

C. Four – 2 story townhouse buildings with Type VB construction and 2-hour fire vertical separation walls between townhouse units.

D. A 1 story Clubhouse/Leasing building with Type VB construction and Pool Deck.

E. Other ancillary buildings include a trash compactor enclosure, maintenance building and mail kiosk

All buildings will be wood framed with 2x6 exterior walls and 2x4 interior non-load bearing walls.

Foundation system for all buildings will be monolithic concrete slab with turndown footings. The foundations system will be post tensioned. The building walls with be anchored to the concrete slab with a CLP tie down rod system.

Floor framing will be open web pre-fabricated trusses.

Roof framing will be pre-fabricated trusses, with plywood roof decking and Class A Shingles.

The building envelope will meet International Building Code minimum standards.

All dwelling units will have a 1 Hour rated separation both vertical and horizontal.

Wind loads will be handles with plywood/OSB shear walls with the nailing pattern designed by a structural engineer registered in the State of Arkansas.

STORMWATER DETENTION

As shown in the Master Site Plan, the locations and size of the stormwater detention ponds are schematic and will be designed to meet City of Bentonville's Stormwater Management and Drainage Manual as required by Engineering staff. Green Streetscape Infrastructure and Green Stormwater Infrastructure will be utilized within key areas of the site for detention capacity and to provide an urban style of development to the project.

UTILITIES

Based on City of Bentonville GIS and surveyed information, existing utilities to facilitate this development are located around the site and can be easily accessed without offsite public extensions. After rezoning, the developer and Olsson will develop utility plans that meet Bentonville Water Utilities standard specifications and requirements that will be submitted as part of the Large Scale Development process for review and approval. During that process all public water and sanitary sewer infrastructure will need to be located within greenspace and utility easements as specified within the approved specifications. Based on the current unit count, a peak daily flow of 235 gpm can be anticipated for the entire development.

OPEN SPACE REQUIREMENTS

To meet City of Bentonville requirements, a total of 15% common and usable open space area is required throughout the site. With a total site area of 25.27-acres, 3.79 acres of open space will be required. This requirement will be meet by providing the previously mentioned courtyard areas, dog park, Razorback Greenway trail, swimming pool areas being proposed and shown on the Master Site Plan.

PROHIBITED MODIFICATIONS

The development will meet all City of Bentonville's zoning and development standards for sign requirements, grading and drainage, access management, outdoor lighting, landscaping and screening, residential light standards and flood damage protection.

Should you have any questions, please contact me at 903.293.7996 or at clemmerhirt@olsson.com.

Sincerely,

Connor L. Lemmerhirt, E.I.
Olsson Associate Engineer

BENTONVILLE APARTMENTS

AN APARTMENT DEVELOPMENT

BENTONVILLE, ARKANSAS

FOR

TELLUS PARTNERS

REGISTERED ARCHITECT
DAVID ENGLISH
License No. 9139
STATE OF ARKANSAS

PROPERTY OWNER
TELLUS PARTNERS
4983 NEW PEACHTREE ROAD, SUITE B
CHAMBLEE, GEORGIA 30341 (404) 798-5974

ARCHITECTS
ENGLISH ASSOCIATES, INC.
3084 MERCER UNIVERSITY DRIVE, SUITE 100
ATLANTA, GEORGIA 30341 (470) 395-6263

LIST OF DRAWINGS:

A0.0 COVER SHEET
A0.2 SITE PLAN
A0.2A SITE AREA CALCULATION
A2.0 BUILDING 1 FLOOR PLANS
A2.1 BUILDING 2 & 3 FLOOR PLANS
A2.2 BUILDING 4 FLOOR PLAN
A2.3 BUILDING 4 FLOOR PLAN
A5.0 BUILDING 1 ELEVATIONS
A5.1 BUILDING 2 & 3 ELEVATIONS
A5.2 BUILDING 4 ELEVATIONS
A5.3 BUILDING 4 ELEVATIONS
A5.4 CONCEPTUAL APARTMENT BLDG. RENDERING
A5.5 CONDENSER SCREEN RENDERING
A9.0 TRASH COMPACTOR AND ELEVATIONS
A9.1 MAIL KIOSK PLANS AND ELEVATIONS
A10.0 LEASING OFFICE FLOOR PLAN
A10.4 LEASING OFFICE ELEVATIONS
A10.5 LEASING OFFICE ELEVATIONS
A11.0 CONCEPTUAL TOWNHOUSE REDERING
A11.1 TOWNHOUSE T1 & T3 FLOOR PLANS
A11.2 TOWNHOUSE T2 & T4 FLOOR PLANS
A11.3 TOWNHOUSE T1 & T3 ELEVATIONS
A11.4 TOWNHOUSE T2 & T4 ELEVATIONS

08-22-2024

LOT SPLIT FOR LOT 2 OF GERBER SUBDIVISION

CREATING LOTS 3 & 4

SW 14TH STREET
BENTON COUNTY
BENTONVILLE, AR 72712

MISCELLANEOUS NOTES

STATE RECORDING NUMBER:
500-19N-31W-0-02-140-04-1659

COMPLETED FIELD WORK:
SEPTEMBER 30, 2022

REFERENCE DOCUMENTS:
1. WARRANTY DEED FILED UNDER INSTRUMENT NUMBER L201946829.
2. SURVEY PLAT FILED UNDER INSTRUMENT NUMBER L202241026.

BASIS OF BEARING:
THE BASIS OF BEARING OF THIS SURVEY IS GRID NORTH, BASED ON ARKANSAS STATE PLANE COORDINATE SYSTEM, NORTH ZONE NAD83.

SOME FEATURES SHOWN ON THIS PLAT MAY BE SHOWN OUT OF SCALE FOR CLARITY.

DIMENSIONS ON THIS PLAT ARE EXPRESSED IN FEET AND DECIMAL PARTS THEREOF UNLESS OTHERWISE NOTED. MONUMENTS WERE FOUND AT POINTS WHERE INDICATED.

EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS PLAT, THIS SURVEY DOES NOT PURPORT TO REFLECT OF ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT PROPERTY: EASEMENTS, OTHER THAN POSSIBLE EASEMENTS WHICH WERE VISIBLE AT THE TIME OF SURVEY; RESTRICTIVE COVENANTS; SUBDIVISION RESTRICTIONS OR OTHER LAND USE REGULATIONS; AND ANY OTHER FACTS WHICH AN ACCURATE TITLE SEARCH MAY DISCLOSE.

BEFORE ANY WORK IN THE RIGHT-OF-WAY COMMENCES, CONTRACTOR AND OR OWNER IS TO OBTAIN RIGHT-OF-WAY PERMIT FROM THE CITY OF BENTONVILLE TRANSPORTATION DEPARTMENT.

OWNER/DEVELOPER SHALL COORDINATE WITH ALL LOCAL UTILITIES TO ENSURE THAT EACH LOT HAS WATER, SEWER AND ELECTRIC SERVICE.

SIDEWALKS SHALL BE THE RESPONSIBILITY OF THE BUILDER/OWNER AT TIME OF BUILDING PERMIT ISSUANCE.

THERE MAY NOT BE FENCES OR ANY OTHER STRUCTURES BUILT IN ANY DRAINAGE EASEMENTS.

APPROVAL OF THE PLAT DOES NOT CARRY ANY ASSURANCES THAT THE TRACT OR TRACTS WILL QUALIFY FOR A SEPTIC SYSTEM PERMIT FROM THE ARKANSAS HEALTH DEPARTMENT.

APPROVAL OF THIS PLAN DOES NOT IN ANY WAY INDICATE THAT ANY OF THE LOTS ON THIS PLAN ARE BUILDABLE ACCORDING TO THE PLANNING REGULATIONS OF BENTON COUNTY, ARKANSAS, NOR AN ENDORSEMENT BY THE PLANNING BOARD OF SAID BUILDABILITY OF SAID LOTS.

ALL STRUCTURES MUST MAINTAIN A MINIMUM OF 20' CLEARANCE FROM ALL ELECTRIC LINES.

PROPOSED USE - SINGLE FAMILY RESIDENTIAL.

THERE APPEARS TO BE EVIDENCE OF DELINEATED WETLAND AREAS, PER THE U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY WEBSITE. NO MARKERS FROM A FIELD DELINEATION OF WETLANDS CONDUCTED BY A QUALIFIED SPECIALIST WERE OBSERVED DURING THE COURSE OF THE SURVEY.

SETBACKS SHALL BE PER THE CURRENT ZONING DISTRICT AS STATED IN THE MOST RECENT CITY OF BENTONVILLE ZONING CODE. FOR MORE INFO VISIT www.bentonvilleplanning.com OR CALL THE PLANNING DEPARTMENT @ 479-271-3122.

SURVEY DESCRIPTION

PARENT PARCEL: LOT 2 GERBER SUBDIVISION (INSTRUMENT # L202241026)
A PART OF THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF THE SAID FRACTIONAL FORTY

RIGHT OF WAY OF SOUTHWEST 14TH STREET (ARKANSAS STATE HIGHWAY

SOUTHEAST CORNER OF THE SAID FRACTIONAL FORTY ACRE TRACT; THENCE

31.27 ACRES, MORE OR LESS. SUBJECT TO EASEMENTS AND RIGHTS OF WAY OF RECORD.

LOT 3
A PART OF THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A FOUND 5/8" REBAR MARKING THE SOUTHWEST CORNER

5/8" REBAR ON THE SOUTH RIGHT-OF-WAY OF SOUTHWEST 14TH STREET (ARKANSAS STATE HIGHWAY 102); THENCE ALONG SAID RIGHT-OF-WAY

REBAR MARKING THE SOUTHEAST CORNER OF SAID FRACTIONAL FORTY

CONTAINING 25.275 ACRES, MORE OR LESS. SUBJECT TO EASEMENTS AND RIGHT-OF-WAYS OF RECORD.

LOT 4
A PART OF THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A FOUND 5/8" REBAR MARKING THE SOUTHWEST CORNER

586.25' TO A FOUND 1/2" CAPPED REBAR "1659" ON THE SOUTH RIGHT-OF-WAY OF SOUTHWEST 14TH STREET (ARKANSAS STATE HIGHWAY 102); THENCE

TO THE POINT OF BEGINNING, CONTAINING 6.000 ACRES MORE OR LESS. SUBJECT TO EASEMENTS AND RIGHT-OF-WAYS OF RECORD.

FLOOD ZONE INFORMATION

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE "X" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 05007C0255K, WHICH BEARS AN EFFECTIVE DATE OF 06/05/2012 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

ZONE "X" - AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM 100-YEAR FLOOD.

UTILITY INFORMATION

THE LOCATION OF UTILITIES SHOWN HEREON ARE FROM OBSERVED EVIDENCE OF ABOVE GROUND APPURTENANCES ONLY. THE SURVEYOR WAS NOT PROVIDED WITH UNDERGROUND PLANS OR SURFACE GROUND MARKINGS TO DETERMINE THE LOCATION OF ANY SUBTERRANEAN USES.

SIGNATURE BLOCKS

CERTIFICATE OF OWNER:
WE THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OFF, PLATTED, AND SUBDIVIDED AND DO HEREBY LAY OFF, PLAT, SUBDIVIDE SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT AND DO HEREBY DEDICATE TO THE USE OF THE PUBLIC THE STREETS, ALLEYS, DRIVES, EASEMENTS, ETC. AS SHOWN ON SAID PLAT.

DATE OF EXECUTION: _____

SIGNED: _____
NAME & ADDRESS

SOURCE OF TITLE: D.R. _____ PAGE _____

CERTIFICATE OF SURVEYING ACCURACY:
I, WILLIAM GAGNER, HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A BOUNDARY SURVEY MADE BY ME AND BOUNDARY MARKERS AND LOT CORNERS SHOWN HEREON ACTUALLY EXIST AND THEIR LOCATION, TYPE AND MATERIAL ARE CORRECTLY SHOWN AND ALL MINIMUM REQUIREMENTS OF THE ARKANSAS MINIMUM STANDARDS FOR LAND SURVEYORS HAVE BEEN MET.

DATE OF EXECUTION

_____
WILLIAM GAGNER
REGISTERED PROFESSIONAL LAND SURVEYOR
NO. AR-1659
STATE OF ARKANSAS

CERTIFICATE OF APPROVAL:
PURSUANT TO THE BENTONVILLE SUBDIVISION REGULATIONS AND ALL OTHER CONDITIONS AND APPROVAL HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE AUTHORITY OF THE SAID RULES AND REGULATIONS.

DATE OF EXECUTION: _____

SIGNED: _____
BENTONVILLE PLANNING COMMISSION CHAIRMAN

SIGNED: _____
MAYOR CITY OF BENTONVILLE

SIGNED: _____
CITY CLERK, CITY OF BENTONVILLE

STATE OF ARKANSAS
COUNTY OF _____
SUBSCRIBED AND SWORN BEFORE ME THIS _____DAY OF _____ 2022.

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES _____

OWNER/DEVELOPER

VAISHNO GROUPS LLC
SW 14TH STREET, BENTONVILLE, AR 72712
APN: 01-00828-115

ZONING INFORMATION

CURRENT ZONING:
C-2, GENERAL COMMERCIAL

SETBACK REQUIREMENTS
FRONT: 20 FEET
SIDE: 7 FEET WHEN ADJACENT TO NON- RESIDENTIAL DISTRICT, 30 FEET WHEN ADJACENT TO RESIDENTIAL DISTRICT.
REAR: 30 FEET WHEN ADJACENT TO RESIDENTIAL DISTRICT, 20 FEET WHEN ADJACENT TO NON-RESIDENTIAL DISTRICT.

I HEREBY CERTIFY THIS TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF ON THIS THE 14TH DAY OF OCTOBER, 2022.

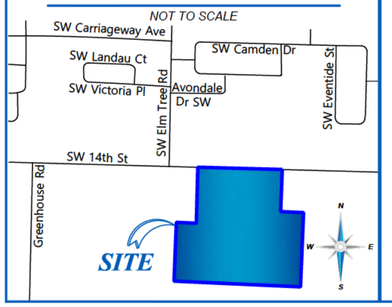
CERTIFICATE OF AUTHORIZATION
BLEW & ASSOCIATES, PA.
No. 1534
ARKANSAS

REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF ARKANSAS
NO.1659
SIGNATURE
W. GAGNER

IF THE SIGNATURE ON THIS SEAL IS NOT AN ORIGINAL AND NOT BLUE IN COLOR THEN IT SHOULD BE ASSUMED THAT THIS PLAT MAY HAVE BEEN ALTERED. THE ABOVE CERTIFICATION SHALL NOT APPLY TO ANY COPY THAT DOES NOT BEAR AN ORIGINAL SEAL AND SIGNATURE.

VICINITY MAP

NOT TO SCALE



BLEW & ASSOCIATES, P.A.
Surveying
Engineering
Mapping
3825 N. SHILOH DRIVE - FAYETTEVILLE, AR 72703
EMAIL:SURVEY@BLEWINC.COM

SURVEYOR JOB NUMBER: 22-8779.02	**SURVEY DRAWN BY:** CB/TPN - 10/14/2022
SURVEY REVIEWED BY: BG	**SCALE:** N/A
FOR THE USE AND BENEFIT OF: AMERCO	

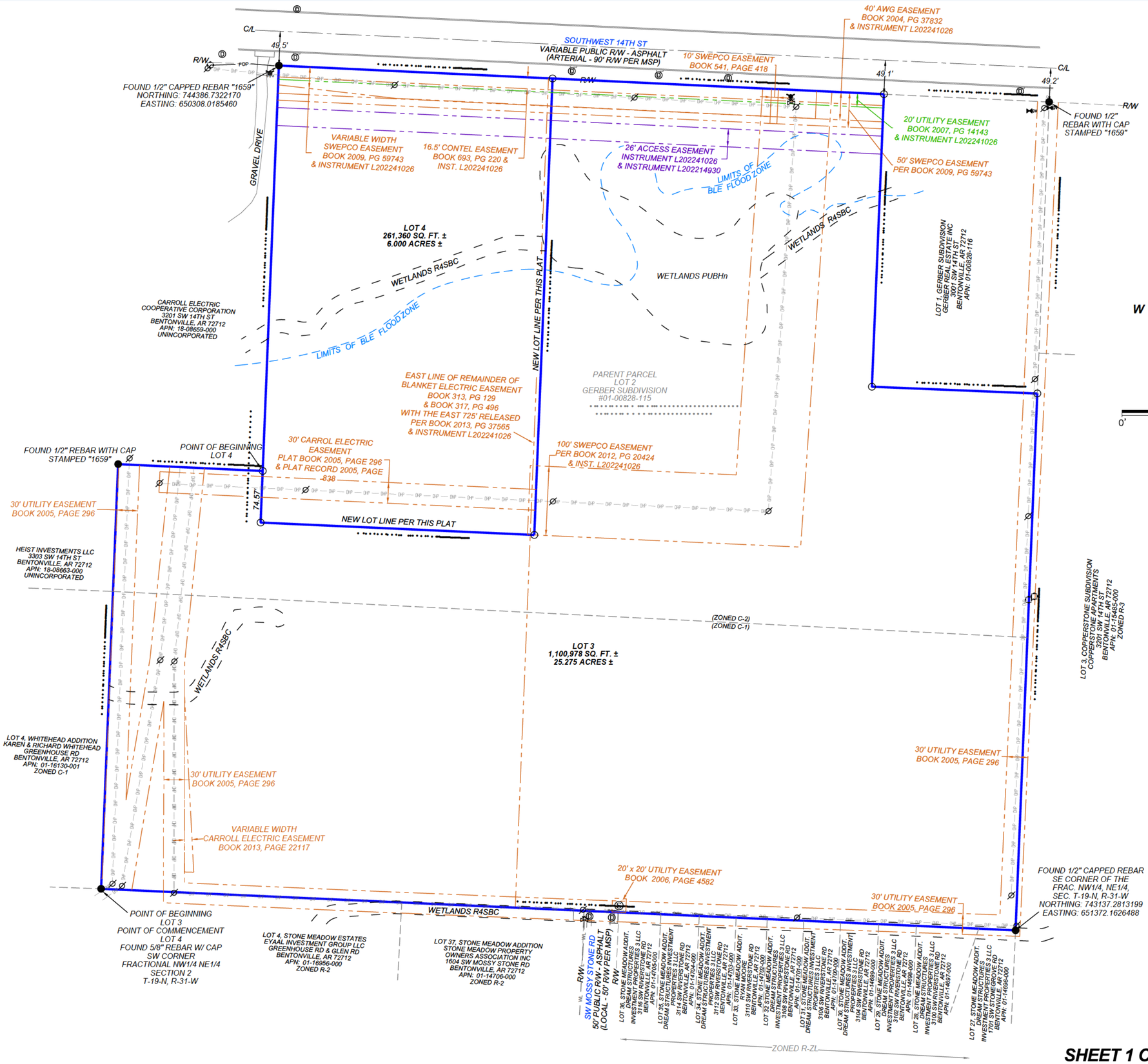
SHEET 1 OF 2

City Of Bentonville Project #LS22-0064

LOT SPLIT FOR LOT 2 OF GERBER SUBDIVISION

CREATING LOTS 3 & 4

SW 14TH STREET
BENTON COUNTY
BENTONVILLE, AR 72712



LEGEND & SYMBOLS

- FOUND MONUMENT (AS NOTED)
- SET 5/8" REBAR CAPPED "1659"
- (MSP) MASTER STREET PLAN
- GV GAS VALVE
- FIRE HYDRANT
- POWER POLE
- STORM MANHOLE
- ELECTRIC BOX
- WV WATER VALVE
- BOUNDARY LINE
- RIGHT-OF-WAY LINE (R/W)
- CENTERLINE (C/L)
- FENCE LINE
- OVERHEAD POWER LINE
- SETBACK LINE
- LIMITS OF BLE FLOODZONE
- EASEMENT LINE

N W E S

1" = 100'
GRAPHIC SCALE
0' 50' 100' 200'

I HEREBY CERTIFY THIS TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF ON THIS THE14TH DAY OF OCTOBER, 2022.

CERTIFICATE OF AUTHORIZATION
BLEW & ASSOCIATES, PA.
No. 1534
ARKANSAS

REGISTERED
STATE OF ARKANSAS
NO.1659
SIGNATURE
W. GAGNER
PROFESSIONAL LAND SURVEYOR

IF THE SIGNATURE ON THIS SEAL IS NOT AN ORIGINAL AND NOT BLUE IN COLOR THEN IT SHOULD BE ASSUMED THAT THIS PLAT MAY HAVE BEEN ALTERED. THE ABOVE CERTIFICATION SHALL NOT APPLY TO ANY COPY THAT DOES NOT BEAR AN ORIGINAL SEAL AND SIGNATURE.

BLEW & ASSOCIATES, P.A.
Surveying
Engineering
Mapping
3825 N. SHILOH DRIVE - FAYETTEVILLE, AR 72703
EMAIL:SURVEY@BLEWINC.COM

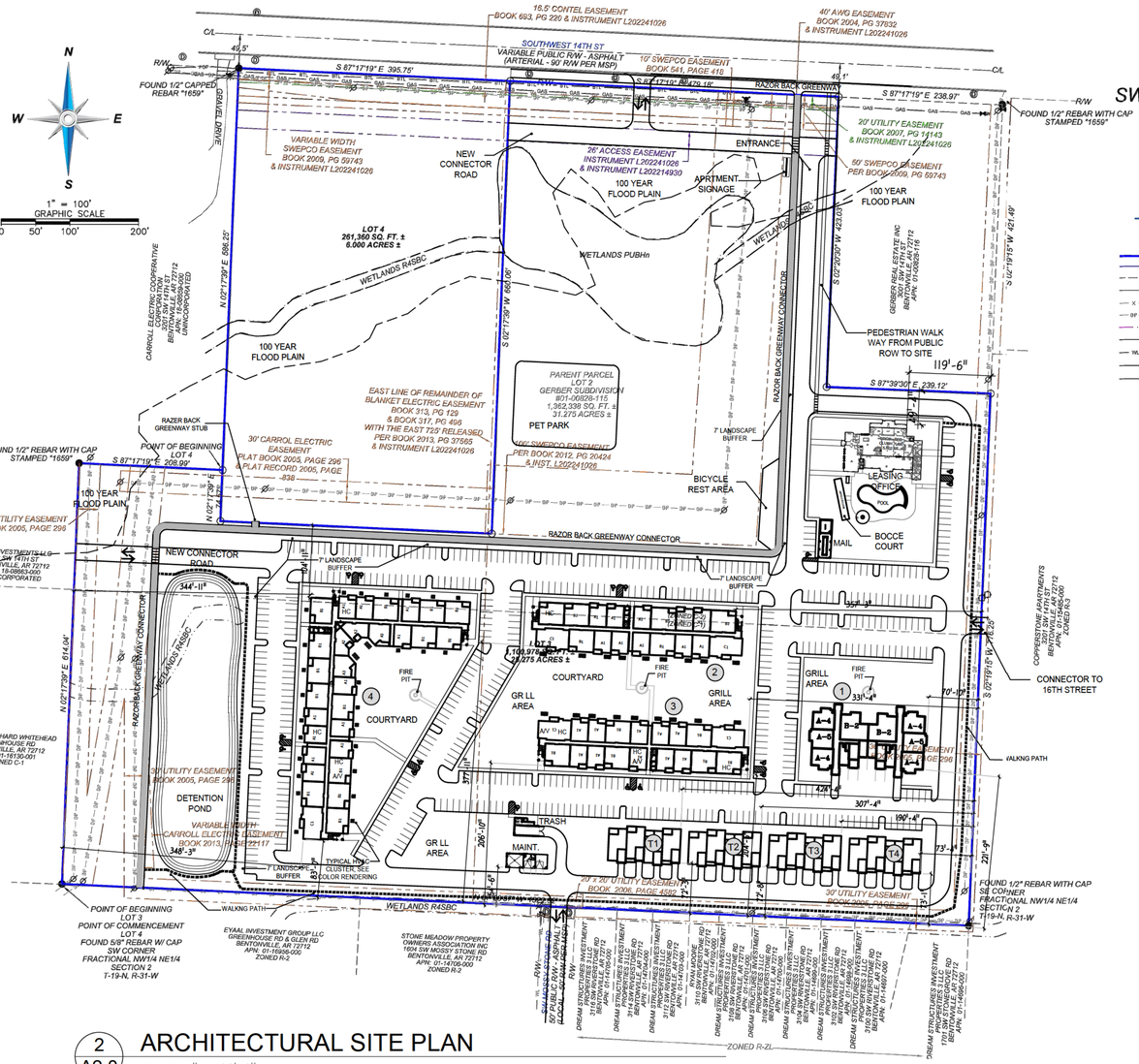
SURVEYOR JOB NUMBER: 22-8779.02	**SURVEY DRAWN BY:** CB/TPN - 10/14/2022
SURVEY REVIEWED BY: BG	**SCALE:** 1" = 100'
FOR THE USE AND BENEFIT OF: AMERCO	

SHEET 1 OF 2

City Of Bentonville Project #LS22-0064

LOT SPLIT
GERBER SUBDIVISION
CREATING LOTS 3 & 4
SW 14TH ST. BENTONVILLE, AR 72712
BENTON COUNTY

ZONING CLASSIFICATION: PRD

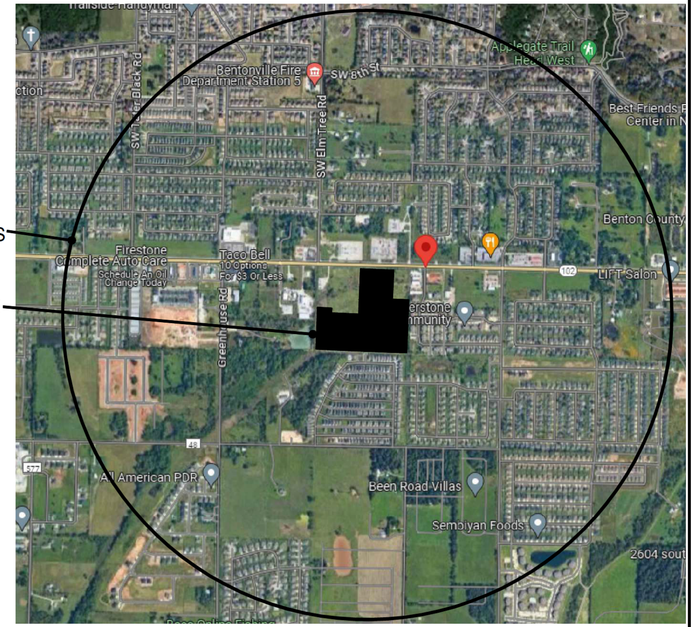


LEGEND & SYMBOLS

- FOUND MONUMENT (AS NOTED)
- SET 5/8" REBAR CAPPED "1659"
- BOUNDARY LINE
- EASEMENT LINE
- RIGHT-OF-WAY LINE (R/W)
- CENTERLINE (C/L)
- FENCE LINE
- OVERHEAD POWER LINE
- SETBACK LINE
- GAS LINE
- WATER LINE
- FIBER OPTIC LINE
- TELEPHONE LINE
- GAS VALVE
- FIRE HYDRANT
- POWER POLE
- STORM MANHOLE
- ELECTRIC BOX
- WATER VALVE
- MASTER STREET PLAN (MSP)

WETLANDS HAVE BEEN DETERMINED TO BE ON SITE AS SHOWN HERIEN, A CURRENT WETLANDS DILINEATION & USACE DETERMINATION WOULD BE REQUIRED TO DETERMINE THEIR IMPACT AND WILL BE PROVIDED DURING THE LARGE SCALE DEVELOPMENT PROCESS.

The FEMA FIRM panel (#05007C0255K Dated Eff. 06/05/2012) does not reflect any floodplain on the site but their Base Level Engineering study does. The Base Level Engineering Floodplain has been shown on this Site Plan for reference.



1 / A2.0 VICINITY MAP

SCALE: N.T.S.

2 / A2.0 ARCHITECTURAL SITE PLAN

SCALE: 1" = 100'-0"

0 50 100 200 400

SCALE IN FEET

NORTH

MID-RISE UNIT MIX & BUILDING SCHEDULE

BLDG #	BLDG TYPE	1 BD / 1BA A1	1 BD / 1BA A1-A	1 BD / 1BA A2	1 BD / 1BA A3	1 BD / 1BA A4	1 BD / 1BA A5	2 BD / 2BA B1	2 BD / 2BA B2	3 BD/2BA C1	GARAGE	TOTAL
1	3 STORY					12	6		16		6	26
2	4 STORY	37	3					24		8		72
3	4 STORY	37	3					24		8		72
4	4 STORY	32	12	8	8			16		4		120
TOTAL UNITS		106	18	8	8	12	6	104	16	20	6	292
% EACH TYPE		36.30%	6.16%	2.74%	2.74%	4.11%	2.05%	35.62%	5.42%	6.85%		100%

APARTMENT PROJECT TOTAL SQUARE FOOTAGE

	RENTABLE SQ. FT.	UNHEATED S.F. / DECK	CORRIDOR	GARAGE	BUILDING TOTALS
BUILDING #1	27323	2466	6314	2608	37713
BUILDING #2	66767	5648	5982		92397
BUILDING #3	66767	5648	5982		92397
BUILDING #4	112320	9632	14408		136560
TRASH			576	-	576
MAIL KIOSK			704	-	704
MAINT. OFFICE	372	372	-	-	744
LEASING OFFICE	5602	1308	-	-	6910
PROJECT TOTALS	279151	25364	30988	2608	367651

MID-RISE UNIT SQ. FOOTAGE SCHEDULE

UNIT TYPE	HEATED SQ.FOOTAGE	UNHEATED SQ.FOOTAGE	TOTAL GROSS
A1	756	77	827
A1-A	815	77	894
A2	746	64	808
A3	812	116	928
A4	780	94	877
A5	816	83	899
B1	1096	80	1166
B2	1508	84	1588
C1	1312	81	1393

TOWN HOUSE UNIT MIX & BUILDING SCHEDULE

BLDG #	BLDG TYPE	3 BD / 2 1/2BA B1	TOTAL
T1	2 STORY	4	4
T2	2 STORY	4	4
T3	2 STORY	4	4
T4	2 STORY	4	4
TOTAL UNITS		16	16
% EACH TYPE		100.00%	100%

TOWN HOUSE PROJECT TOTAL SQUARE FOOTAGE

	RENTABLE SQ. FT.	UNHEATED S.F. / DECK	GARAGE	BUILDING TOTALS
BUILDING T1	5640	776	1080	7616
BUILDING T2	5640	776	1080	7616
BUILDING T3	5640	776	1080	7616
BUILDING T4	5640	776	1080	7616
PROJECT TOTALS	23360	3104	4320	30464

TOWNHOUSE UNIT SQ. FOOTAGE SCHEDULE

UNIT TYPE	HEATED SQ.FOOTAGE	DECK/PATIO	GARAGE	TOTAL GROSS
TOWN HOUSE	1480	77	200	1757

TOTAL NUMBER OF UNITS:

292 APARTMENTS
16 TOWNHOMES

308 UNITS TOTAL

12.1 UNITS PER ACRE

TOWNHOME PROJECT DATA:

BUILDING T1 - 2 STORY - 2 UNITS

BUILDING T2 - 2 STORY - 4 UNITS

BUILDING T3 - 2 STORY - 4 UNITS

BUILDING T4 - 2 STORY - 4 UNITS

16 TOTAL UNITS

16 GARAGE PARKING
16 PARKING

32 TOTAL PARKING

2.0 SURFACE SPACES PER UNIT

APARTMENT PROJECT DATA:

BUILDING 1 - 3 STORY - 28 UNITS

BUILDING 2 - 4 STORY - 72 UNITS

BUILDING 3 - 4 STORY - 72 UNITS

BUILDING 4 - 4 STORY - 120 UNITS

292 TOTAL UNITS

6 GARAGE PARKING
608 PARKING

614 TOTAL PARKING

2.08 SURFACE SPACES PER UNIT

LEASING OFFICE WITH POOL
MAIL KIOSK
TRASH ENCLOSURE
MAINT. OFFICE
DOG PARK

LIST OF APARTMENT AMMENITIES:

POOL
FITNESS CENTER
CYBER CAFE
GAME ROOM
BOCCI COURT
GRILLING AREA
COURTYARDS WITH SEATING AND FIRE PITS
WALKING PATH
OPEN AREA FOR ATHLETICS, ETC
PET PARK
PUBLIC BIKE PATH WITH REST AREA

HANDICAP UNIT DATA:

REQUIRED 2% OF TOTAL UNITS TO BE H/C ACCESSIBLE

2% OF THE H/C UNITS TO BE ADAPTED FOR THE HEARING/VISUAL IMPAIRED

UNIT A1 (1 BEDROOM) : 3 TOTAL UNITS
UNIT B1 (2 BEDROOM) : 3 TOTAL UNITS
UNIT C1 (3 BEDROOM) : 1 TOTAL UNIT

7 TOTAL HANDICAP UNITS (MARKED "H/C")
3 TOTAL AUDIO/VISUAL UNITS (1 EACH TYPE) (MARKED "AV")

Revised 8-20-2024

REGISTERED ARCHITECT
DAV D ENGLISH
License No. 9336
STATE OF ARKANSAS

ENGLISH & ASSOCIATES
ARCHITECTS, INC.
3084 MERCER UNIVERSITY DRIVE, SUITE 100
ATLANTA, GEORGIA 30341
DENGLISH@ENGLISHASSOCIATESINC.COM

JOB PROGRESS:
ITEM: DATE:

REVISIONS:
TAG: DATE:

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BENTONVILLE APARTMENTS
A GARDEN STYLE APARTMENT COMMUNITY
FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

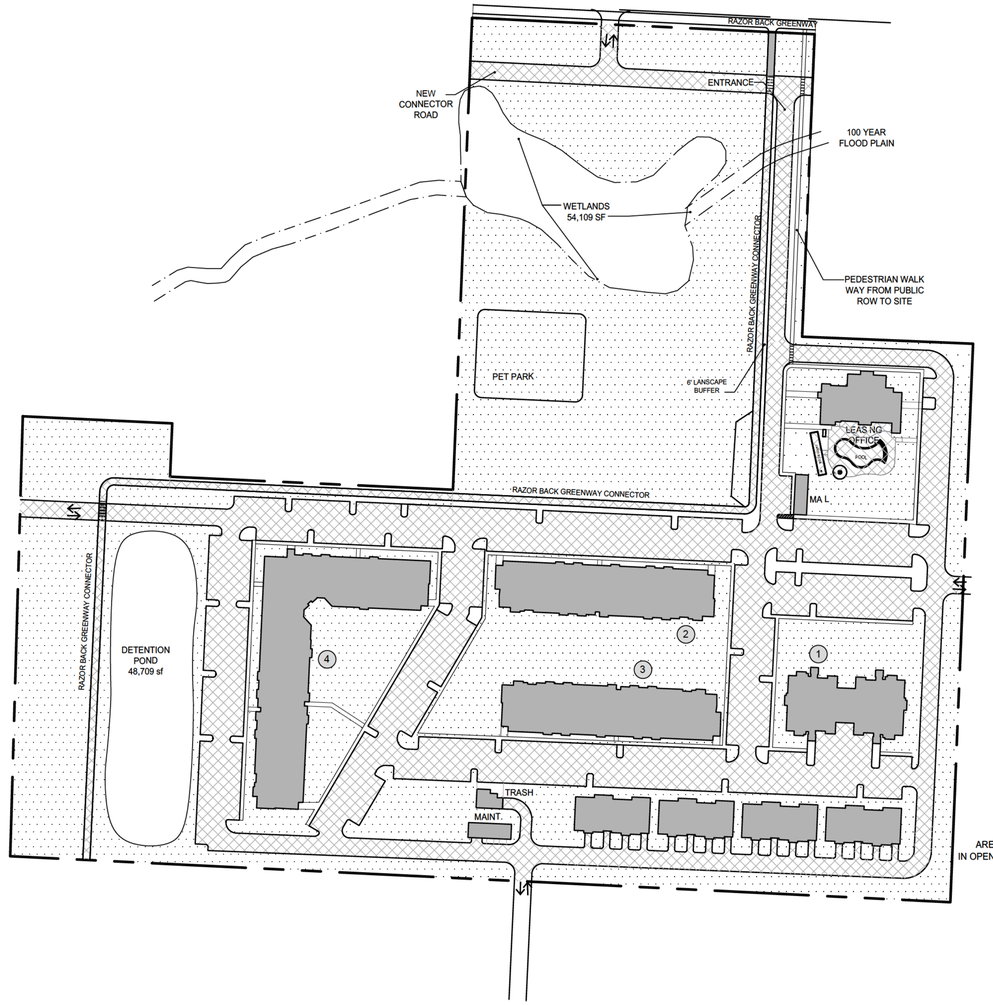
DRAWN BY:

CHECKED BY:

ARCHITECTURAL SITE PLAN

SHEET NO.

A0.2



2 A2.0A **OPEN AREA CALCULATION**

SCALE: 1" = 100'-0"

0 50 100 200 400

SCALE IN FEET

NORTH

SITE AREA CALCULATION:

±25.37 ACRES

1,105,031 SF TOTAL SITE AREA

WETLANDS 54,109 SF

DETENTION POND 48,709 SF

1,002,213 SF TOTAL SITE AREA

BLDG. AREA
BLDG 1 - 12,907 SF
BLDG 2 -21,030 SF
BLDG 2 -21,030 SF
BLDG 4 - 35,459SF
T1 - 5203 SF
T2 - 5203 SF
T3 - 5203 SF
T4 - 5203 SF

CLUB & POOL - 14,269 SF
TRASH - 576 SF
MAIL - 704 SF
MAINT - 744

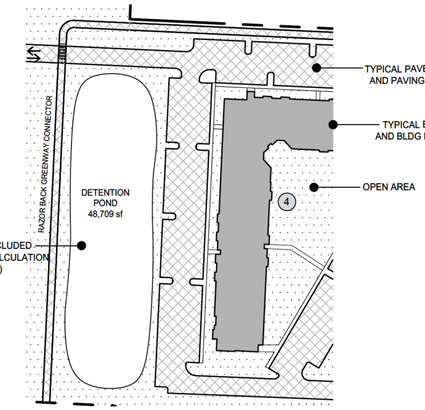
127,591 SF TOTAL BLDG. AREA

127,591 SF TOTAL BLDG. AREA
+280,037 SF TOTAL PAVED AREA
407,628 SF TOTAL IMPERVIOUS AREA

40.67 % IMPERVIOUS AREA
59.33 % OPEN AREA

19,534 SF RAZORBACK GREENWAY CONNECTOR
+ 260,503 SF ROADWAY & PARKING
280,037 SF TOTAL IMPERVIOUS PAVED AREA

SITE AREA LEGEND:



TOTAL NUMBER OF UNITS:

283 APARTMENTS
18 TOWNHOMES

301 UNITS TOTAL

11.8 UNITS PER ACRE

REGISTERED ARCHITECT
DAV D ENGLISH
License No. 91336
STATE OF ARKANSAS

ENGLISH & ASSOCIATES
ARCHITECTS, INC.
3084 MERCER UNIVERSITY DRIVE, SUITE 100
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DENGLISH@ENGLISHASSOCIATESINC.COM

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BENTONVILLE APARTMENTS
A GARDEN STYLE APARTMENT COMMUNITY
FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

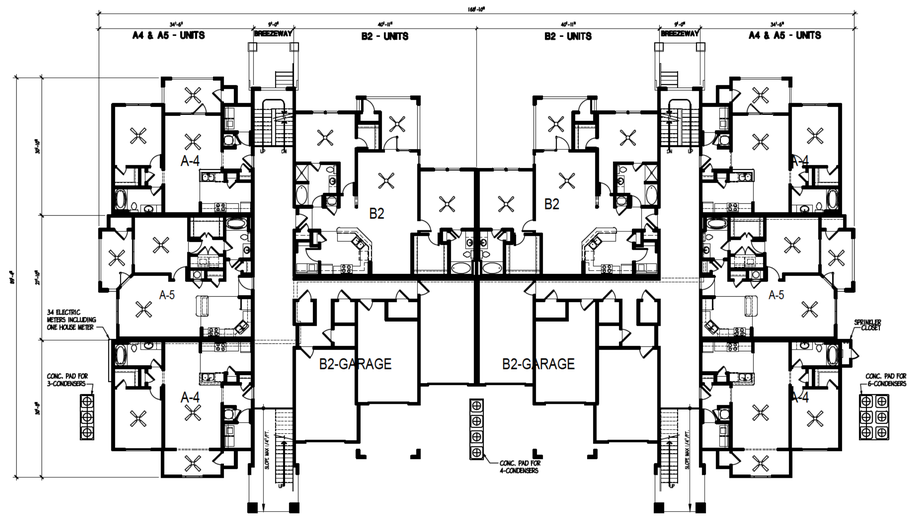
DRAWN BY:

CHECKED BY:

ARCHITECTURAL SITE PLAN

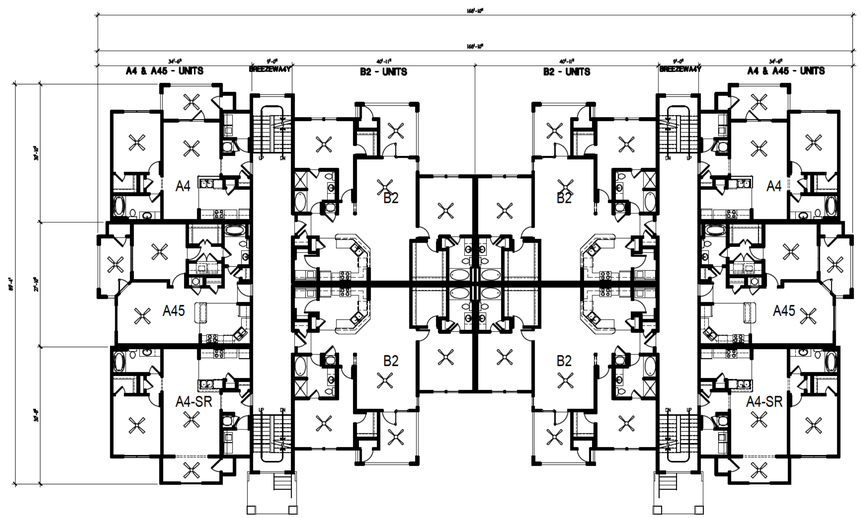
SHEET NO.

A0.2A



1 A2.0 BUILDINGS #1 FLOOR PLAN - GROUND LEVEL

SCALE: 1/16" = 1'-0"



1 A2.0 BUILDINGS #1 FLOOR PLAN - 2ND & 3RD LEVEL

SCALE: 1/16" = 1'-0"

REGISTERED ARCHITECT
DAVID ENGLISH
License No. 013361
STATE OF ARKANSAS

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BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

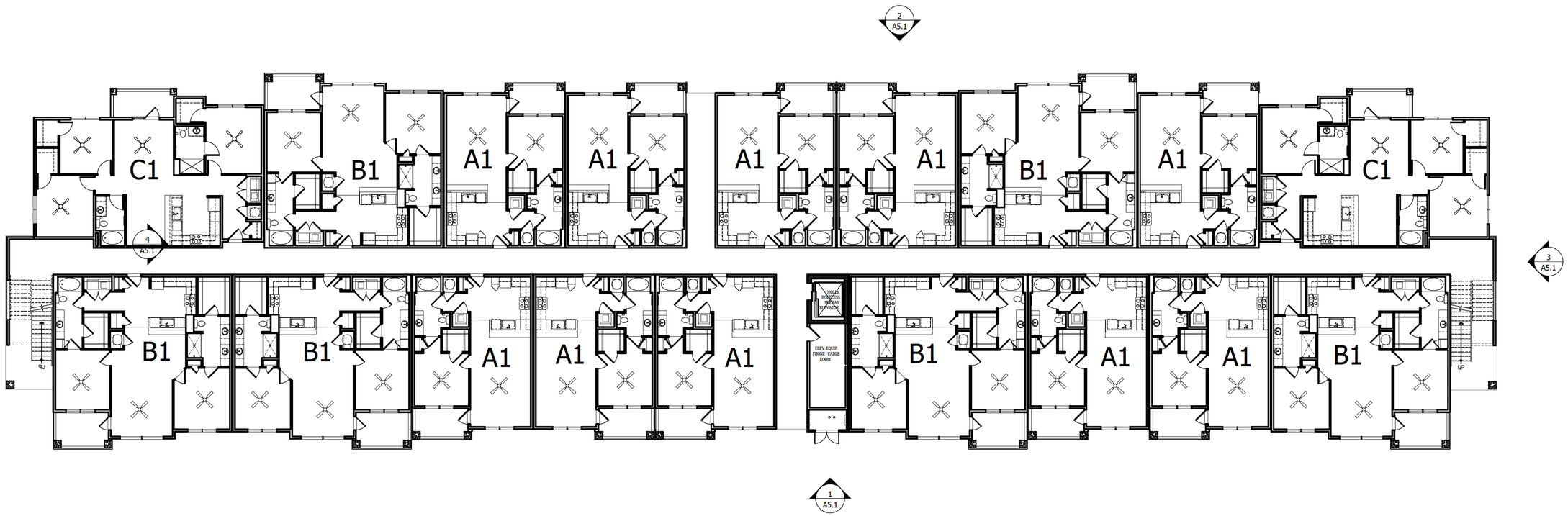
DRAWN BY:

CHECKED BY:

BUILDING #1
BUILDING FLOOR PLANS

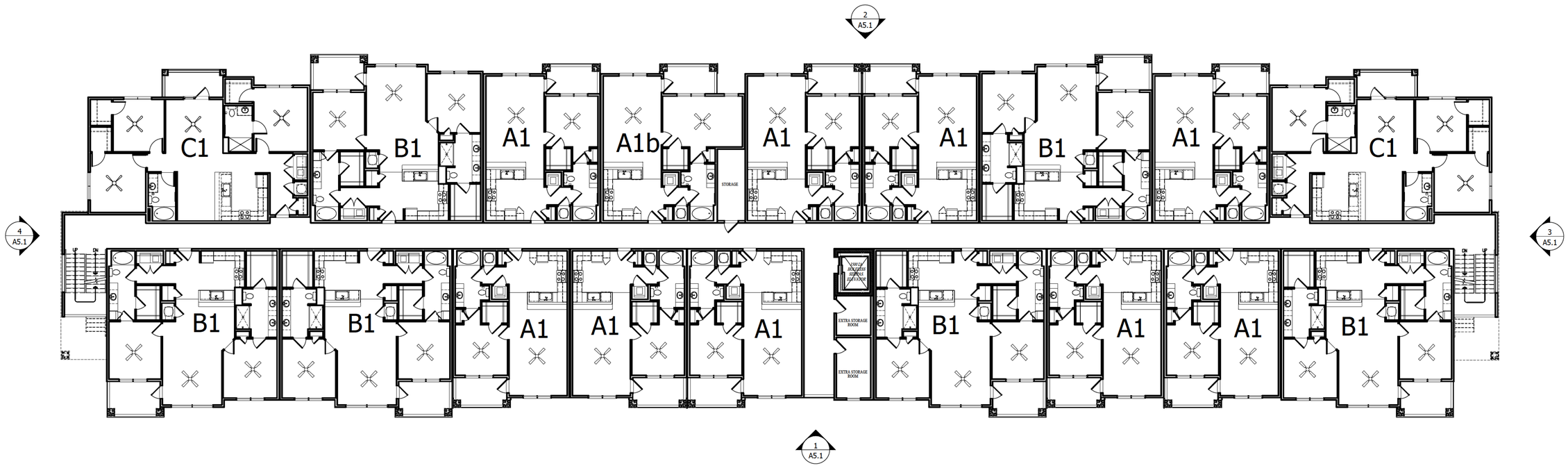
SHEET NO.

A2.0



1 A2.0 BUILDING #2 & 3 FLOOR PLAN - GROUND LEVEL

SCALE: 3/32" = 1'-0"



2 A2.1 BUILDINGS #2 & 3 FLOOR PLAN -2ND, 3RD & 4TH LEVEL

SCALE: 3/32" = 1'-0"

REGISTERED ARCHITECT
DAVID ENGLISH
License No. 013236
STATE OF ARKANSAS

ENGLISH & ASSOCIATES
ARCHITECTS, INC.
3084 MERCER UNIVERSITY DRIVE, SUITE 100
ATLANTA, GEORGIA 30341
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A GARDEN STYLE APARTMENT COMMUNITY
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TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

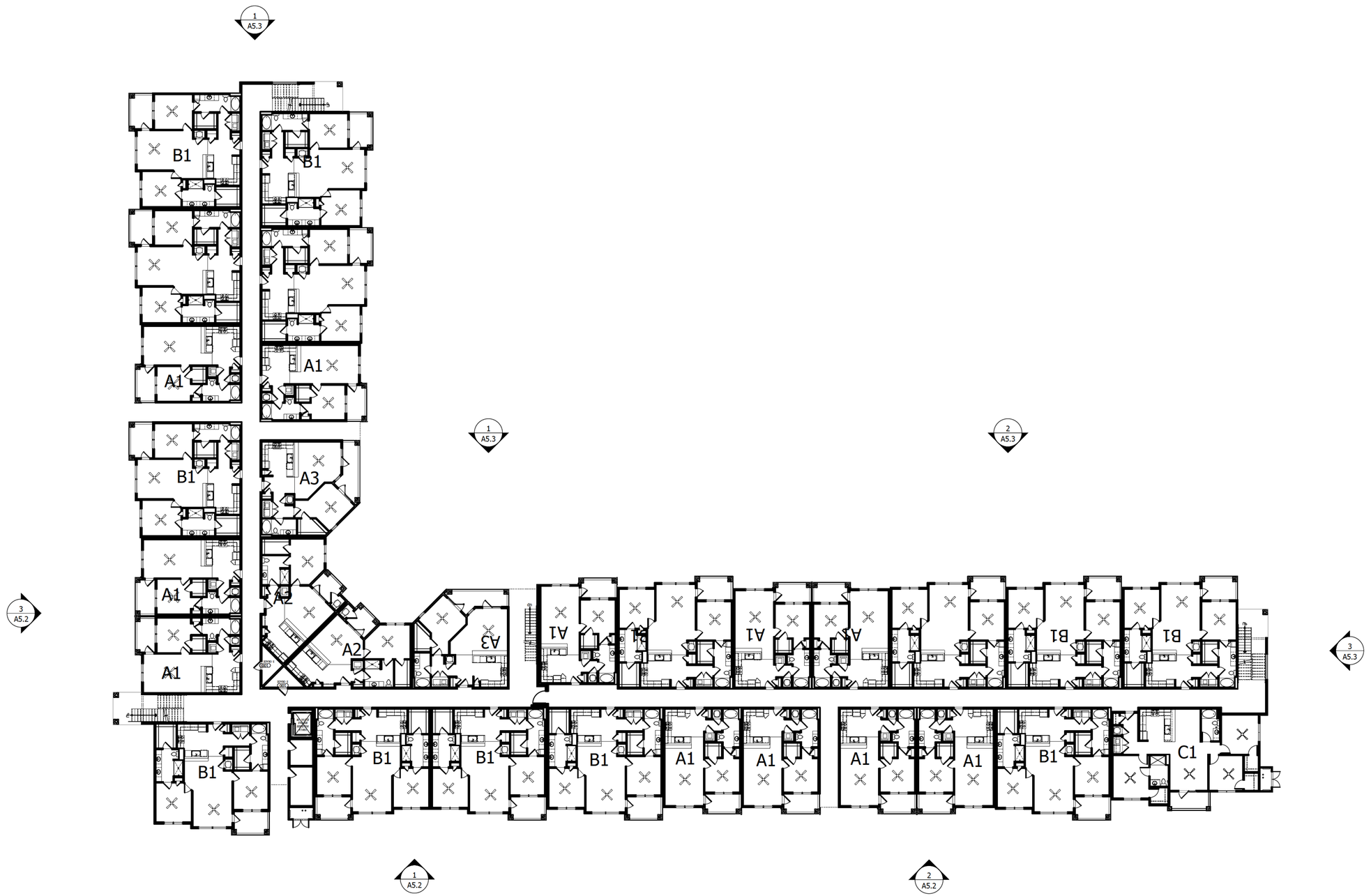
DRAWN BY:

CHECKED BY:

BUILDING #2 & 3
BUILDING FLOOR PLANS

SHEET NO.

A2.1



1 A2.2 BUILDINGS #4 FLOOR PLAN - GROUND LEVEL

SCALE: 1/16" = 1'-0"

ENGLISH & ASSOCIATES
ARCHITECTS, INC.
3084 MERCER UNIVERSITY DRIVE, SUITE 100
ATLANTA, GEORGIA 30341
DENGLISH@ENGLISHASSOCIATESINC.COM

REGISTERED ARCHITECT
DAVID ENGLISH
License No. 013361
STATE OF ARKANSAS

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BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

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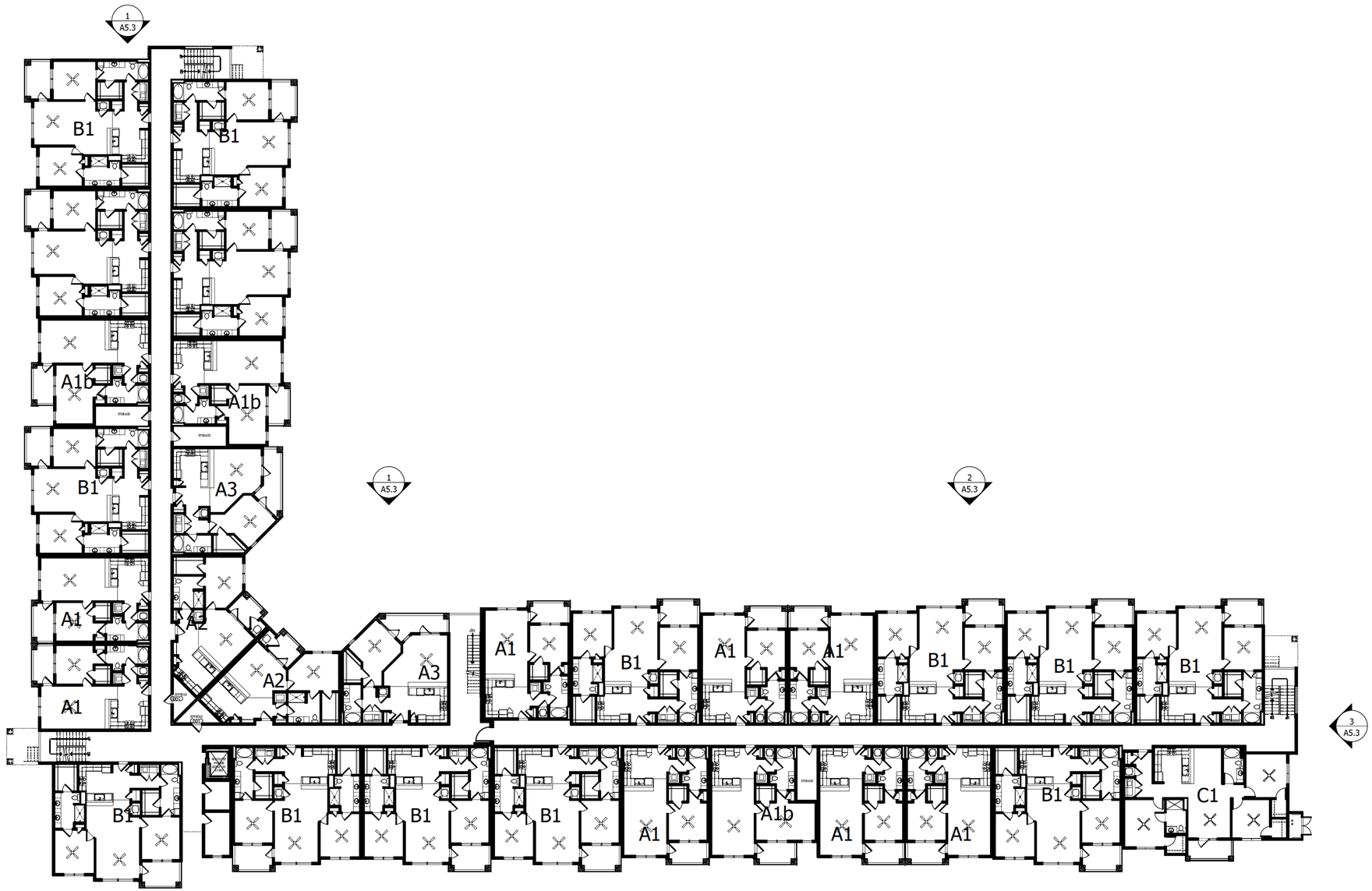
CHECKED BY:

BUILDING #4
BUILDING FLOOR PLANS

SHEET NO.

A2.2



1 A2.3 BUILDINGS #4 FLOOR PLAN - 2ND, 3RD & 4TH LEVEL

SCALE: 1/16" = 1'-0"

REGISTERED ARCHITECT
DAVID ENGLISH
License No. 013361
STATE OF ARKANSAS

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BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

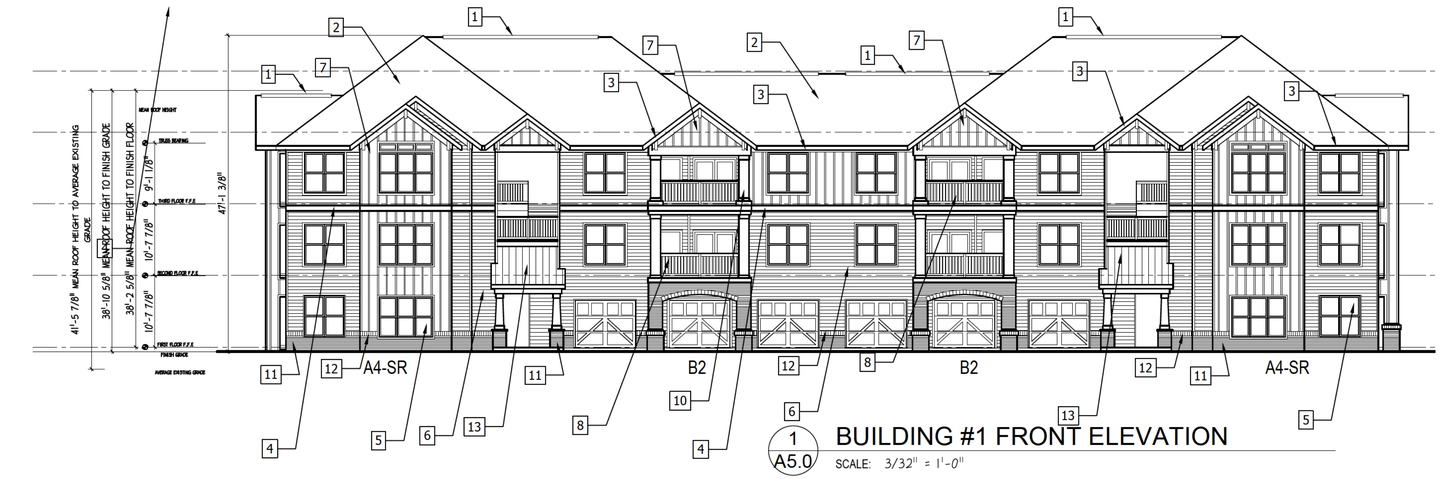
DRAWN BY:

CHECKED BY:

BUILDING #4
BUILDING FLOOR PLANS

SHEET NO.

A2.3

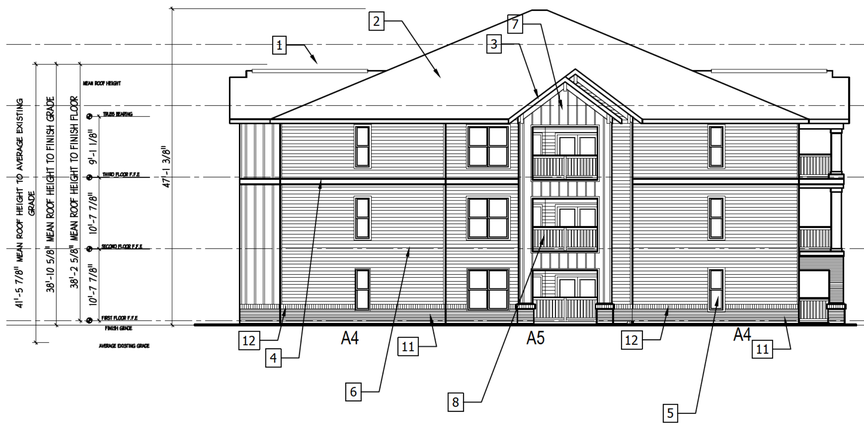


1 A5.0 BUILDING #1 FRONT ELEVATION

SCALE: 3/32" = 1'-0"

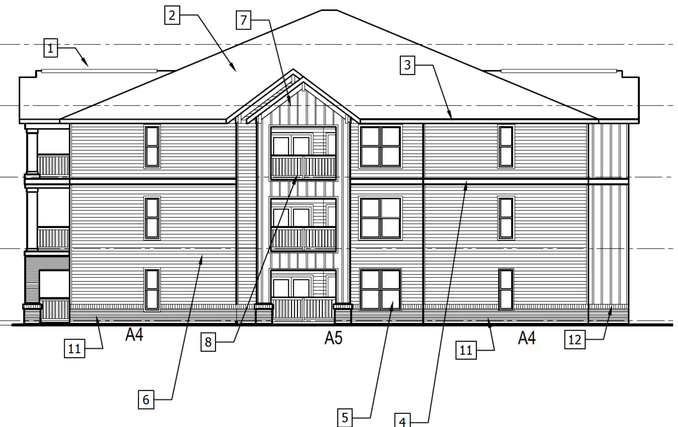
2 A5.0 BUILDINGS #1 REAR ELEVATION

SCALE: 3/32" = 1'-0"



3 A5.0 BUILDING #1 RIGHT SIDE ELEVATION

SCALE: 3/32" = 1'-0"



4 A5.0 BUILDING #1 LEFT SIDE ELEVATION

SCALE: 3/32" = 1'-0"

BUILDING 1
EXTERIOR MATERIALS

BRICK VENEER	10%
CEMENTITOUS LAP SIDING	65%
CEMENTITOUS BOARD & BATTEN SIDING	25%

ELEVATION LEGEND:

1. RIDGE VENT
2. ARCH. ROOF SHINGLES
3. CEMENTITIOUS FASCIA
4. CEMENTITIOUS TRIM BAND
5. SINGLE HUNG VINYL WINDOWS
6. CEMENTITIOUS LAP SIDING
7. BOARD & BATTEN SIDING
8. VINYL RAILING SYSTEM
9. 22"X40" DECORATIVE VENTS
10. CEMEN. DECK COL. WALL WRAP
11. BRICK VENEER
12. BRICK ROWLOCK
13. GALVALUME METAL ROOFING

ELEVATION NOTE:

ALL TRIM, FASCIA AND SOFFIT TO BE FIBER-CEMENT / CEMENTITIOUS BOARD

REGISTERED ARCHITECT
DAV D ENGLISH
License No. 013361
STATE OF ARKANSAS

ENGLISH & ASSOCIATES
ARCHITECTS, INC.
3084 MERCER UNIVERSITY DRIVE, SUITE 100
ATLANTA, GEORGIA 30341
DENGLISH@ENGLISHASSOCIATESINC.COM

JOB PROGRESS:
ITEM: DATE:

REVISIONS:
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BENTONVILLE APARTMENTS
A GARDEN STYLE APARTMENT COMMUNITY
FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

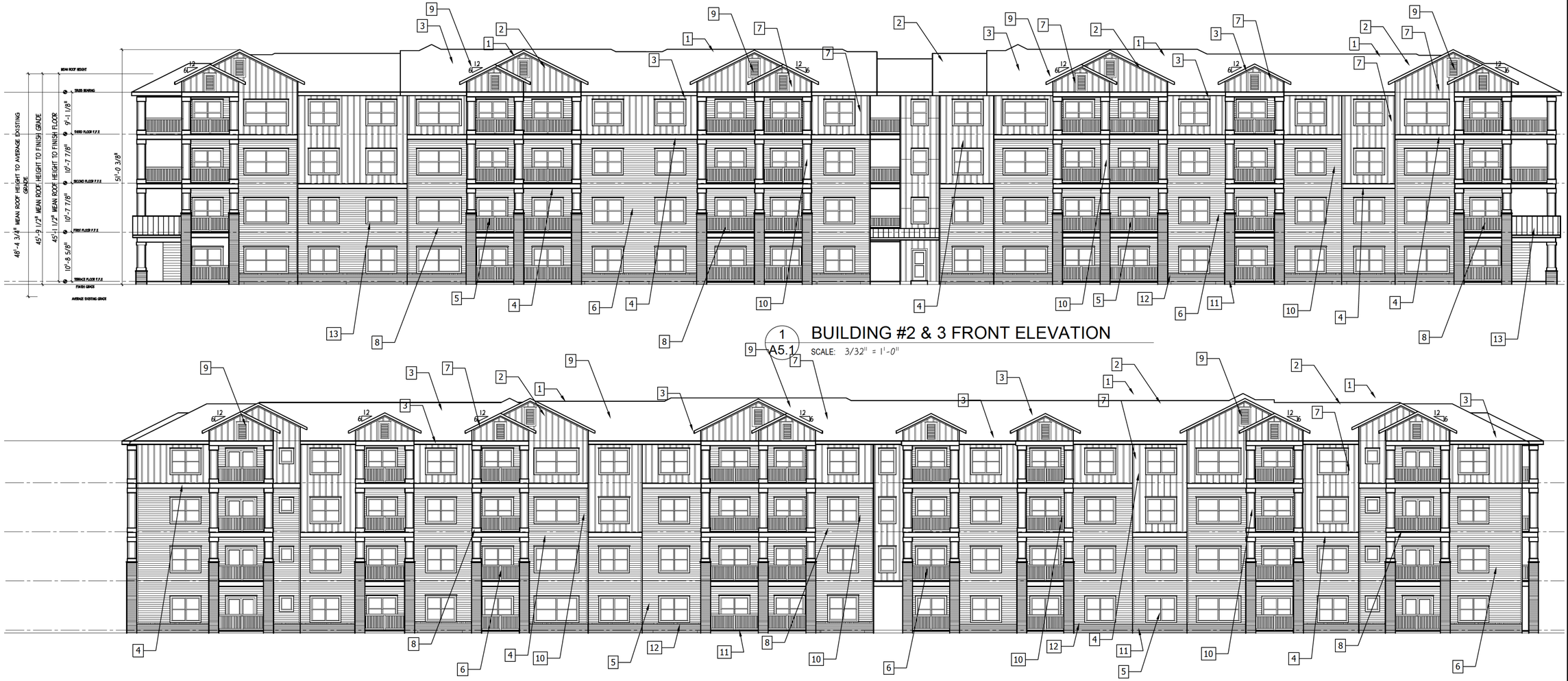
JOB NUMBER: 2003E

DRAWN BY:

CHECKED BY:

BUILDING #1
ELEVATIONS
SHEET NO.

A5.0

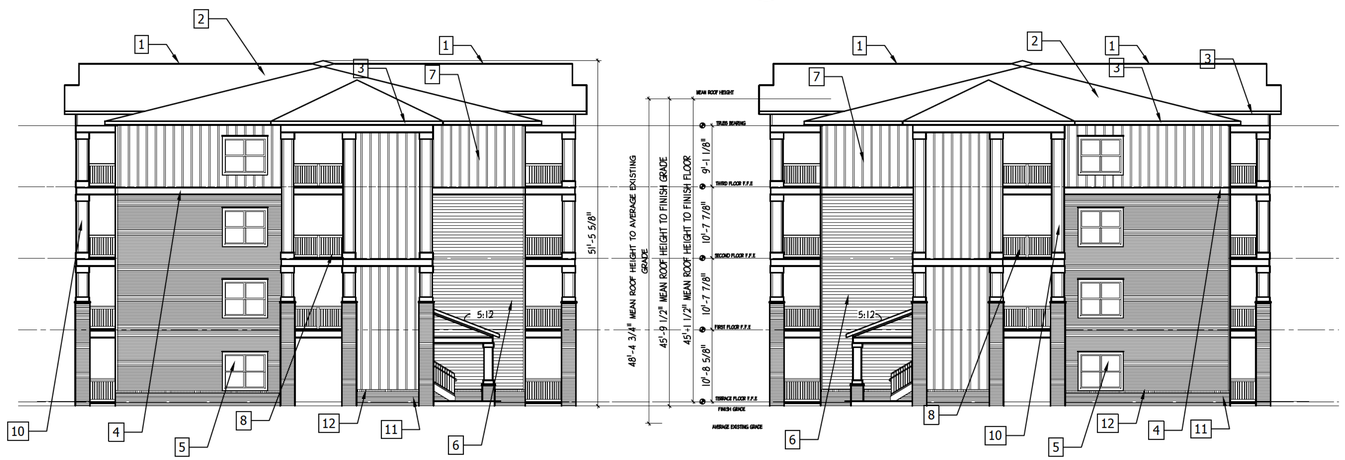


1 A5.1 BUILDING #2 & 3 FRONT ELEVATION

SCALE: 3/32" = 1'-0"

2 A5.1 BUILDINGS #2 & 3 REAR ELEVATION

SCALE: 3/32" = 1'-0"



3 A5.1 BUILDING #2 & 3 RIGHT SIDE ELEVATION

SCALE: 3/32" = 1'-0"

4 A5.1 BUILDING #2 & 3 LEFT SIDE ELEVATION

SCALE: 3/32" = 1'-0"

BUILDING 2 & 3
EXTERIOR MATERIALS

BRICK VENEER	10%
CEMENTITOUS LAP SIDING	55%
CEMENTITIOUS BOARD & BATTEN SIDING	35%

ELEVATION LEGEND:

1. RIDGE VENT
2. ARCH. ROOF SHINGLES
3. CEMENTITIOUS FASCIA
4. CEMENTITIOUS TRIM BAND
5. SINGLE HUNG VINYL WINDOWS
6. CEMENTITIOUS LAP SIDING
7. BOARD & BATTEN SIDING
8. VINYL RAILING SYSTEM
9. 22"X40" DECORATIVE VENTS
10. CEMEN. DECK COL. WALL WRAP
11. BRICK VENEER
12. BRICK ROWLOCK
13. GALVALUME METAL ROOFING

ELEVATION NOTE:

ALL TRIM, FASCIA AND SOFFIT TO BE FIBER-CEMENT / CEMENTITIOUS BOARD

REGISTERED ARCHITECT
DAV D ENGLISH
License No. 9336
STATE OF ARKANSAS

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ARCHITECTS, INC.
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BENTONVILLE APARTMENTS
A GARDEN STYLE APARTMENT COMMUNITY
FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

DRAWN BY:

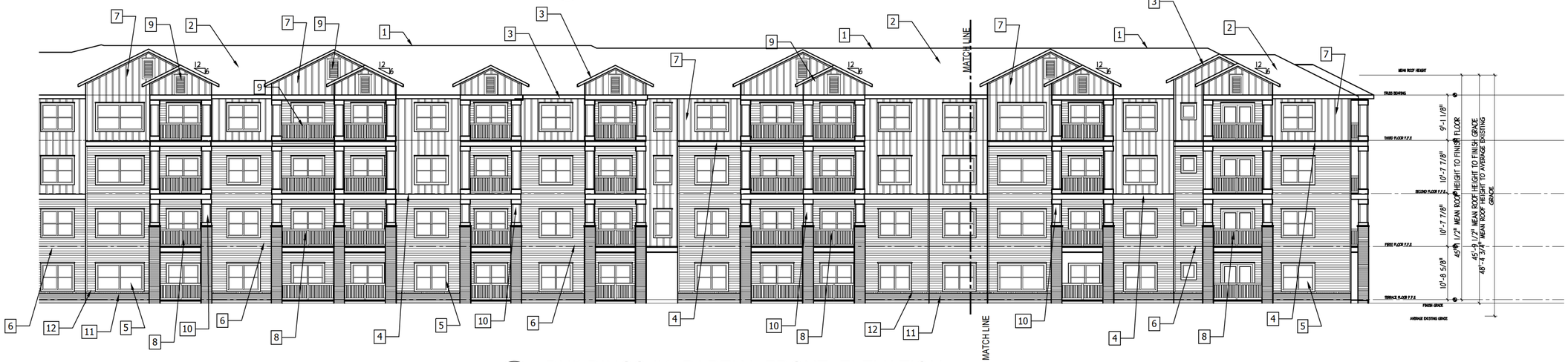
CHECKED BY:

BUILDING #2 & 3
ELEVATIONS
SHEET NO.

A5.1

1 A5.2 **BUILDINGS #4 PARTIAL FRONT ELEVATION**

SCALE: 3/32" = 1'-0"



2 A5.2 **BUILDINGS #4 PARTIAL FRONT ELEVATION**

SCALE: 3/32" = 1'-0"

3 A5.2 **BUILDINGS #4 END ELEVATION**

SCALE: 3/32" = 1'-0"

BUILDING 4
EXTERIOR MATERIALS

BRICK VENEER	10%
CEMENTITOUS LAP SIDING	55%
CEMENTITIOUS BOARD & BATTEN SIDING	35%

ELEVATION LEGEND:

1. RIDGE VENT
2. ARCH. ROOF SHINGLES
3. CEMENTITIOUS FASCIA
4. CEMENTITIOUS TRIM BAND
5. SINGLE HUNG VINYL WINDOWS
6. CEMENTITIOUS LAP SIDING
7. BOARD & BATTEN SIDING
8. VINYL RAILING SYSTEM
9. 22"X40" DECORATIVE VENTS
10. CEMEN. DECK COL. WALL WRAP
11. BRICK VENEER
12. BRICK ROWLOCK
13. GALVALUME METAL ROOFING

ELEVATION NOTE:

ALL TRIM, FASCIA AND SOFFIT TO BE FIBER-CEMENT / CEMENTITIOUS BOARD

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STATE OF ARKANSAS

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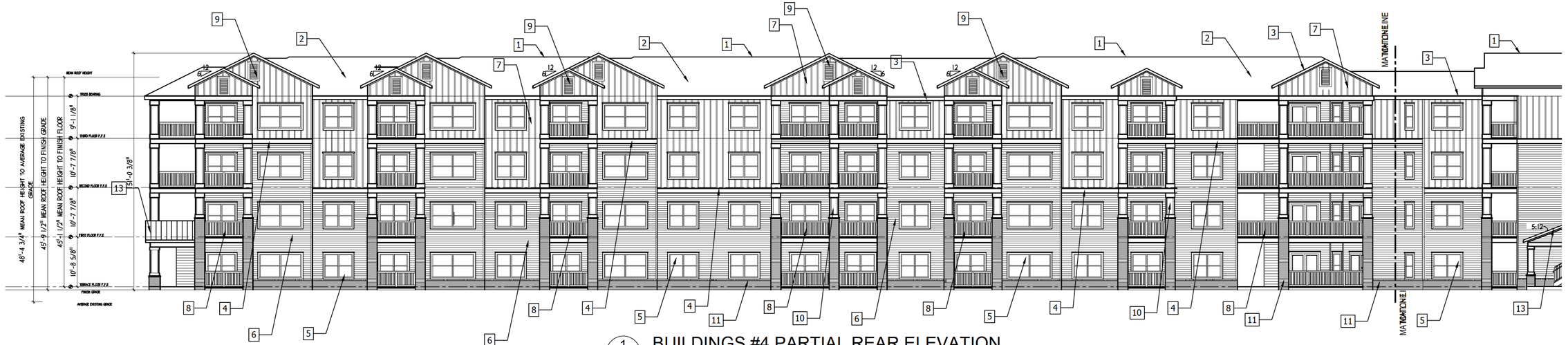
CHECKED BY:

BUILDINGS #4
ELEVATIONS
SHEET NO.

A5.2

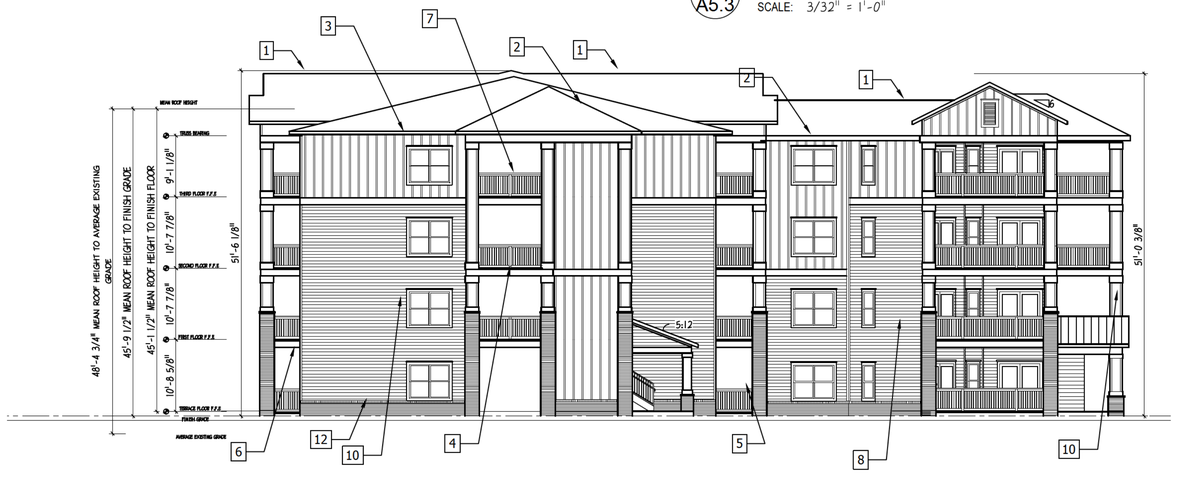


1 A5.3 BUILDINGS #4 PARTIAL REAR ELEVATION

SCALE: 3/32" = 1'-0"

2 A5.3 BUILDINGS #2 PARTIAL REAR ELEVATION

SCALE: 3/32" = 1'-0"



3 A5.3 BUILDINGS #4 END ELEVATION

SCALE: 3/32" = 1'-0"

BUILDING 4
EXTERIOR MATERIALS

BRICK VENEER	10%
CEMENTITOUS LAP SIDING	55%
CEMENTITIOUS BOARD & BATTEN SIDING	35%

ELEVATION LEGEND:

1. RIDGE VENT
2. ARCH. ROOF SHINGLES
3. CEMENTITIOUS FASCIA
4. CEMENTITIOUS TRIM BAND
5. SINGLE HUNG VINYL WINDOWS
6. CEMENTITIOUS LAP SIDING
7. BOARD & BATTEN SIDING
8. VINYL RAILING SYSTEM
9. 22"X40" DECORATIVE VENTS
10. CEMEN. DECK COL. WALL WRAP
11. BRICK VENEER
12. BRICK ROWLOCK
13. GALVALUME METAL ROOFING

ELEVATION NOTE:

ALL TRIM, FASCIA AND SOFFIT TO BE FIBER-CEMENT / CEMENTITIOUS BOARD

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JOB NUMBER: 2003E
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BUILDINGS #4
ELEVATIONS
SHEET NO.

A5.3

1 A5.4 CONCEPTUAL CHARACTER RENDERING

SCALE: N.T.S.

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BUILDINGS SKETCH ELEVATIONS
SHEET NO.

A5.4

1
A5.5 VIGNETTE OF CONDENSER SCREEN

SCALE: N.T.S.

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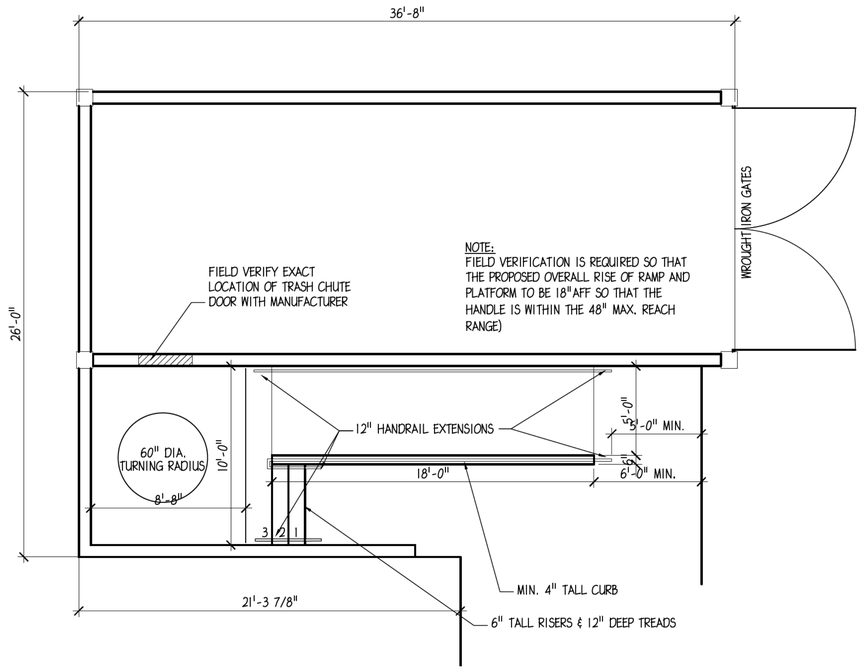
BUILDINGS SKETCH ELEVATIONS
SHEET NO.

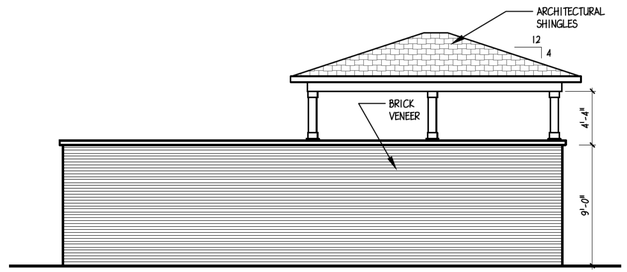
A5.5



1/9.0 TRASH - PLAN

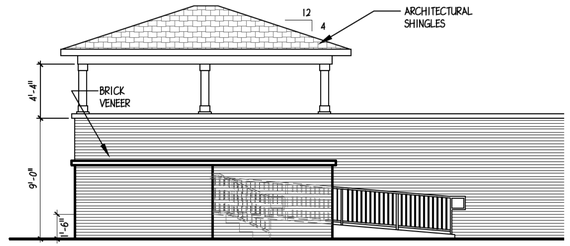
SCALE: 1/4" = 1'-0"

NOTE:
ALL EXPOSED EXTERIOR WOOD MEMBERS INCLUDING FRAMING, DECKING, & RAILING SYSTEM SHALL BE PRESSURE TREATED WOOD



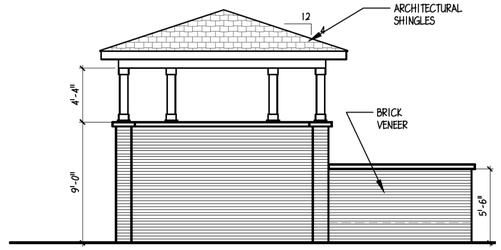
2/9.0 TRASH - SOUTH ELEVATION

SCALE: 3/16" = 1'-0"



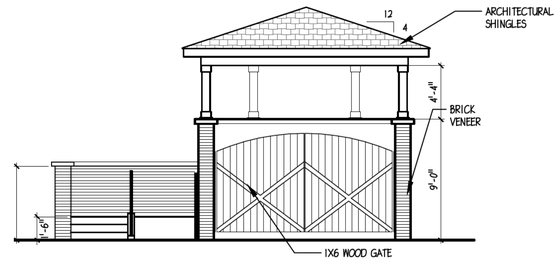
3/9.0 TRASH - NORTH ELEVATION

SCALE: 3/16" = 1'-0"



4/9.0 TRASH - WEST ELEVATION

SCALE: 3/16" = 1'-0"



5/9.0 TRASH - EAST ELEVATION

SCALE: 3/16" = 1'-0"

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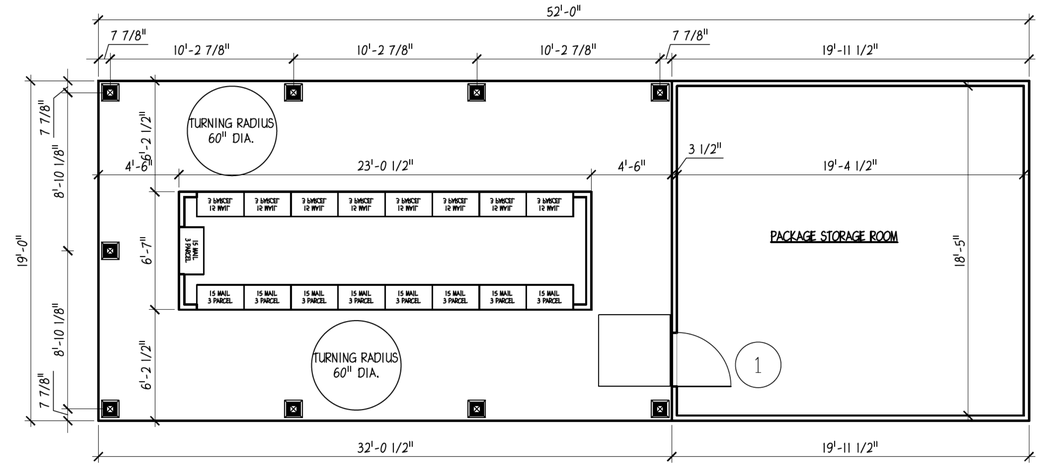
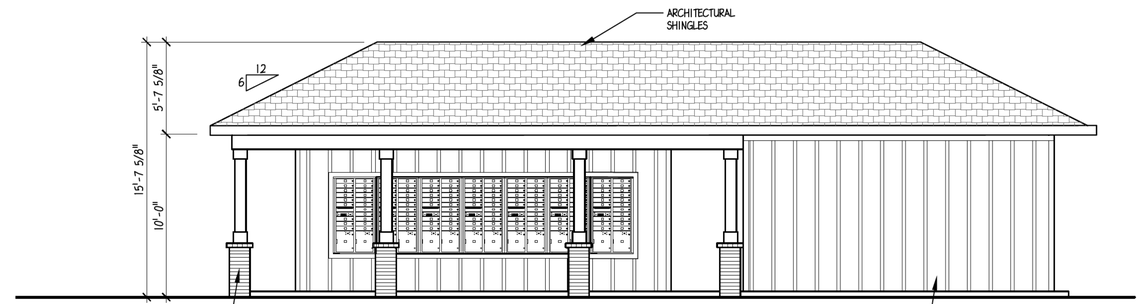
TRASH ENCLOSURE

SHEET NO.

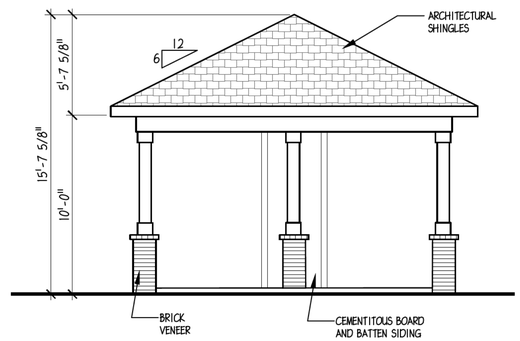
A9.0



1 / A9.1 **MAIL KIOSK PLAN**
SCALE: 1/4" = 1'-0"



1 / A9.1A **MAIL KIOSK - FRONT ELEVATION**
SCALE: 1/4" = 1'-0"



1 / A9.1A **MAIL KIOSK - SIDE ELEVATION**
SCALE: 1/4" = 1'-0"

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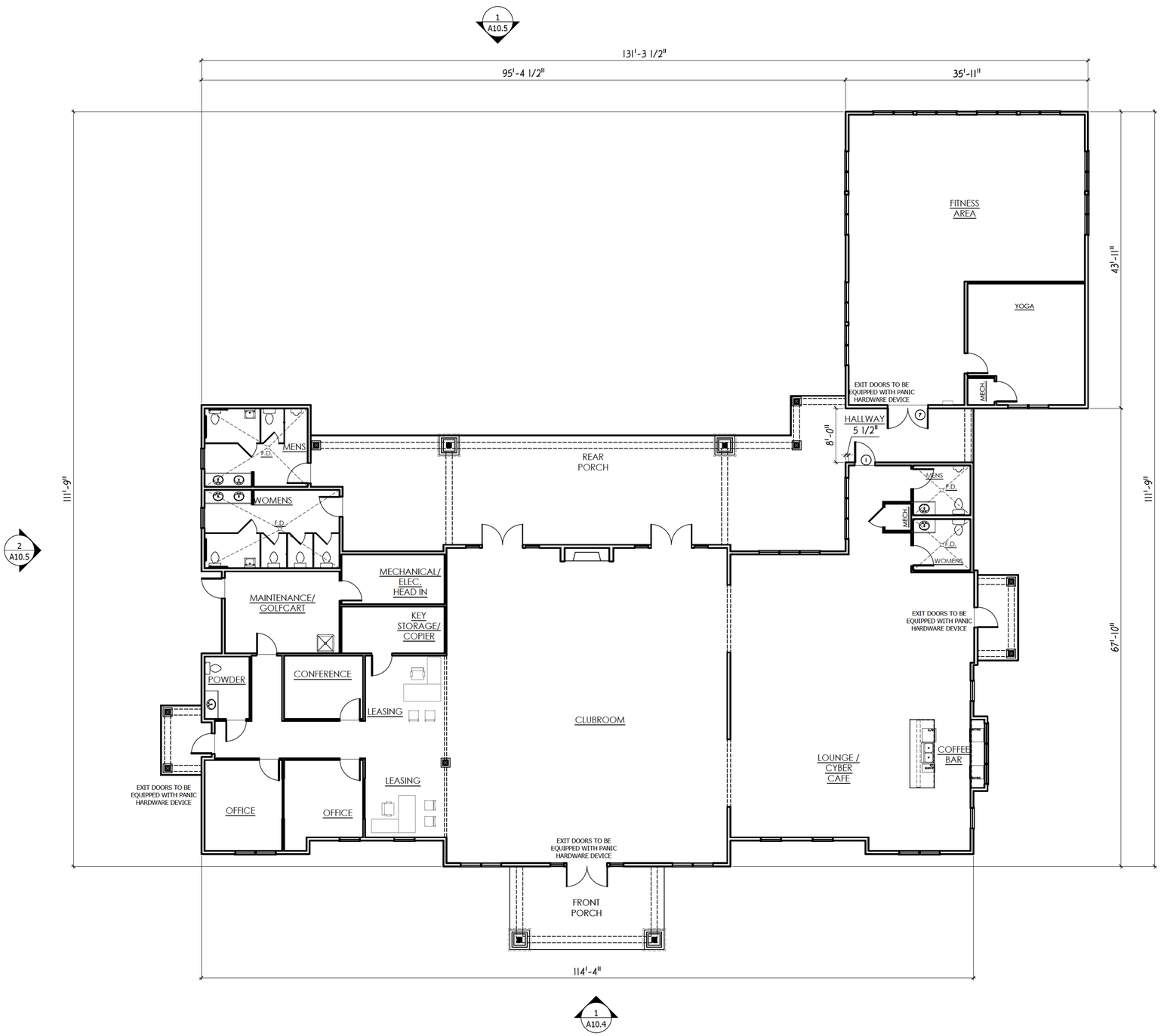
MAIL KIOSK
PLANS & DETAILS
SHEET NO.
A9.1



1 A10.0 **LEASING OFFICE - FLOOR PLAN**

SCALE: 1/8" = 1'-0"

LEGEND

DENOTES SHEAR WALL SEE STRUCTURAL SHEETS

NOTE:
ALL EXPOSED EXTERIOR WOOD MEMBERS INCLUDING FRAMING, DECKING, & RAILING SYSTEM SHALL BE PRESSURE TREATED WOOD

•TRIM NOTE•

ALL WINDOW & DOOR TRIM, DECORATIVE BANDS, COLUMN & COLUMN TRIM, RAKE TRIM, CORNER TRIM & SIDING (HORIZONTAL & VERTICAL) TO BE CEMENTITIOUS

•STRUCTURAL NOTE•

REFER TO STRUCTURAL PLANS FOR ALL FRAMING PLANS AND SCHEDULES

•FIRE ALARM NOTE•

FIRE ALARM SYSTEM IN CLUB HOUSE WILL REQUIRE A REMOTE ANNUNCIATOR LOCATED IN ENTRANCE LOBBY FOR FIRST RESPONDER ACCESS.

•KNOX BOX NOTE•

KNOX BOX REQUIRED AT ALL ENTRANCE GATES AND FRONT ENTRANCE TO SALES OFFICE/CLUB HOUSE FOR FIRE DEPARTMENT ACCESS.

•STRUCTURAL NOTE•

REFER TO STRUCTURAL PLANS FOR ALL POST AND BEAM SCHEDULES

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BENTONVILLE, ARKANSAS

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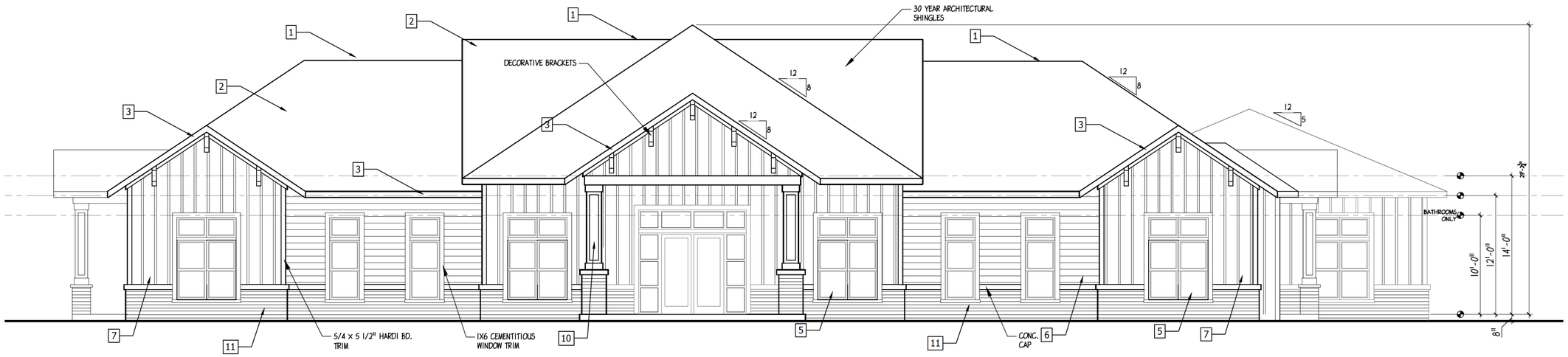
LEASE OFFICE FLOOR PLAN

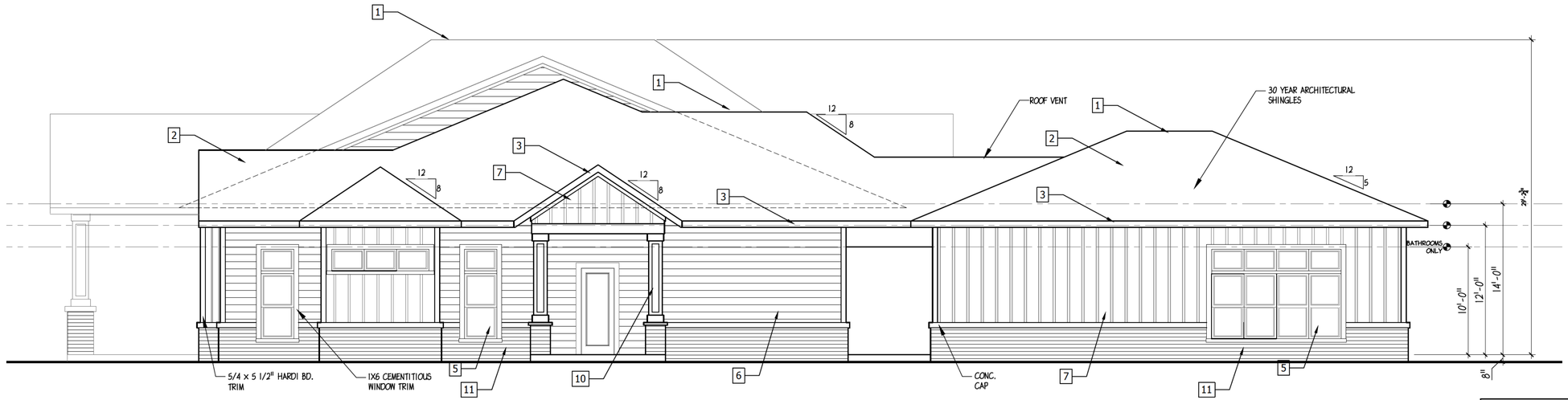
SHEET NO.

A10.0



1 A10.4 **LEASING OFFICE - FRONT ELEVATION**

SCALE: 3/16" = 1'-0"



2 A10.4 **LEASING OFFICE - RIGHT ELEVATION**

SCALE: 3/16" = 1'-0"

ELEVATION LEGEND:
1. RIDGE VENT
2. ROOF SHINGLES
3. CEMENTITIOUS FASCIA
4. CEMENTITIOUS TRIM BAND
5. SINGLE HUNG VINYL WINDOWS
6. CEMENTITIOUS LAP SIDING
7. BOARD & BATTEN SIDING
8. RAILING AS PER OWNER
9. DECORATIVE VENTS
10. CEMENTITIOUS POST WRAP
11. BRICK VENEER

ELEVATION NOTE:

ALL TRIM, FASCIA AND SOFFIT TO BE FIBER-CEMENT / CEMENTITIOUS BOARD

OCCUPANT LOAD:

LEASING OFFICE/CLUBHOUSE:
115 OCCUPANTS REAR PORCH
24 OCCUPANTS FITNESS AREA
78 OCCUPANTS COFFEE/CYBER CAFE
98 OCCUPANTS LOBBY
57 OCCUPANTS LEASING OFFICE
372 OCCUPANTS TOTAL

POOL & POOL DECK
75 OCCUPANTS POOL
546 OCCUPANTS POOL DECK
621 OCCUPANTS TOTAL

•TRIM NOTE•

ALL WINDOW & DOOR TRIM, DECORATIVE BANDS, COLUMN & COLUMN TRIM, RAKE TRIM, CORNER TRIM & SIDING (HORIZONTAL & VERTICAL) TO BE CEMENTITIOUS

NOTE:
ALL EXPOSED EXTERIOR WOOD MEMBERS INCLUDING FRAMING, DECKING, & RAILING SYSTEM SHALL BE PRESSURE TREATED WOOD

•BOARD AND BATTEN NOTE•

BATTEN STRIPS SHALL BE 2'-0" UNLESS OTHERWISE INSTRUCTED

REGISTERED ARCHITECT
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License No. 9336
STATE OF ARKANSAS

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TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E
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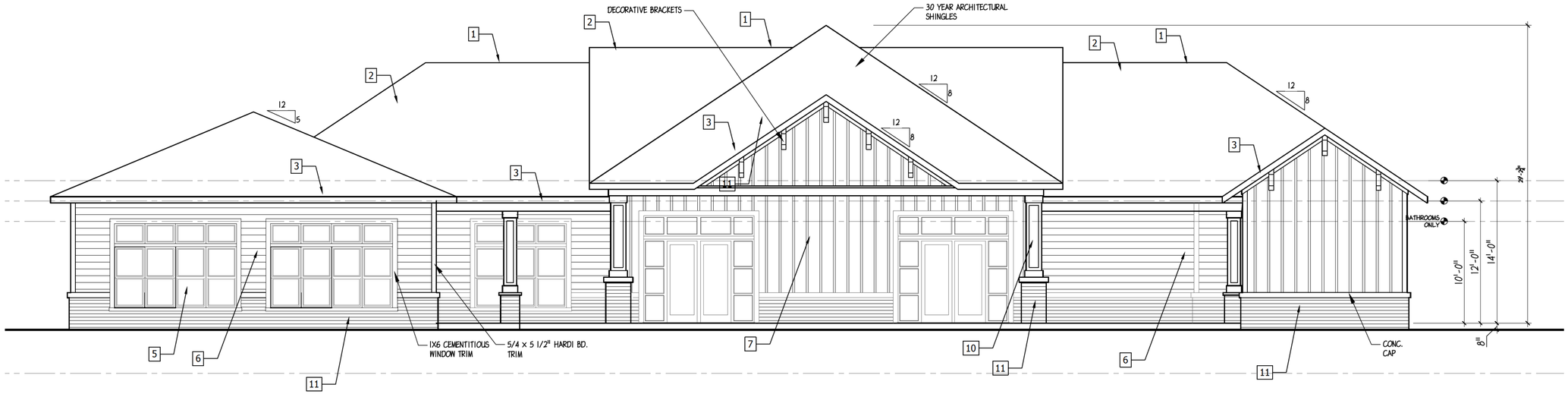
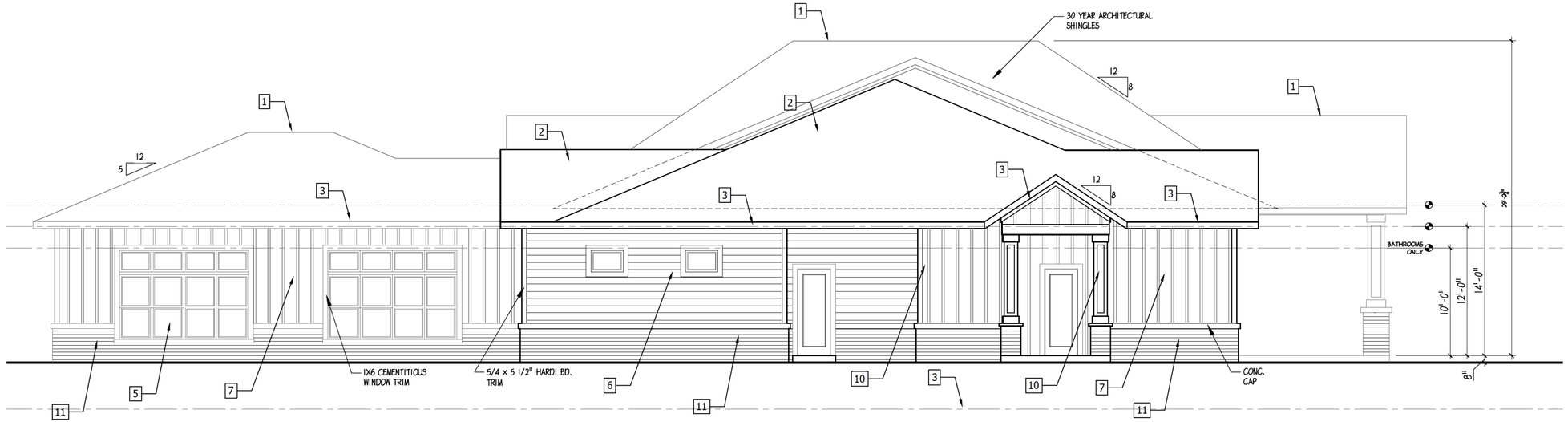
LEASE OFFICE ELEVATIONS

SHEET NO.
A10.4



1 A10.5 **LEASING OFFICE - REAR ELEVATION**

SCALE: 3/16" = 1'-0"



2 A10.5 **LEASING OFFICE - LEFT ELEVATION**

SCALE: 3/16" = 1'-0"

ELEVATION LEGEND:
1. RIDGE VENT
2. ROOF SHINGLES
3. CEMENTITIOUS FASCIA
4. CEMENTITIOUS TRIM BAND
5. SINGLE HUNG VINYL WINDOWS
6. CEMENTITIOUS LAP SIDING
7. BOARD & BATTEN SIDING
8. RAILING AS PER OWNER
9. DECORATIVE VENTS
10. CEMENTITIOUS POST WRAP
11. BRICK VENEER

ELEVATION NOTE:

ALL TRIM, FASCIA AND SOFFIT TO BE FIBER-CEMENT / CEMENTITIOUS BOARD

NOTE:
ALL EXPOSED EXTERIOR WOOD MEMBERS INCLUDING FRAMING, DECKING, & RAILING SYSTEM SHALL BE PRESSURE TREATED WOOD

•TRIM NOTE•

ALL WINDOW & DOOR TRIM, DECORATIVE BANDS, COLUMN & COLUMN TRIM, RAKE TRIM, CORNER TRIM & SIDING (HORIZONTAL & VERTICAL) TO BE CEMENTITIOUS

•BOARD AND BATTEN NOTE•

BATTEN STRIPS SHALL BE 2'-0" UNLESS OTHERWISE INSTRUCTED

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License No. 9336
STATE OF ARKANSAS

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BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E
DRAWN BY:
CHECKED BY:

LEASE OFFICE ELEVATIONS

SHEET NO.

A10.5

1 A11.0 **CONCEPTUAL CHARACTER RENDERING**

SCALE: N.T.S.

TOWN HOUSE

REGISTERED ARCHITECT
DAV D ENGLISH
License No. 9136
STATE OF ARKANSAS

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FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

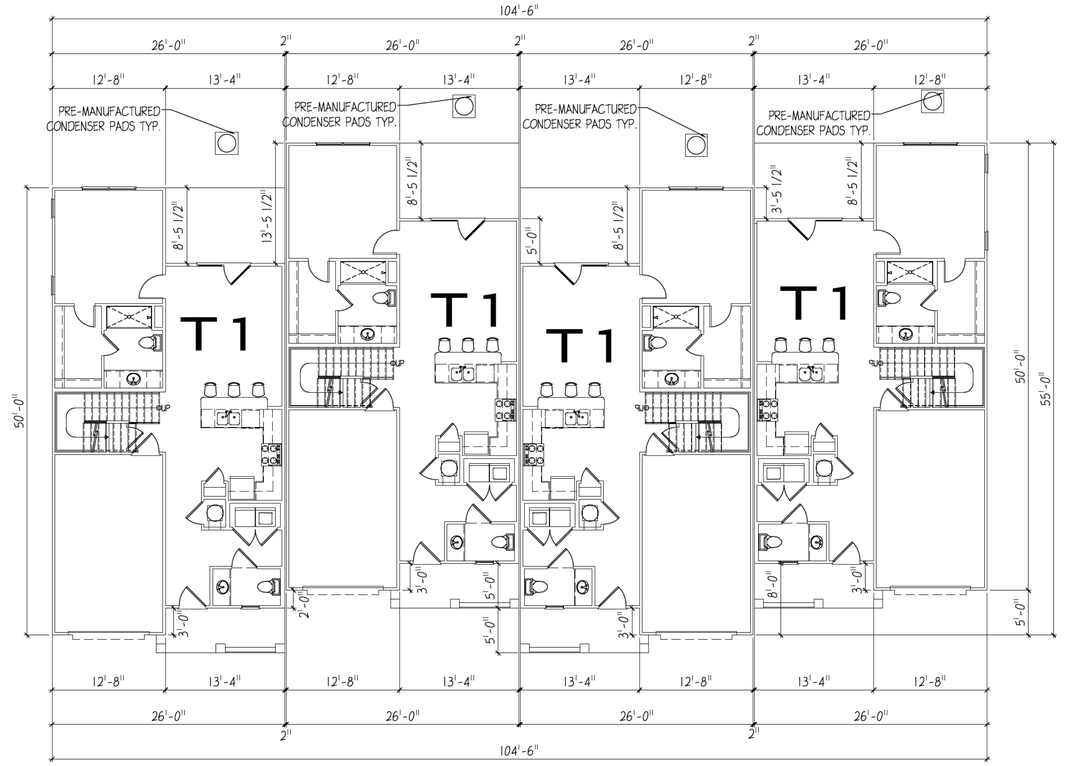
DRAWN BY:

CHECKED BY:

UNIT T-1
TOWN HOUSE

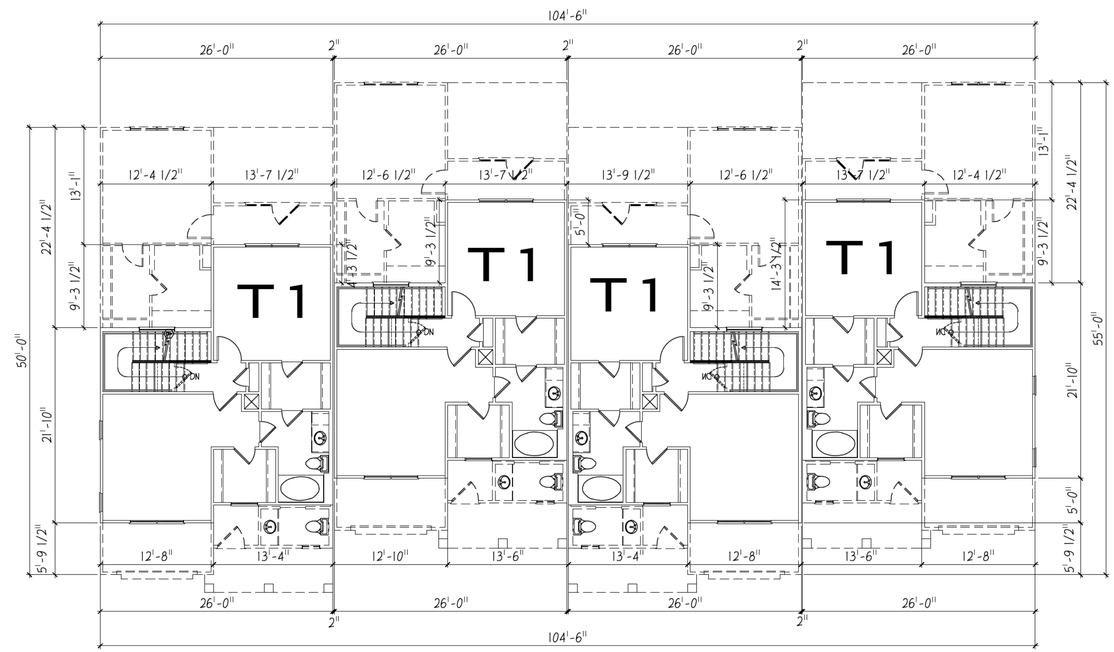
SHEET NO.

A11.0



1 A11.1 **1ST FL. BUILDING PLAN FOR T1 & T2**

SCALE: 1/8" = 1'-0"



2 A11.1 **2ND FL. BUILDING PLAN FOR T1 & T3**

SCALE: 1/8" = 1'-0"

TOWN HOUSE

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ATLANTA, GEORGIA 30341
DENGLISH@ENGLISHASSOCIATESINC.COM

JOB PROGRESS:

ITEM:	DATE:

REVISIONS:

TAG:	DATE:

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BENTONVILLE APARTMENTS
A GARDEN STYLE APARTMENT COMMUNITY
FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

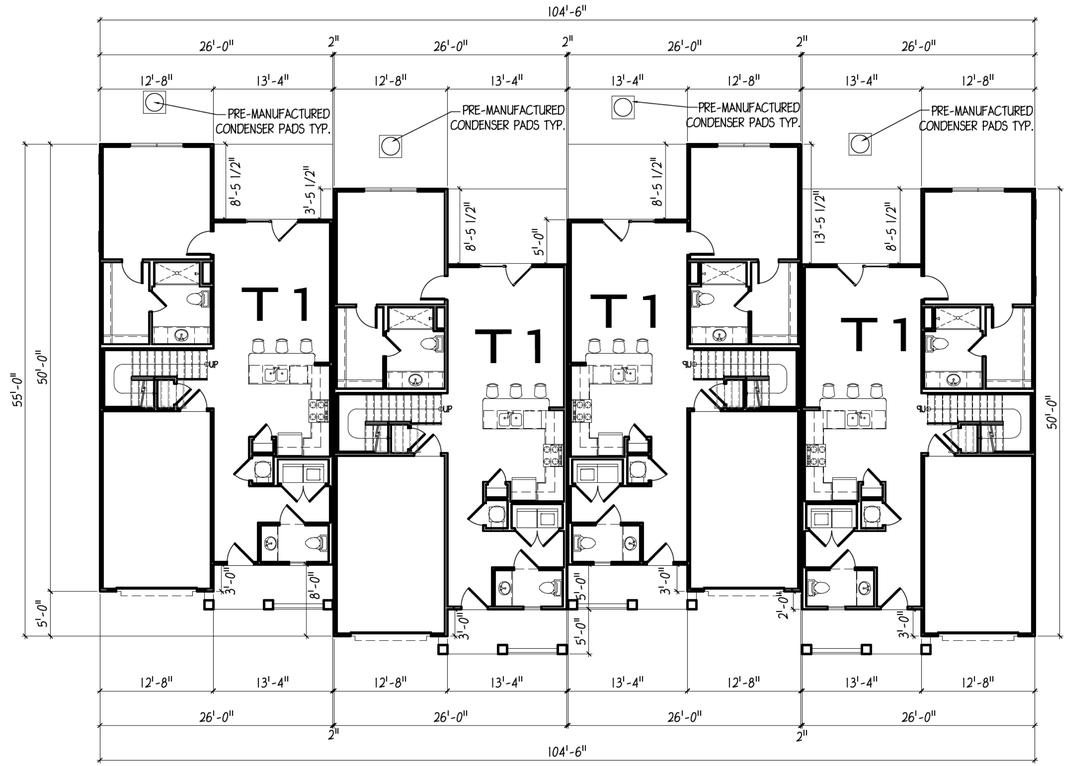
DRAWN BY:

CHECKED BY:

BUILDING PLANS FOR BLDG. 1 TOWNHOUSES

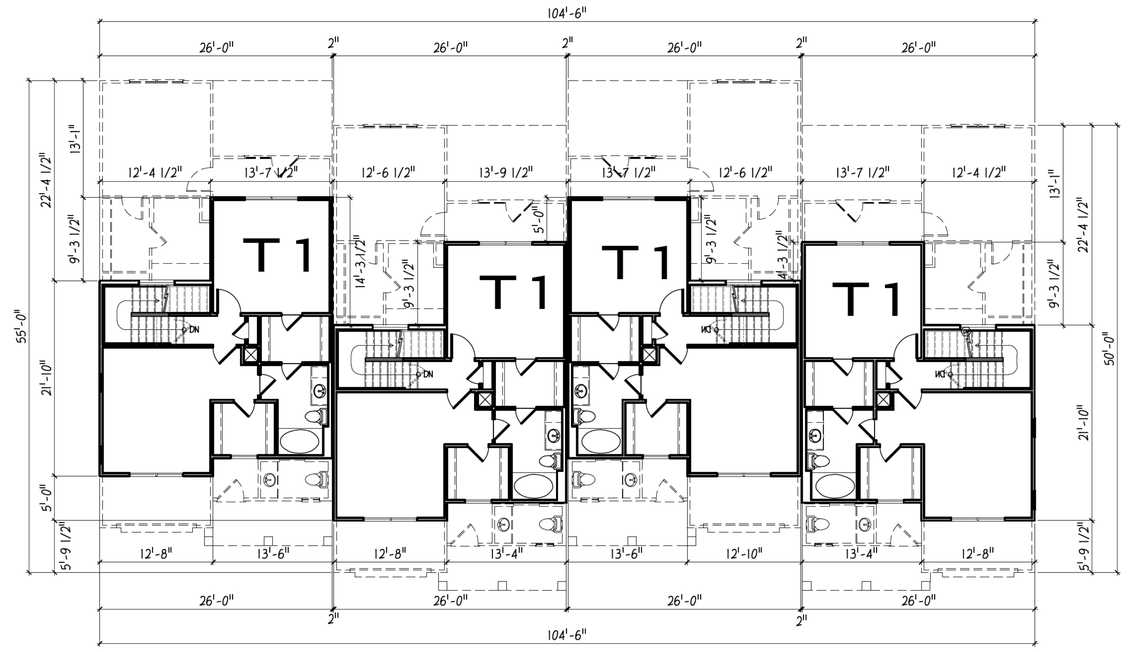
SHEET NO.

A11.1



1 A11.2 **1ST FL. BUILDING PLAN FOR T2 & T4**

SCALE: 1/8" = 1'-0"



2 A11.2 **2ND FL. BUILDING PLAN FOR T2 & T4**

SCALE: 1/8" = 1'-0"

TOWN HOUSE

ENGLISH & ASSOCIATES
ARCHITECTS, INC.
3084 MERCER UNIVERSITY DRIVE, SUITE 100
ATLANTA, GEORGIA 30341
DENGLISH@ENGLISHASSOCIATESINC.COM

REGISTERED ARCHITECT
DAV D ENGLISH
License No. 9139
STATE OF ARKANSAS

JOB PROGRESS:
ITEM: DATE:

REVISIONS:
TAG: DATE:

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BENTONVILLE APARTMENTS
A GARDEN STYLE APARTMENT COMMUNITY
FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

DRAWN BY:

CHECKED BY:

BUILDING PLANS FOR T2 & T4
TOWNHOUSES
SHEET NO.

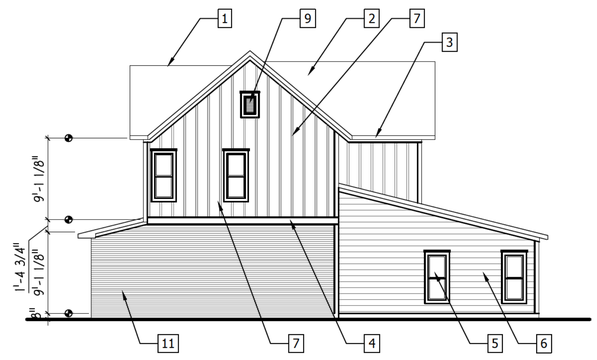
A11.2

3 A11.3 LEFT SIDE ELEV. T1 & T3

SCALE: 1/8" = 1'-0"

1 A11.3 FRONT ELEVATION T1 & T3

SCALE: 1/8" = 1'-0"



4 A11.3 RIGHT SIDE ELEV. T1 & T3

SCALE: 1/8" = 1'-0"

2 A11.3 REAR ELEVATION T1 & T3

SCALE: 1/8" = 1'-0"

TOWNHOUSE BLDG. T1 EXTERIOR MATERIALS	
BRICK VENEER	20%
CEMENTITOUS LAP SIDING	40%
CEMENTITIOUS BOARD & BATTEN SIDING	40%

TOWNHOUSE BLDG. T2 & T4 EXTERIOR MATERIALS	
BRICK VENEER	15%
CEMENTITOUS LAP SIDING	45%
CEMENTITIOUS BOARD & BATTEN SIDING	40%

ELEVATION LEGEND:

1. RIDGE VENT
2. ROOF SHINGLES
3. CEMENTITIOUS FASCIA
4. CEMENTITIOUS TRIM BAND
5. SINGLE HUNG VINYL WINDOWS
6. CEMENTITIOUS LAP SIDING
7. BOARD & BATTEN SIDING
8. RAILING AS PER OWNER
9. DECORATIVE VENTS
10. CEMENTITIOUS POST WRAP
11. BRICK VENEER

ELEVATION NOTE:

ALL TRIM, FASCIA AND SOFFIT TO BE FIBER-CEMENT / CEMENTITIOUS BOARD

TOWN HOUSE

REGISTERED ARCHITECT
DAV D ENGLISH
License No. 9139
STATE OF ARKANSAS

ENGLISH & ASSOCIATES
ARCHITECTS, INC.
3084 MERCER UNIVERSITY DRIVE, SUITE 100
ATLANTA, GEORGIA 30341
DENGLISH@ENGLISHASSOCIATESINC.COM

JOB PROGRESS:
ITEM: DATE:

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BENTONVILLE APARTMENTS
A GARDEN STYLE APARTMENT COMMUNITY
FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E

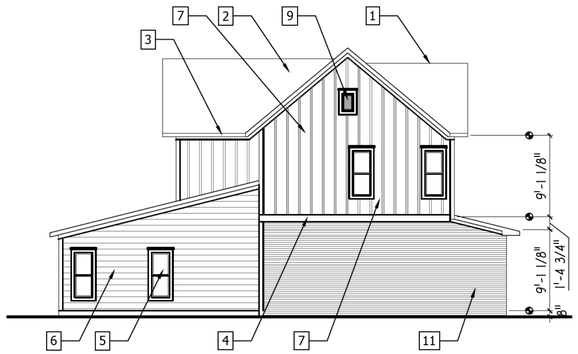
DRAWN BY:

CHECKED BY:

ELEVATIONS FOR
T1 & T3
TOWNHOUSES

SHEET NO.

A11.3



3 A11.4 LEFT SIDE ELEV. T2 & T4

SCALE: 1/8" = 1'-0"

1 A11.4 FRONT ELEVATION T2 & T4

SCALE: 1/8" = 1'-0"

4 A11.4 RIGHT SIDE ELEV. T2 & T4

SCALE: 1/8" = 1'-0"

2 A11.4 REAR ELEVATION T2 & T4

SCALE: 1/8" = 1'-0"

TOWNHOUSE BLDG. T3 & T5
EXTERIOR MATERIALS

BRICK VENEER	15%
CEMENTITOUS LAP SIDING	45%
CEMENTITIOUS BOARD & BATTEN SIDING	40%

ELEVATION LEGEND:

1. RIDGE VENT
2. ROOF SHINGLES
3. CEMENTITIOUS FASCIA
4. CEMENTITIOUS TRIM BAND
5. SINGLE HUNG VINYL WINDOWS
6. CEMENTITIOUS LAP SIDING
7. BOARD & BATTEN SIDING
8. RAILING AS PER OWNER
9. DECORATIVE VENTS
10. CEMENTITIOUS POST WRAP
11. BRICK VENEER

ELEVATION NOTE:

ALL TRIM, FASCIA AND SOFFIT TO BE FIBER-CEMENT / CEMENTITIOUS BOARD

TOWN HOUSE

REGISTERED ARCHITECT
DAV D ENGLISH
License No. 9139
STATE OF ARKANSAS

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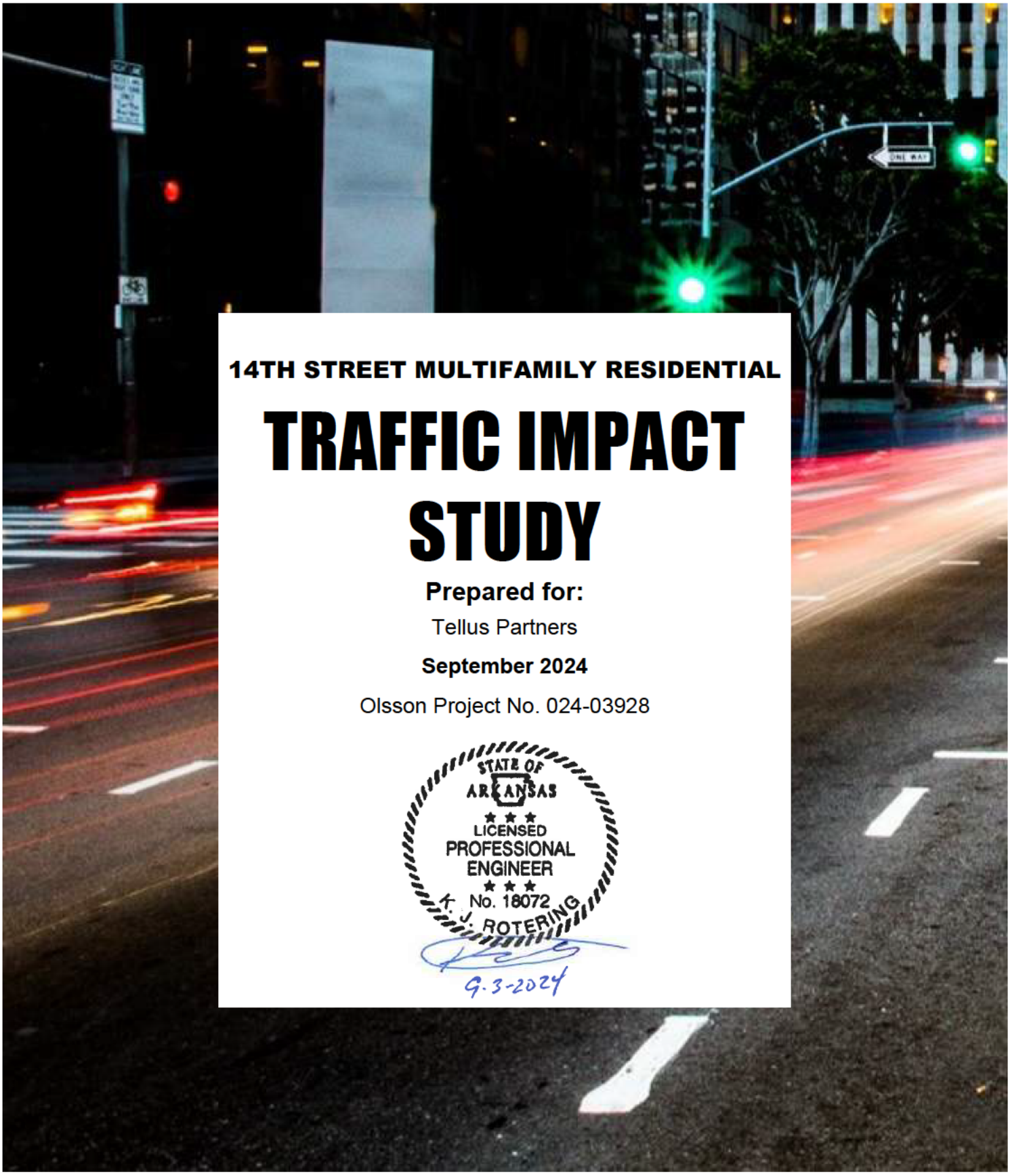
A GARDEN STYLE APARTMENT COMMUNITY
FOR
TELLUS PARTNERS
BENTONVILLE, ARKANSAS

JOB NUMBER: 2003E
DRAWN BY:
CHECKED BY:

ELEVATIONS FOR
T2 & T4
TOWNHOUSES
SHEET NO.

A11.4



14TH STREET MULTIFAMILY RESIDENTIAL

TRAFFIC IMPACT STUDY

Prepared for:

Tellus Partners

September 2024

Olsson Project No. 024-03928

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18072
T. J. ROTERING
9-3-2024

olsson

EXECUTIVE SUMMARY

This report studies the traffic impacts of the proposed 14th Street Multifamily development located in Bentonville, Arkansas, in the southeast quadrant of 14th Street (SH 102) and Elm Tree Road. This report presents the potential impacts of the proposed development on the existing roadway network and, as appropriate, recommends improvements considering agency standards.

The proposed development is a multi-family residential development consisting of a total of 308 housing units. The development was considered fully constructed under build year 2026 conditions.

The development is not expected to have a significant impact to the adjacent roadway network. The following improvements are recommended to support the proposed development:

- Construct a 200-foot plus taper eastbound right-turn lane at Drive 1.
- Extend the sidewalk along the frontage of the property (14th Street).
- Drive 1 should be constructed with two 12-foot outbound lanes and one 14-foot inbound lane in accordance with the access management policies for NWARPC.
- Inbound traffic at Drive 1 should be free flowing to prevent queueing onto 14th Street.

The network is expected to operate with some movements at lower level of service and/or with longer queue lengths without the proposed development. The following improvements were considered under future year conditions based on projected future year volumes and attributed to background traffic growth, not the proposed development. Future year operations should be monitored and improvements based on actual volumes.

- 14th Street and Elm Tree Road
    - 200-foot plus taper westbound right-turn lane.
    - Dual eastbound left-turn lanes.
        - This would require improvement of Elm Tree Road to provide two receiving lanes.
    - Provide overlap phase for southbound right-turn movement.
- 14th Street and Been Road
    - 200-foot plus taper northbound right-turn lane (master plan improvement).
    - 200-foot plus taper eastbound right-turn lane.

A detailed summary of recommendations is presented in **Section 8.**

1. INTRODUCTION

This report studies the traffic impacts of a proposed 14th Street Multifamily development located in Bentonville, Arkansas, in the southeast quadrant of 14th Street (SH 102) and Elm Tree Road. The approximate location of the proposed development is shown on the Vicinity Map in **Figure 1.**

This report presents the potential impacts of the proposed development on the existing roadway network and, as appropriate, recommends additional turn lanes, storage bay modifications, and intersection control methods per Arkansas Department of Transportation (ARDOT) Rules for Access Driveways to State Highways, City of Bentonville Minimum Standards Specifications for Streets, and Northwest Arkansas Regional Planning Commission (NWARPC) guidelines. The study intersections include the following:

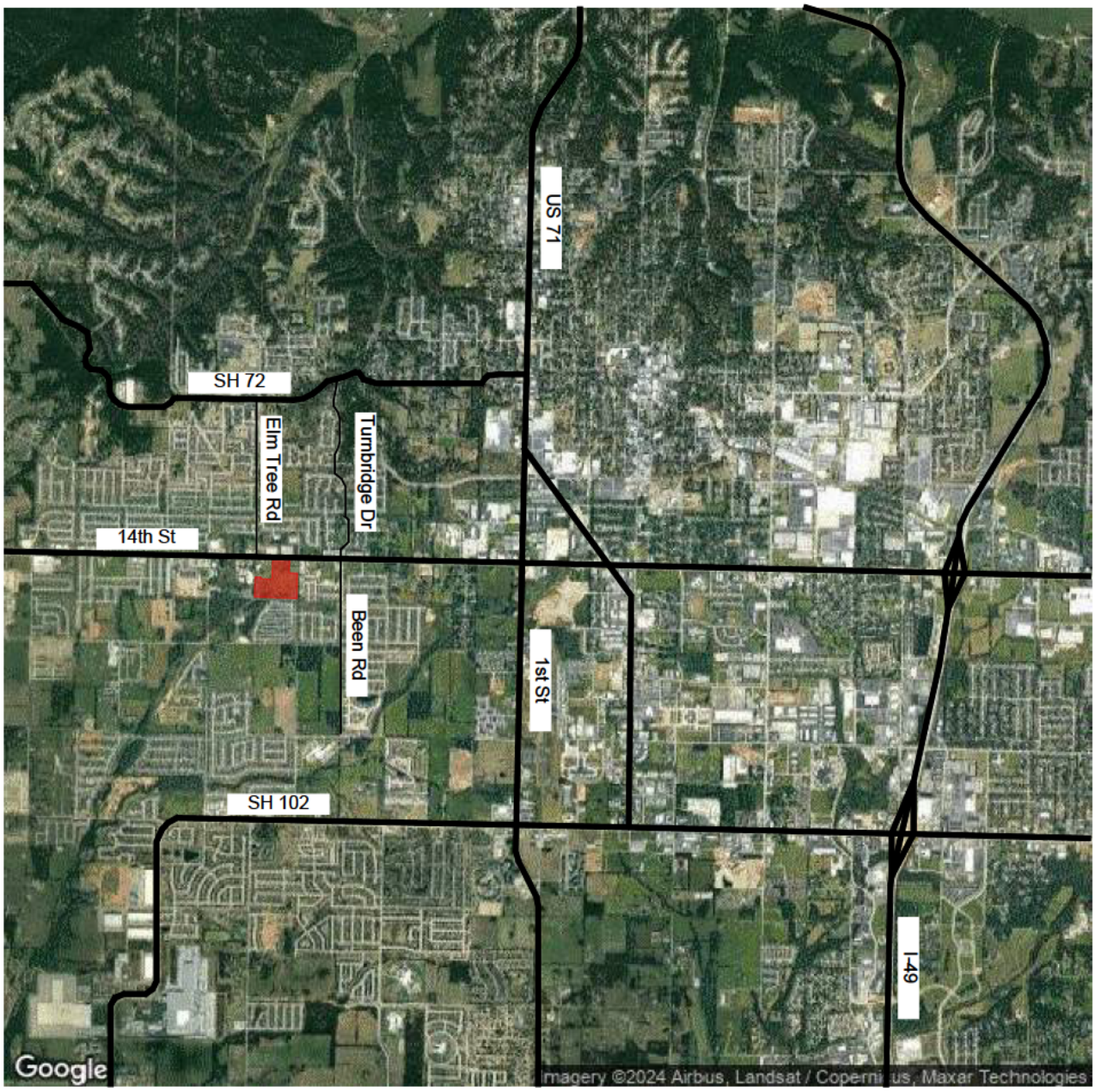
- 14th Street and Elm Tree Road
- 14th Street and Been Road/Turnbridge Drive
- Proposed Site Drives along 14th Street

The following scenarios were analyzed considering weekday AM and PM peak hour periods:

- Existing Conditions
- Build Year 2026 (No Build) Conditions
- Build Year 2026 Plus Development Conditions
- Future Year 2044 (No Build) Conditions
- Future Year 2044 Plus Development Conditions

FIGURE 1

Bentonville, AR
Vicinity Map



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LEGEND

SW 14th Street Multifamily

SW 14TH STREET MULTIFAMILY

Submitted to:

City of Bentonville

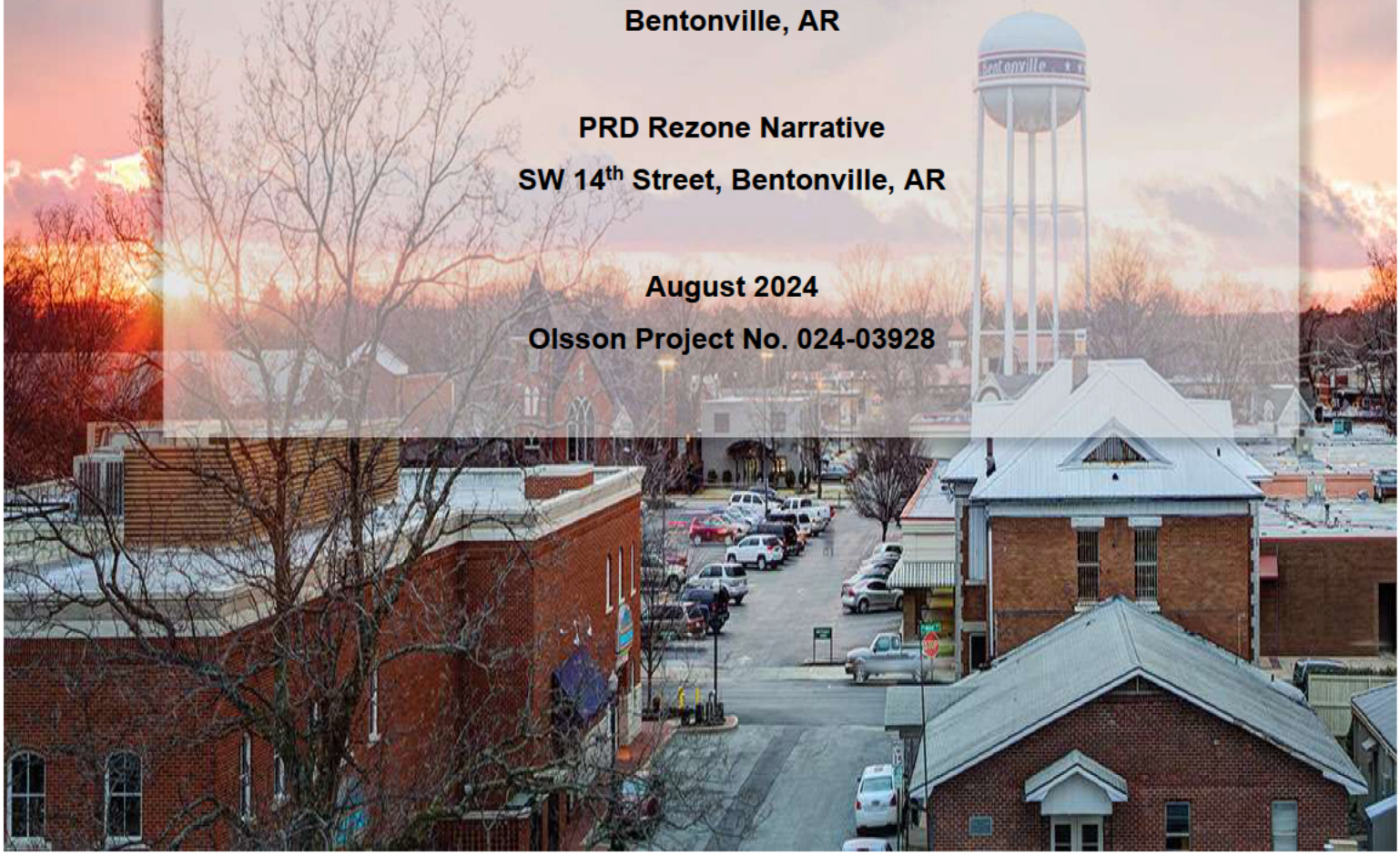
Bentonville, AR

PRD Rezone Narrative

SW 14th Street, Bentonville, AR

August 2024

Olsson Project No. 024-03928



olsson

2. DATA COLLECTION

The data collection effort included acquiring peak period turning movement counts and existing intersection signal timings.

Turning movement traffic counts were collected at the study intersections on Wednesday, August 21st, 2024, for the typical weekday AM and PM peak periods (7:00-9:00 AM and 4:00-6:00 PM). The AM peak hour period was observed to be 7:00-8:00 AM for both study intersections. The PM peak hour period for the intersection of 14th Street and Elm Tree Road was observed to be 4:30-5:30 PM. The PM peak hour period for the intersection of 14th Street and Been Road was observed to be 4:45-5:45 PM. Due to the distance between study intersections (1/2 mile) and potential for varying peak operations, individual peak hour volumes were referenced for each intersection. Volumes were not balanced between intersections along 14th Street due to the presence of existing development along the corridor. Existing peak hour traffic count data is illustrated in **Figure 2**. Traffic count data is provided in Appendix A**.**

Signal timing information was not available for existing signalized intersections. Based on conversations with City of Bentonville staff, signal timings were developed for each intersection.

8. SUMMARY

This report summarizes analysis conducted for the 14th Street Multifamily development located in the southeast quadrant of 14th Street and Elm Tree Road in Bentonville, Arkansas.

8.1 Conclusions

The general findings for this traffic impact study include the following:

1. The development proposes four access points to support the site. Drive 1 is located along 14th Street and is associated with development of a frontage road that will provide cross access to properties located east and west of the site. Two access points (Drive 2 and Drive 3) connect to existing road segments east and south of the site. A future access connection to the west (Drive 4) can be provided if Elm Tree Road is extended south of 14th Street. This access point was not considered for the purposes of this study, but if the connection is made in the future, it is anticipated that operations at surrounding intersections would improve as traffic would be further dispersed.
2. The development is not expected to have a significant impact to the study area roadway network. As presented in the study, poor operations that may be experienced under future year scenarios are attributed to background traffic growth.
3. 14th Street (SH 102) services a high volume of traffic during the AM and PM peak hour periods. Under existing conditions, lower levels of service and longer queuing is expected, which will continue into build year and future year analysis periods. Improvements that could improve network operations are identified in this study, but the improvements are noted to not be directly related to the site development. Therefore, the recommendations in the following sections are presented as recommendations that support the proposed development and recommendations that are attributed to projected background traffic growth.

8.2 Recommendations

Proposed drives and recommended improvements should be constructed following agency guidelines. Sight distance should be provided at new intersections.

8.2.1 Existing Conditions

No recommended improvements.

8.2.2 Build Year 2026 (No Build) Conditions

No recommended improvements.

8.2.3 Build Year 2026 Plus Development Conditions

The following improvements are recommended to support the proposed development:

- Construct a 200-foot plus taper eastbound right-turn lane at Drive 1.
- Extend the Razorback Greenway multi-use trail along the frontage of the property (14th Street).
- Drive 1 should be constructed with two 12-foot outbound lanes and one 14-foot inbound lane in accordance with the access management policies for NWARPC.
- Inbound traffic at Drive 1 should be free flowing to prevent queueing onto 14th Street.

8.2.4 Future Year 2044 (No Build) Conditions

The following planned improvements were considered under future year conditions based on projected future year volumes and attributed to background traffic growth, not the proposed development. Future year operations should be monitored and improvements based on actual volumes.

- 14th Street and Elm Tree Road
    - 200-foot plus taper westbound right-turn lane.
    - Dual eastbound left-turn lanes.
        - This would require improvement of Elm Tree Road to provide two receiving lanes.
    - Provide overlap phase for southbound right-turn movement.
- 14th Street and Been Road
    - 200-foot plus taper northbound right-turn lane (master plan improvement).
    - 200-foot plus taper eastbound right-turn lane.

8.2.5 Future Year 2044 Plus Development Conditions

No recommended improvements outside those listed in the Future (No-Build) Scenario.

RESOLUTION NO. _____

A RESOLUTION AMENDING THE CITY OF BENTONVILLE FUTURE LAND USE MAP FOR A SPECIFIC AREA FROM GENERAL COMMERCIAL TO MEDIUM-DENSITY RESIDENTIAL; AND FOR OTHER PURPOSES.
(PROJECT NUMBER: PRD24-0007)

WHEREAS, Vaishno Groups, LLC duly filed a petition with the Planning Commission requesting that the hereinafter described property situated in Benton County, Arkansas, be changed from its present land use classification of GENERAL COMMERCIAL to MEDIUM-DENSITY RESIDENTIAL, which property is described as follows:

A PART OF THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A FOUND 5/8" REBAR MARKING THE SOUTHWEST CORNER OF SAID FRACTIONAL FORTY ACRE TRACT AND RUNNING THENCE N02°17'39"E 614.04 FEET TO A FOUND 1/2" REBAR; THENCE S87°17'19"E 208.99 FEET TO A SET 5/8" REBAR; THENCE S02°17'39"W 74.57 FEET TO A SET 5/8" REBAR; THENCE S87°23'57"E 395.74 FEET TO A SET 5/8" REBAR; THENCE N02°17'39"E 660.06 FEET TO A SET 5/8" REBAR ON THE SOUTH RIGHT OF-WAY OF SOUTHWEST 14TH STREET (ARKANSAS STATE HIGHWAY 102); THENCE ALONG SAID RIGHT-OF-WAY, S87°17'19"E 479.18 FEET TO A SET 5/8" REBAR; THENCE LEAVING SAID RIGHT-OF-WAY, S02°20'30"W 423.03 FEET TO A SET 5/8" REBAR; THENCE S87°39'30"E 239.12 FEET TO A SET 5/8" REBAR; THENCE S02°19'15"W 776.25 FEET TO A FOUND 1/2" REBAR MARKING THE SOUTHEAST CORNER OF SAID FRACTIONAL FORTY ACRE TRACT; THENCE N87°23'57"W 1322.32 FEET TO THE POINT OF BEGINNING, CONTAINING 25.275 ACRES, MORE OR LESS. SUBJECT TO EASEMENTS AND RIGHT-OF-WAYS OF RECORD;

WHEREAS, the Planning Commission duly met and considered the application and duly set the petition for public hearing to be held October 15, 2024 at the Council Chambers of the City of Bentonville;

WHEREAS, public notice of said hearing having been published in the Northwest Arkansas Democrat Gazette for the time and in the manner required by law; and

WHEREAS, the Planning Commission voted to recommend to the City Council that the petition be approved and that said future land use classification as presented on the property be changed.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the above described real property is hereby changed from its present land use classification of GENERAL COMMERCIAL to MEDIUM-DENSITY RESIDENTIAL on the City of Bentonville Future Land Use Map;

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED AND APPROVED this ___ day of _____, 2024.

APPROVED:

_____

Stephanie Orman, Mayor

ATTEST:

_____

Malorie Marrs, City Clerk

ORDINANCE NO. _____

AN ORDINANCE CHANGING REAL ESTATE IN THE CITY OF BENTONVILLE, ARKANSAS, FROM ITS PRESENT ZONING CLASSIFICATION OF C-2, GENERAL COMMERCIAL AND C-1, NEIGHBORHOOD COMMERCIAL TO PRD, PLANNED RESIDENTIAL DEVELOPMENT; AND FOR OTHER PURPOSES.
(PROJECT NUMBER: PRD24-0007)

WHEREAS, Vaishno Groups, LLC duly filed a petition with the Planning Commission requesting that the hereinafter described property situated in Benton County, Arkansas, be changed from its present zoning classification of C-2, GENERAL COMMERCIAL and C-1, NEIGHBORHOOD COMMERCIAL to PRD, PLANNED RESIDENTIAL DEVELOPMENT to be used in accordance with city zoning laws and state laws, which property is described as follows:

A PART OF THE FRACTIONAL NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 19 NORTH, RANGE 31 WEST, BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A FOUND 5/8" REBAR MARKING THE SOUTHWEST CORNER OF SAID FRACTIONAL FORTY ACRE TRACT AND RUNNING THENCE N02°17'39"E 614.04 FEET TO A FOUND 1/2" REBAR; THENCE S87°17'19"E 208.99 FEET TO A SET 5/8" REBAR; THENCE S02°17'39"W 74.57 FEET TO A SET 5/8" REBAR; THENCE S87°23'57"E 395.74 FEET TO A SET 5/8" REBAR; THENCE N02°17'39"E 660.06 FEET TO A SET 5/8" REBAR ON THE SOUTH RIGHT OF-WAY OF SOUTHWEST 14TH STREET (ARKANSAS STATE HIGHWAY 102); THENCE ALONG SAID RIGHT-OF-WAY, S87°17'19"E 479.18 FEET TO A SET 5/8" REBAR; THENCE LEAVING SAID RIGHT-OF-WAY, S02°20'30"W 423.03 FEET TO A SET 5/8" REBAR; THENCE S87°39'30"E 239.12 FEET TO A SET 5/8" REBAR; THENCE S02°19'15"W 776.25 FEET TO A FOUND 1/2" REBAR MARKING THE SOUTHEAST CORNER OF SAID FRACTIONAL FORTY ACRE TRACT; THENCE N87°23'57"W 1322.32 FEET TO THE POINT OF BEGINNING, CONTAINING 25.275 ACRES, MORE OR LESS. SUBJECT TO EASEMENTS AND RIGHT-OF-WAYS OF RECORD;

WHEREAS, the Planning Commission duly met and considered the application and duly set the petition for public hearing to be held October 15, 2024 in the Council Chambers of the City of Bentonville;

WHEREAS, public notice of said hearing having been published in the Northwest Arkansas Democrat-Gazette for the time and in the manner required by law; and

WHEREAS, the Planning Commission voted to recommend to the City Council that the petition be approved and that said property be rezoned from its present classification of C-2, GENERAL COMMERCIAL and C-1, NEIGHBORHOOD COMMERCIAL to PRD, PLANNED RESIDENTIAL DEVELOPMENT.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the above described real property is hereby changed from its present zoning classification of C-2, GENERAL COMMERCIAL and C-1, NEIGHBORHOOD COMMERCIAL to PRD, PLANNED RESIDENTIAL DEVELOPMENT to be used in accordance with the city zoning laws and state laws;

Section 2 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk

Future Land Use Map Amendment - ALWF LANDS LLC - R-E, Residential Estate to Low Density Residential (LDR)

1100 and 1102 Northeast J Street

PC Date: 10/15/2024

Staff Report Details

Project Number	PRD24-0008
Applicant / Current Owner	Nate Bachelor/ALWF Lands LLC
Site Area	+/- 11.75 Acres
Current Zoning	A-1, Agriculture
Requested Zoning	Planned Residential Development (PRD)
Current Future Land Use Map Designation	R-E, Residential Estate
Requested Future Land Use Map Designation	Low Density Residential (LDR)
Development Type / Use	Multi-family/Mixed-use
Related projects	

Property Description

The subject property is located at 1100 and 1102 Northeast J Street. It is currently zoned A-1, Agriculture with a future land use designation of R-E, Residential Estate. Surrounding zoning districts include R-E, Residential Estate to the North, A-1, Agriculture to the East, West, and South, R-1, Low-Density Single-Family Residential to the West and South, and C-3, Mixed-Use Commercial to the Southwest. Surrounding land uses include R-E, Residential Estate to the North, East, and West, Low Density Residential (LDR) to the South and Northwest, and Mixed-use Commercial to the Southwest. The property has direct access to Northeast J Street, classified as an Arterial.

Project Details

The applicant is proposing a Planned Residential Development that consists of two buildings, one of 100 units, the other of 200 units. The southern building of 100 units will be for student housing for the Alice L. Walton School of Medicine. The northern building of 200 units will be general multifamily with a small mixed-use component, a commercial space, along the street frontage. The applicant states that this project is a part of the wider Crystal Bridges campus that has grown to include the School of Medicine and Whole Health Institute as well. The applicant continues that the student housing would assist in recruitment and retention of medical students and that the multifamily portion is well situated to take

Project Details

advantage of the nearby amenities such as the Crystal Bridges campus and the abundant trails and recreation opportunities in the area.

The applicant discusses potential uses for the small commercial space as coffee or sandwich shop for a restaurant use or a small market or bodega. Explicitly, the applicant states that convenience stores or gas stations would not be permitted. The applicant also states that parking will mostly be subterranean with about 40% of the total parking being on the surface. At the public street side of the project, the applicant states the intention is to create a formal and civic atmosphere that transitions eastward to the open and natural space being preserved with this proposal.

The southern building on this site would be for student housing, a total of 100 units, being a mix of studio, 1-bed, and 2-bed units. 87% of the units will be studio or 1-bed. The height of the structure would be 5 stories, hitting a max height of 75 feet. 100 parking spaces are provided for this building, a ratio of 1 space per unit. This is less than is typically required at 1.5 spaces per unit for traditional multi-family, though the applicant requests this reduction due to the campus nature of the development with the nearby School of Medicine, who's parking lot would also be used by the students. The applicant asserts that this would be a duplication of spaces from what is being built with the School of Medicine as those students living in this building would have their classes across the street. A shared-use parking agreement will be provided to formalize the relationship with the LSD.

The northern building is a proposed 200-unit multifamily structure that consists of studio, 1-bed, and 2-bed units. 80% of the units are studio or 1-bed. The height of the structure would reach 5 stories, and 75 feet max. The applicant proposes 228 total spaces for this building, broken down between 200 for the multi-family portion and 28 for the commercial portion. At 200 spaces total, that reaches a parking ratio of 1 space per unit, less than the 1.5 typically required for traditional multi-family. The applicant has proposed to share the commercial spaces with this residential as the peak parking demand would likely be at separate times of the day. Furthermor the applicant is providing 40 indoor bike spaces in a secure room. The applicant requests the reduction in parking spaces due to the unit mix, on-site bike infrastructure, and shared parking with the commercial use.

The applicant proposes an open space to the rear (East) of the site that is park-like and preserves the existing open space and woodlands with the development.

The overall site is oriented towards the street, with the intensity of development tapering off somewhat, and then dramatically towards the east into the preserved open space. The proposed buildings are sited in a U-shape around a central courtyard, with the narrower portions of the buildings facing J Street, yet the buildings still maximize facade exposure along this frontage. The PRD document proposes a minimum setback of 45 feet between any primary building and the side setback. Along the southern boundary, the nearest that the southern structure sits in relation to the southern boundary is approximately 48 feet. The southern building is bent in the center to further increase the distance of the building from the existing residential property to the south. On the northern side, the north building is placed no closer than approximately 62' from the property line. The applicant states that at the location the building is in, the maximum height is below that which would be permitted in either the C-3 or R-4 zoning districts.

The buildings are proposed to consist of a charcoal colored masonry product, together with anthracite zinc panels and Cor-ten steel. The applicant states these materials are chosen for their natural patina and low maintenance. Both buildings provide an abundance of architectural features, including recesses, roofline articulation, and ground floor differentiation, among others.

Relationship to the General Plan / Projected Traffic Impact

Relationship to the General Plan / Projected Traffic Impact

Chapter 4 of the Bentonville Community Plan identifies this property as Stable, meaning at the time of the plan's adoption in 2018, it was anticipated that the "existing land use, built character, and land use context suggest that they will generally remain the same over the horizon of this plan." Recent development that has occurred nearby after plan adoption would seem to indicate that this area is in transition. The collective changes from the expansion projects on the Crystal Bridges campus, the Crystal Flats mixed-use development, and the Alice L. Walton School of Medicine indicate that this area is transitioning to a mixed-use neighborhood, featuring neighborhood-scale commercial uses, institutional uses, and a variety of residential choices.

The Future Land Use Plan within the Community Plan identifies this property as Residential Estate (RE), which is consistent with the anticipation that this area would remain Stable. The applicant has requested that the Land Use be amended to keep the rezoning request consistent with the Alignment Policy.

The subject property is wholly within Priority Area 2 of the Community Plan, which "supports the development of vacant properties already served by infrastructure within the context of existing development." Properties such as this "represent an opportunity to capitalize on existing infrastructure and services and support new development that aligns with existing uses and is compatible with the character of surrounding areas." The proposed development satisfies the goal of infill development in that it makes use of existing roadway, utility, and recreation infrastructure and investments made by the City, including the new J Street interchange on I-49 that will likely exceed $50 million in investment. The proposed development represents a higher intensity than the current use, but is compatible with much of the recent development nearby including the School of Medicine and the Crystal Flats mixed use development.

Chapter 5 of the Community Plan identifies the subject property as an Area of New Neighborhood Investment. These areas include "'infill' through the subdivision of larger tracts of land surrounded by existing neighborhoods as well as the development of neighborhoods in new growth areas." Area of New Neighborhood Investment encourage the following development characteristics:

1. Logical connections to the surrounding roadway network.
The proposed development does not propose any new public streets.
2. A well-connected neighborhood grid.
The proposed development does not propose any new public streets.
3. Dedicated local recreational open spaces and detention areas.
The development does propose to preserve much of the eastern portion of the property as open space and preserved wooded areas. Detention is provided in this area as well, and structures are sited outside of the natural drainage path that exists at the bottom of the ravine on the far eastern side of the property.
4. Adequate right-of-way for on-street bike routes or dedicated bikeways.
The property as it exists already has enough right-of-way to meet the Master Street Plan. The applicant proposes an 8-foot sidewalk in front of the development which exceeds the minimum 5' width required per the Master Street Plan. The J Street Trail, a shared-use trail, already exists on the western side of J Street.
5. Buffers abutting impactful non-residential uses or arterial streets.
While the proposed use is mostly residential, it does provide some commercial use. The developer does propose a Type A screen around the whole property, which consists of a minimum 6-foot opaque screen (dense evergreen vegetation, earthen berm, or solid fence/wall) as well as intermittent visual obstruction permitted from 6 to 20 feet in height. This screen is consistent for what is required by code for screening between multi-family uses and single-family uses.
6. Local access to adjacent commercial corridors and nodes.
The proposed development provides access through sidewalk connections from the development to the

Relationship to the General Plan / Projected Traffic Impact

corridor.

7. Local housing diversity and compatible character.
The proposed development adds to the existing housing diversity in this neighborhood through additional multifamily units. Existing single-family subdivisions exist nearby offering a variety of choices for that product, however, only one other multi-family development exists in this area, and no student housing exists anywhere in Bentonville. The materials proposed with the development represent compatibility with existing residential uses through the incorporation of brick, which is predominately used nearby, as well as metal panels oriented in a vertical position that simulate some of the vertical wood siding seen in the area.

8. Attractive design of the public realm.
The development proposes wide pedestrian areas, a central plaza, and landscaping along the public frontage.

For all residential areas, Chapter 5 directs development to strive to achieve the following goals:

1. Provide a variety of housing types that meet the spectrum of demands from Bentonville's diverse population.
The proposed development includes multi-family and student housing, both of which expand the variety of housing types in this part of Bentonville.

2. Improve the character of existing neighborhoods and ensure that future neighborhoods reflect a compatible and high level of design.
The proposed design of the buildings incorporate materiality that is similar to the existing neighborhoods and residential uses and expands the palette to include metal products as well.

3. Provide proximity to, or integrate within neighborhood development, resident-based services such as parks, trails, public facilities, and local commerce.
The proposed development does include a small commercial space to serve the nearby population. The development also makes connections to existing trails and sidewalks, and sets aside several acres of open space.

4. Use creative, market-driven tools to maintain housing availability for all socioeconomic levels.
The development proposes student housing which will satisfy a gap in the current housing typology within the City of Bentonville.

5. Provide the residential environments that support the city's economic engine, employment base, and commerce.
The proposed development will service specifically student housing for medical students who will contribute to all three of these aspects either during their on-campus experience or later in life for those students who choose to remain in our area for their medical careers.

Chapter 5 also discusses aging in place as we expect the number of residents 55+ to continue to grow as the City grows. This proposal meets several of the strategies outline in this section including providing a variety of housing types at the neighborhood and block level that allow residents to downsize and remain in their neighborhood and seek housing choices that are lower maintenance; developing well-designed and connected bike and pedestrian facilities to allow safe and easy access to parks, commercial uses and services; and allowing for centers for goods and services to locate nearby.

Chapter 6 of the Community Plan recommends community-wide that more commercial goods and services be integrated into new residential areas. This proposal incorporates a small commercial space along the street frontage.

Public Comment

Has Staff received Public Comment at the time of this report? : **No**

Analysis / Waivers

Sec. 401.11 of the Zoning Code details the intent and requirements of the PRD district. This includes producing:

1. A maximum choice in the types of environment and living units available to the public;
The proposed development offers producing the first student housing in the City, and offers multifamily housing choice in an area that has relatively little other option. Various unit sizes are proposed as well, being studio, 1-bed, and 2-bed options.

2. A variety of housing types that effectively meets the varying price points of the community;
While pricing is not discussed by the applicant in the narrative, student housing is typically designed in a way to be attainable for students living with little to no income and on loans or grants. Being the first student housing development in Bentonville would fill a gap and need for the City's growing higher education population.

3. Energy-efficient site design or building features;
The applicant discusses that the orientation of the buildings allows the energy use to be minimized. They propose using energy efficient windows, LED lighting, and high-efficiency HVAC systems.

4. A minimum of fifteen percent (15%) common, useable open space and recreation areas;
Each individual phase will provide 15% common, according to the narrative, with phase 3 providing a park on the eastern part of the site. It is proposed to have pathways and open space, as well as preserve the existing wooded area.

5. A pattern of development which preserves natural features and prevents soil erosion;
The development proposes through phase 3 a common open space that preserves the natural features and wooded areas, as well as the existing drainage pathway.

6. A creative approach to the use of land and related physical development;
The development is anchored at the street side and invites the public into the site by orienting the buildings near the street. The development makes use of the natural topography to provide parking beneath the structures, and preserves the natural areas that have been relatively less disturbed towards the eastern part of the site.

7. Efficient use of land resulting in smaller networks of utilities and streets and thereby lowering costs;
The development proposal will require no new streets and minimal utility work as existing street, utility, and recreation infrastructure is in place along J Street.

8. Environment of stable character in harmony with the surrounding development;
The development has proposed to site the buildings away from the immediately adjacent single-family structures and designed the buildings, particularly the south building, in a way to further remove the building from proximity to the southern boundary of the property.

9. Efficient use of infrastructure,
Little additional public infrastructure is proposed to service this development. The development makes use of existing city facilities including the transportation and trail network, water and sewer services, electric services, and recreational services nearby at Orchard Park.

10. High quality architectural design, placement, relationship and orientation of structures.
The proposed siting and design of the buildings places them away from nearby single-family uses. The architectural design is contemporary, and includes materials that are found in nearby residential uses, including brick, and adds additional metal panel material that is similarly deployed to some of the vertical wood siding that is found nearby. The structures are oriented towards the street and public realm, and the site design invites the public to the front of the buildings.

Analysis / Waivers

The PRD should also incorporate Smart Growth principles, such as Traditional Neighborhood Design elements including:

1. Offer a range of housing opportunities and choices;
The proposed development offers producing the first student housing in the City, and offers multifamily housing choice in an area that has relatively little other option. Various unit sizes are proposed as well, being studio, 1-bed, and 2-bed options.

2. Foster walkable, "close-knit" neighborhoods;
The applicant has proposed that the development is a continuation of the Crystal Bridges campus. The campus is designed as walkable to service the needs of the users of the site and buildings, with wide sidewalks, open spaces, buildings oriented towards the street, and connectivity to the trails and recreation opportunities. Together, these places create a means for social interaction and 'close-knit' neighborhoods that are not walled off from one another.

3. Promote distinctive, attractive communities with a strong "sense of place";
The proposed development incorporates open spaces into the siting of the structures and the interaction of the site with the public realm. The incorporation of a commercial space that is intended to be a restaurant or market of some kind, further enhances the social space that is created. The developer is proposing a layout that is unique in Bentonville.

4. Preserve open space, farmland, natural beauty, and critical environmental areas;
The development is proposing to preserve several acres of open space at the east of the site for recreation and preservation purposes. This includes the natural drainage path that runs across the rear of the property.

5. Strengthen and encourage growth in existing communities;
Being in Priority Area 2 Infill of the Community Plan, this development proposes growth in an efficient way in regards to city infrastructure. This growth also adds housing choice and variety to this neighborhood.

6. Provide an interconnected network of narrow streets that are safe and pleasant for pedestrians and which provide a variety of routes for local traffic;
No new streets are proposed with this development. Even so, the development proposes an 8' sidewalk that exceeds the minimum 5' sidewalk required by the Master Street Plan, creating a more pleasant and safe experience for pedestrians. The development also connects to the existing trail across the street providing additional routes to get around locally.

7. Provide high quality public spaces such as greenbelts, parks, plazas, squares, courtyards, and streets that are an organizing feature and gathering place for the neighborhood.
The development proposes an open space between the structures, a plaza between the buildings and public realm, and open space at the rear of the project that offers walkways and recreation opportunities. Each of these may function as an organizing feature and/or gathering place for the local area.

Conclusion

The proposed development meets the vast majority of the guidance and direction in the Bentonville Community Plan and the requirements of the Zoning Code for PRD zoning districts. The development incorporates significant preservation of open space near the buildings and in existing undeveloped parts of the site; it preserves natural drainage pathways and forested areas; it proposes student housing - a gap in the housing typology currently serving Bentonville - and multifamily housing in a neighborhood rich with amenities and connectivity; it makes efficient use of existing utility networks, parks and recreation infrastructure, and trails and roadways, including the more than $50 million interchange being built by the

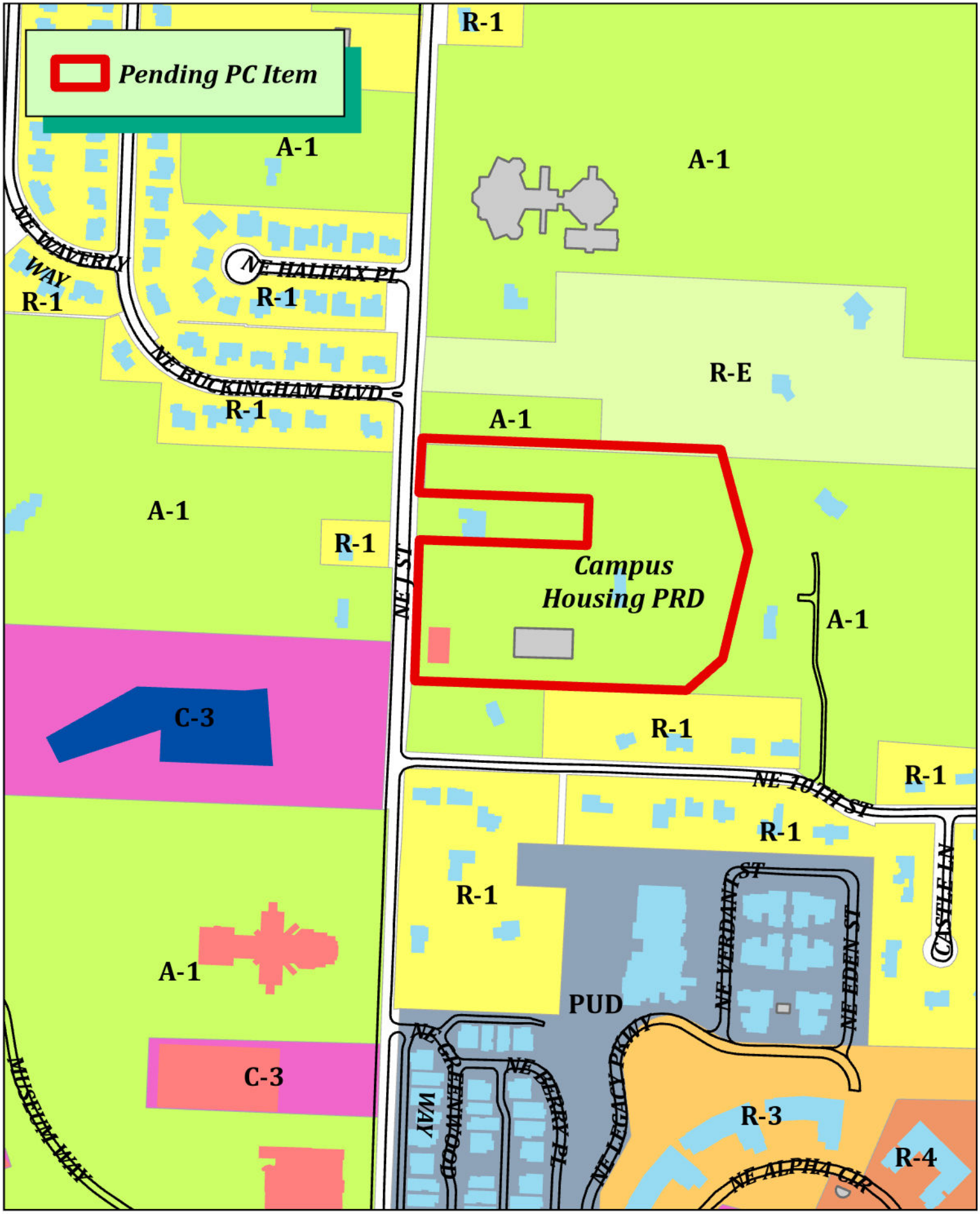
Conclusion

City; the proposal increases the variety of housing choice in this neighborhood; and it incorporates architectural materials congruent with existing residential uses.

In light of the proposal's conformance with the Community Plan and compliance with the requirements of the PRD zoning district, staff recommends approval of this zoning amendment with the following condition:

1. The southern-most structure shall include an additional setback of 10' from the southern edge of the foundation of the building for all stories 5 or higher.

Additional Details



N W E S

PRD24-0008
Campus Housing PRD
1100 NE J ST

Scale
1" = 90'

CAMPUS HOUSING

PRD Narrative and Plans

September 20, 2024

Art + Wellness Enterprises

POLK STANLEY WILCOX

OSD Office of Strategy + Design

CEI

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Dustin G. Riley, Arkansas PLS #1618

Project Narrative

The property owner, ALWF Lands, LLC, of parcel 01-09877-000 (4 acres) and 01-098780-001 (7.75 acres) located at 1100 and 1102 NE J Street is seeking to rezone the property as PRD in accordance with Article 401.11 of the City of Bentonville Zoning Code.

PROJECT SCOPE:

The project will consist of two (2) separate buildings, the south building will contain 100 units, and the north building will contain 200 units. Each building will be five (5) stories and will support a diversity of housing types and price points. Student housing will serve the adjacent Alice L Walton School of Medicine and multi-family housing will mitigate the housing shortage in Northwest Arkansas. The project will be an integral part of the greater Crystal Bridges campus that includes the School of Medicine and the Heartland Whole Health Institute. The student housing component will assist the School of Medicine in recruitment and retention of medical school students by providing high quality housing to compete against the top medical schools in the country. Additional multi-family housing is provided in the heart of Bentonville with convenient access to multiple community amenities. The project will contain a small commercial space as an accessory to the residential units with space planned for a restaurant and retail component. Specific tenants for the restaurant and retail spaces are still to be determined, but examples being discussed are a coffee and/or sandwich shop for the restaurant and a market or bodega for the retail space. Specific uses that will be restricted are convenience stores and gas stations.

A one level below-grade parking structure will contain approximately 60% of the proposed parking with 40% provided above grade as on-surface parking. The overall site development merges the elements of a formal campus environment with the adjacent natural woodlands on the eastern portion of the site to create “a campus that opens to the woods”. The west side of the site along NE J Street will provide a more formal and civic atmosphere as tenants can enjoy the public amenities and connect to the Alice L. Walton School of Medicine across the street. As the site slopes down to a natural drainage ravine to the east, a transition is made to a more serene and pastoral setting that will provide recreation and relaxation opportunities that build on the tenants of whole health that are integral to The School of Medicine and Heartland Whole Health Institute.

The project proposes a property line adjustment for ownership purposes.

South Building, Student Housing:
Five (5) stories, approximately 92,000 SF of conditioned space with a below-grade, unconditioned area of approximately 4,700 SF that will provide access to the parking that primarily resides below the phase 2 structure.

Unit types: Studio, 1 bedroom and 2 bedroom dwelling units

Building Height = 75’ (max). With the setbacks we are indicating, this building height would be well below the maximum heights allowed in a C3 or R4 zoning.

Off-street parking: 100 spaces with a parking ratio of 1:1. Per section 501 of the zoning code, 3 spaces per 2 units would be required for 150 total spaces. We are seeking a reduction due to 87% of the student housing units being studios and 1 bedroom units and they will be leased to one student/ unit. The 13% of units that are two bedroom will be leased to a student that could potentially be married and/ or have a family. In this case, the leasing of the unit will limit vehicles to one per unit. Of the 100 spaces, 22 will be provided on site and 78 spaces will be assigned across the street at The School of Medicine where they have previously been assigned to student parking. This is a campus approach that would allow students to park at their residence or where their classes will be located, but not in both locations which would duplicate parking spaces. A shared use agreement between both property owners will be provided as part of the LSD submission. Further, for the 22 on-site spaces. only 12 will be available when this building is completed; therefore, temporary parking will be required for 10 spaces. We are proposing this be addressed with an extension of the current Conditional Use Permit on the School of Medicine site for construction personnel when that project completes in summer 2025. In addition, this building will provide twenty (20) spaces for bicycles in a secure bike storage room to take advantage of the site’s close proximity to downtown, trails and nearby amenities.

Project Narrative

North Building, Multi-family:

Five (5) stories, approximately 206,000 SF of conditioned space plus a below grade parking level that is unconditioned and contains approximately 84,000 SF. This phase includes approximately 3,275 SF of commercial space along NE J Street (included in total square footage listed above) as an accessory to the residential use.

Unit types: Studio, 1 bedroom and 2 bedroom dwelling units

Building Height = 75' (max). With the setbacks we are indicating, this building height would be well below the maximum heights allowed in a C3 or R4 zoning.

Off-street parking: 200 for residential use plus 28 spaces for the commercial entity = 228 spaces. Per article 501 of the zoning code, 328 spaces would be required (300 for multi-family plus 28 for commercial). We are seeking a reduction due to 80% (or 160 units) being studio and 1 bedroom units. In addition, we are providing forty (40) spaces for bicycles in a secure bike storage room, once again taking advantage of the site's location and promoting alternative transportation. The 28 spaces for the commercial space shall utilize a counter-cyclical approach where these spaces will be available to tenants at non-business hours.

INTENT/ PURPOSE OF THE PRD:

The development will provide housing adjacent to the current Crystal Bridges campus that will allow medical school students to walk to their classes at the Alice L. Walton School Medicine and additional multi-family housing in close proximity to Orchard Park, The Amazeum, the trails system that is part of Crystal Bridges and provides easy access to downtown Bentonville – all of which encourage walking and cycling to these community amenities.

Although the entire project will be constructed under a single contract and permit, there is a desire for a phased opening. Phase 1 would provide occupancy for the south building only for AWSoM students, and is scheduled for substantial completion in November, 2026. Phase 2 would provide occupancy for the north, multi-family building and is scheduled to for substantial completion in June, 2027. The final delineation between the two phases will be substantiated during the LSD process, but it can generally be assumed that it will fall near the proposed property line between the two buildings shown on the Master Site Plan.

Phase 3 would add a park on the east side of the site which compliments and enhances the natural assets of the site. The park would provide abundant outdoor experiences for both residents of the school's housing and the community at large. Lush planting and meandering pathways would draw inspiration from the ecological and geological regions of the site. The park will preserve and enhance existing open space, and make use of the site's topography to create an active environment for health, community, and nature. Phase 3 has an estimated completion date of March, 2028.

The orientation of the buildings allows energy loads to be minimized. The buildings will utilize energy efficient windows with a low U-value and all LED lighting with high efficiency HVAC systems.

The overall project (both phases) will have a common open space that far exceeds the 15% minimum. It preserves the existing woodland on the east side of the site and mitigates soil erosion by enhancing the natural drainage channel on the east side and managing stormwater runoff through a combination of natural and constructed systems.

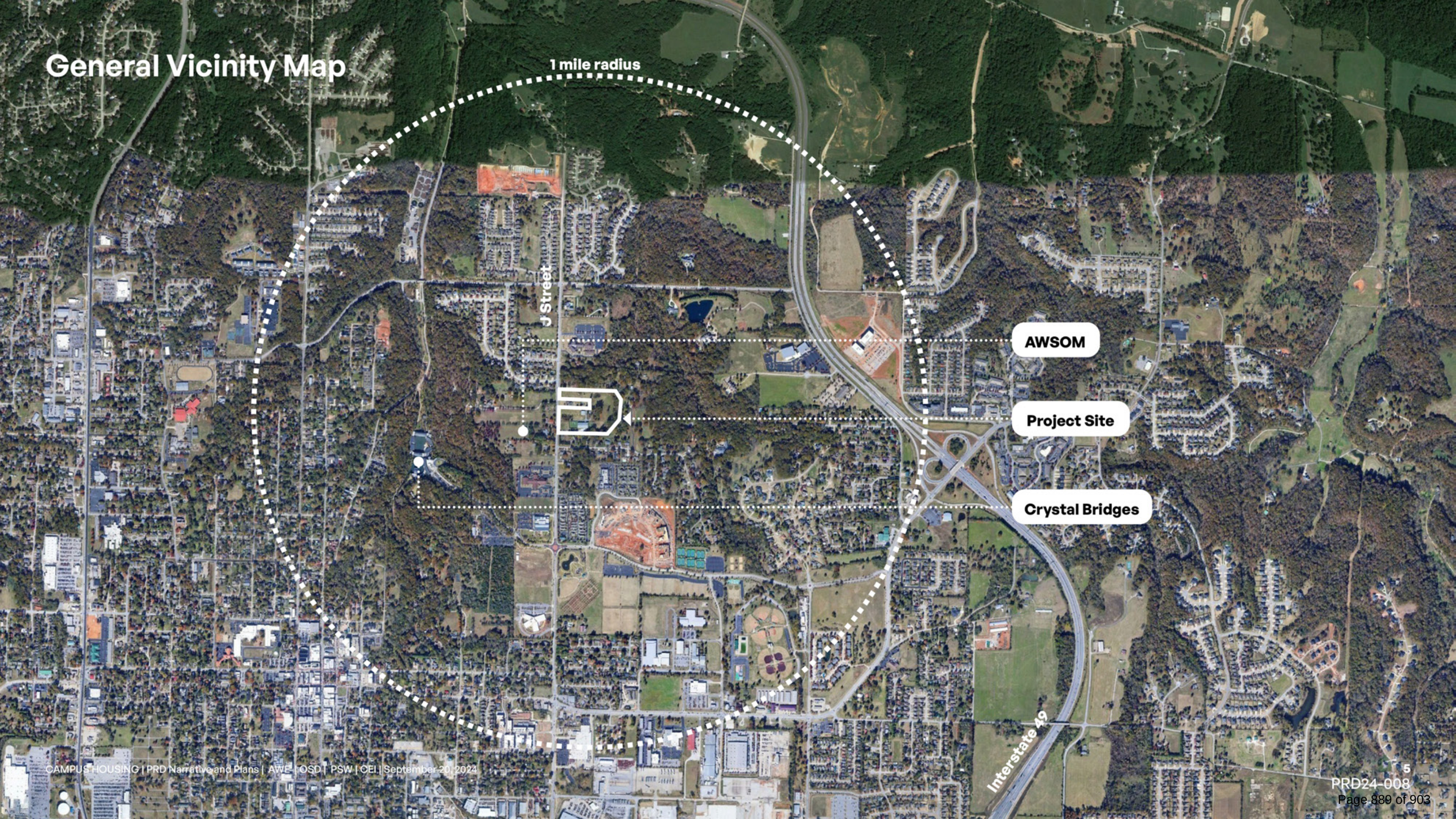
The project makes efficient use of the land and minimizes the aesthetic impact of parking by locating the majority of the parking below grade. And the project prioritizes high quality design and utilizes durable, natural materials that are complementary of other building materials on the Crystal Bridges campus.

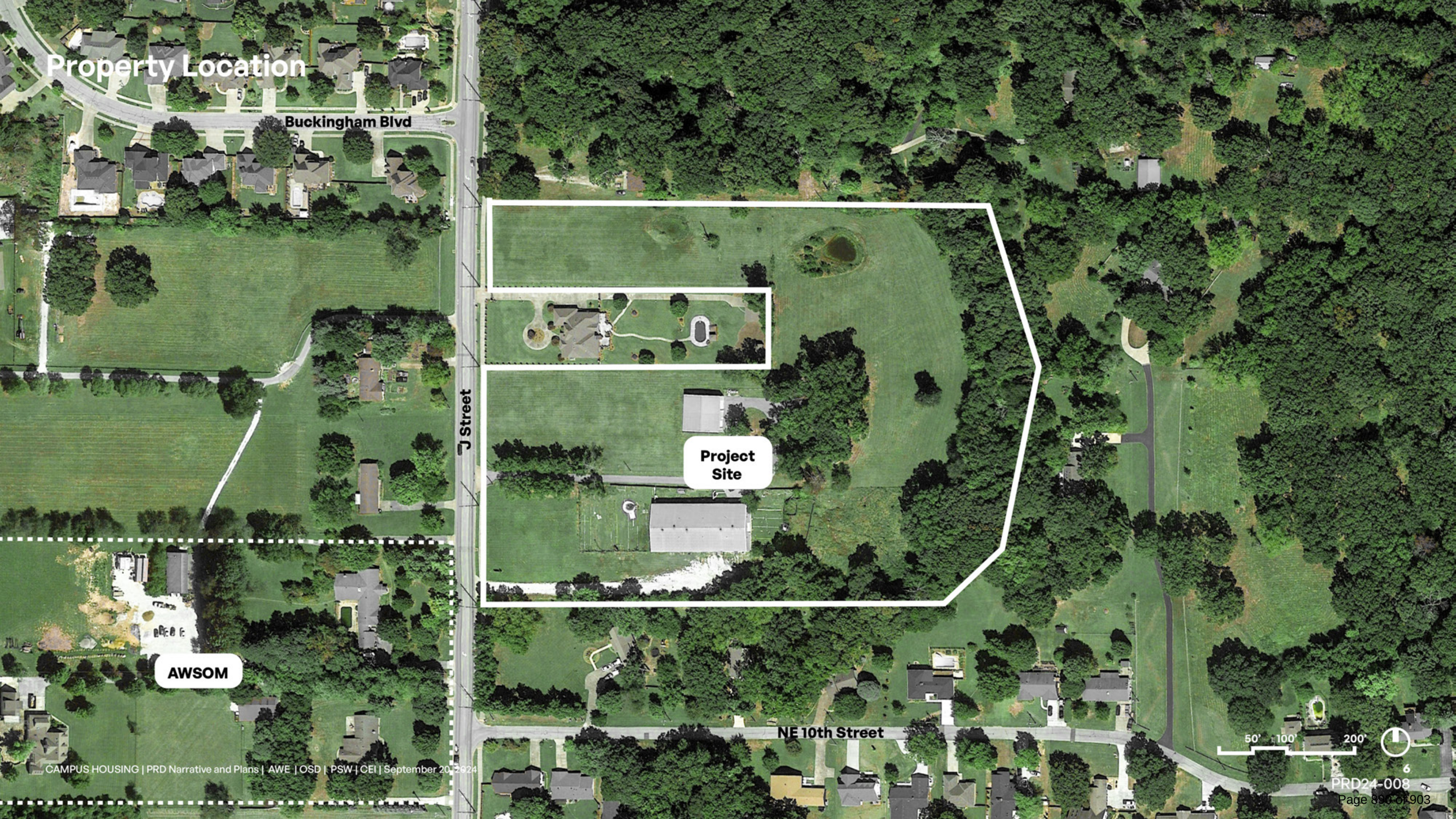
STRUCTURAL STANDARDS:

The two housing buildings form a U-shape with a courtyard or quad between the buildings. The activated quad opens between the two buildings to a plaza to the west where students will gain access across J Street to the Alice L. Walton School of Medicine. The quad also opens to the east to allow access to the existing natural and enhanced terrain and woodland.

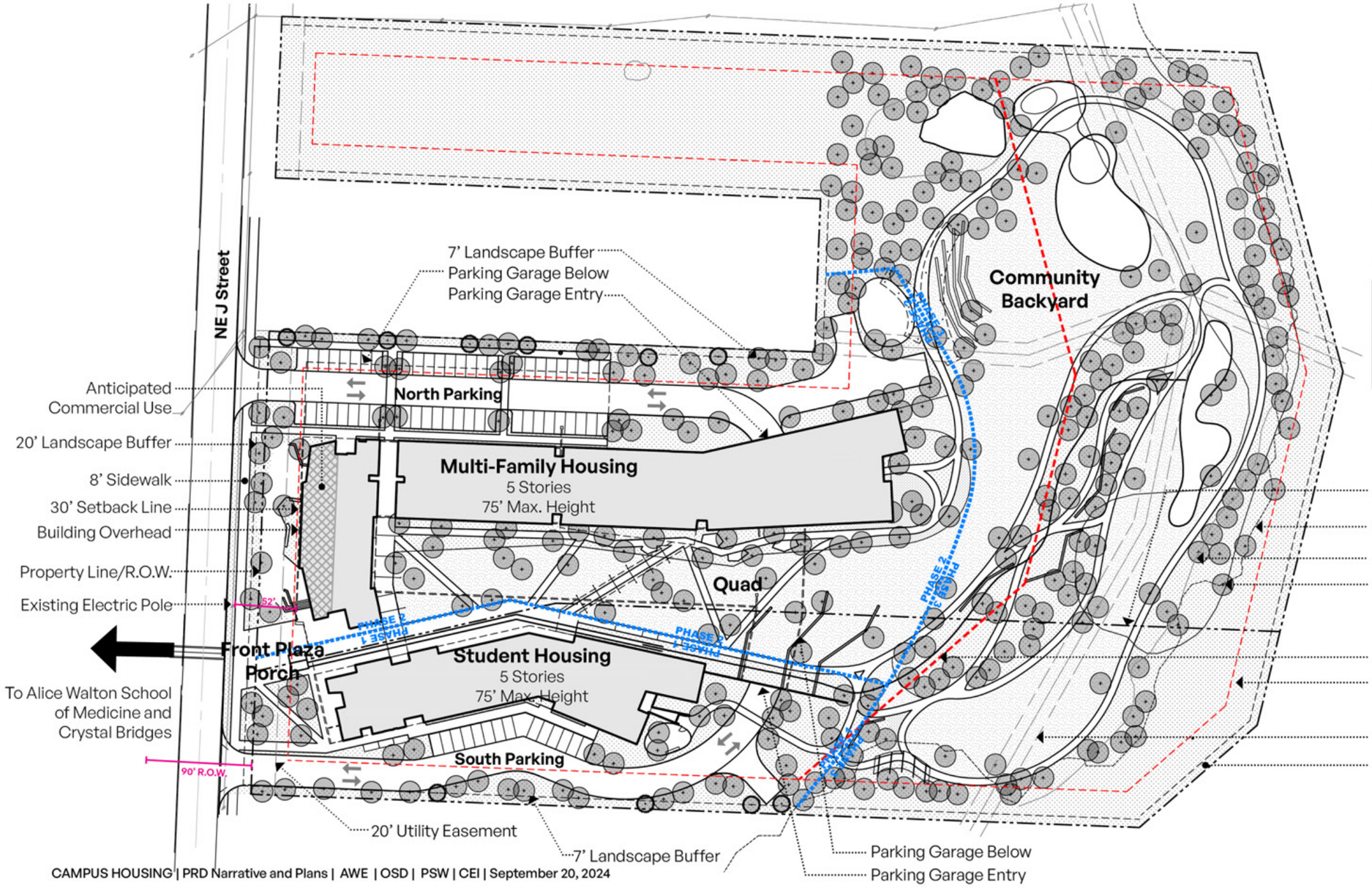
The main entrances to the building are from the plaza between the buildings on J Street and from the below grade parking level for tenants. Preliminary building elevations as well as a proposed exterior material palette have been submitted as part the PRD. The exterior material palette will reflect the natural surroundings similar to how other structures on the Crystal Bridges campus relate to the environment. Cor-ten (or weathering steel) is envisioned to be paired with contrasting anthracite zinc and charcoal colored masonry to provide tones that will naturally patina and require very little maintenance. The mass of the building is broken up with plan and elevational articulation, using niches, notches, kinks, and reveals in the form along with changes in material and height to allude to a collection of smaller forms, reducing the apparent mass of the overall building to a more appropriate scale. Deviations from the preliminary elevations and palette will be kept to a minimum, and any such changes will still adhere to section 1100.21 of the LSD Design Standards.

General Vicinity Map




Property Location
Buckingham Blvd
J Street
Project Site
AWSOM
NE 10th Street
50'
100'
200'

PRD Master Site Plan



Current Zoning: A-1 Agricultural

Proposed Use: Housing + Commercial

Total Site Area: 11.75 acres
Open Space Provided: See Next Page

Residential Unit Types: Studio, 1 bedroom, 2 bedroom

Density/Acre 25.5 units/acre (300 units/11.75 acres)

Parking Spaces: See Project Narrative

Building Height: Primary: 75' Maximum Height
Accessory: 20' Maximum Height

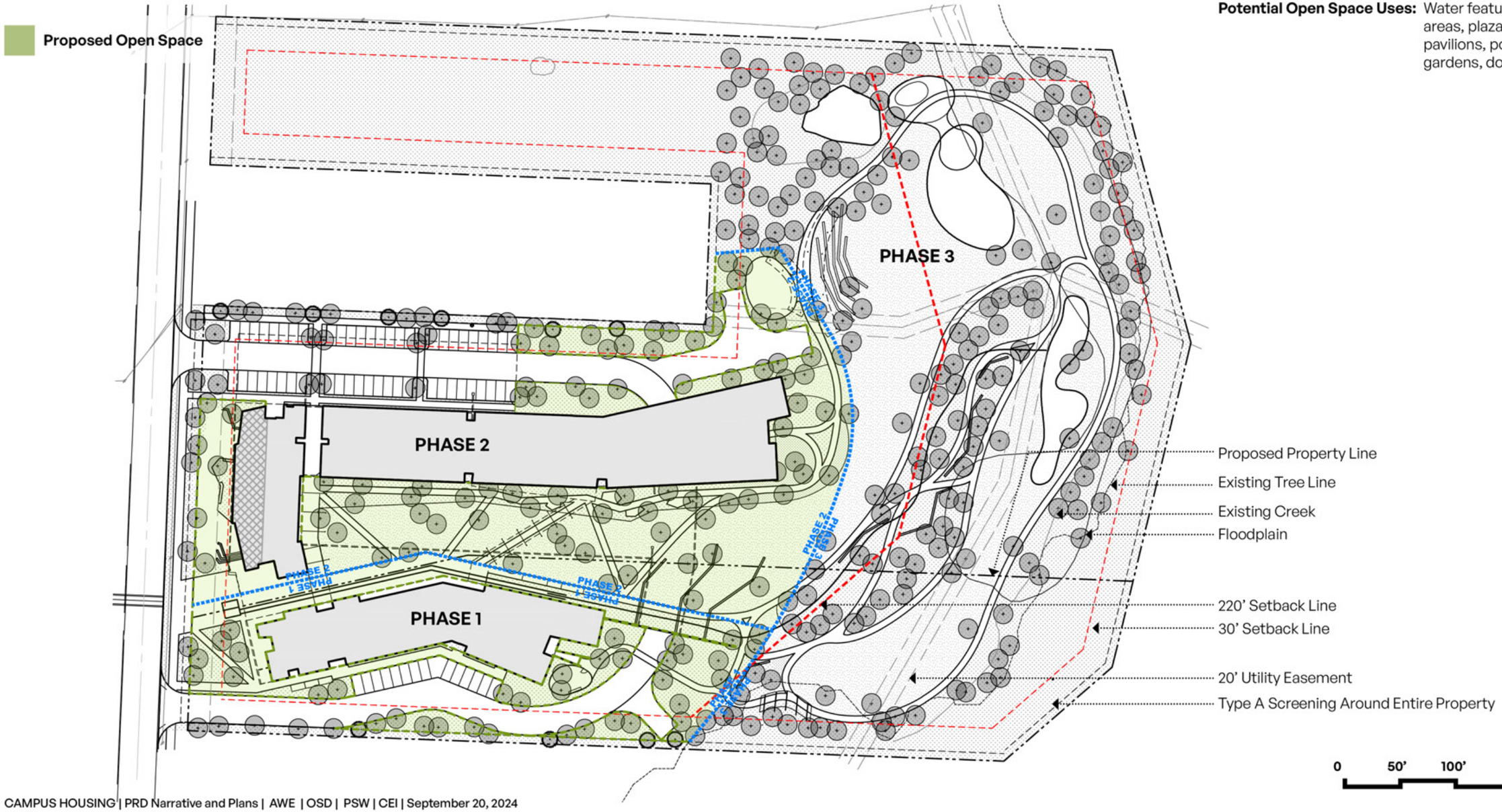
Building Setbacks

Structure Type	Front	Rear	Side Exterior*	Side Interior*
Primary Structures	30'	220'	45'	0'
Accessory Structures	30'	30'	30'	0'
Underground Parking	30'	220'	20'	0'

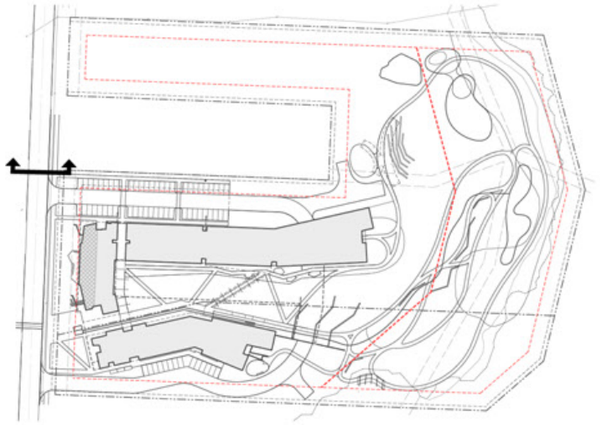
*"Side exterior" refers to exterior property line of the proposed PRD
"Side Interior" refers to proposed lot line between buildings within the proposed PRD

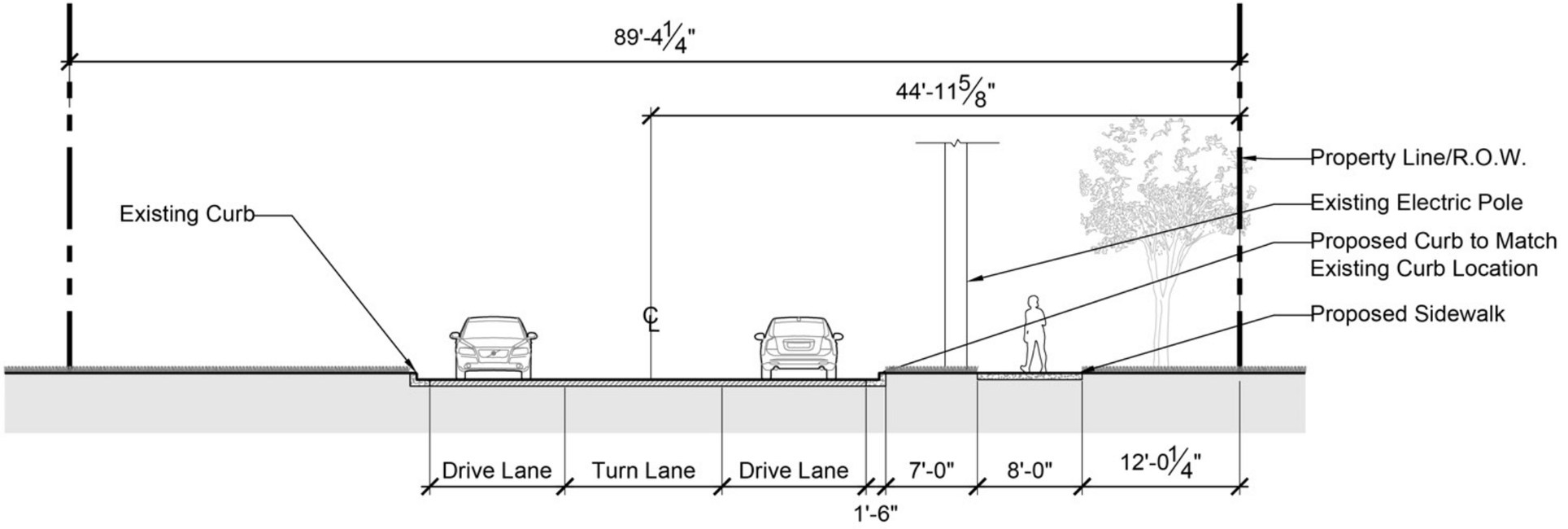
PRD Site Plan | Open Space Area

Total Site Area: 11.75 acres
Open Space Indicated: >15%
Potential Open Space Uses: Water features, lawn, planting areas, plazas, shade structures, pavilions, ponds, creeks, trails, gardens, dog runs, exercise areas



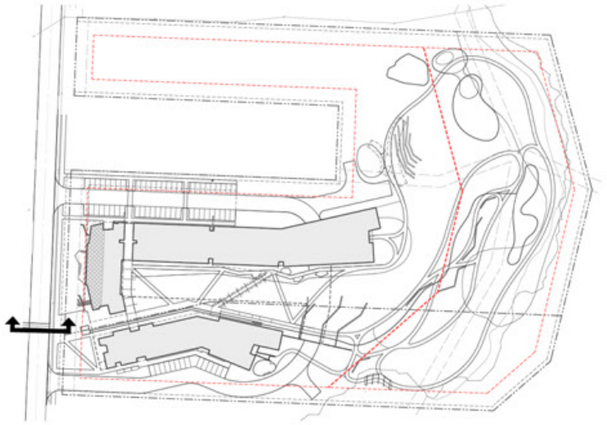
Road Section 1

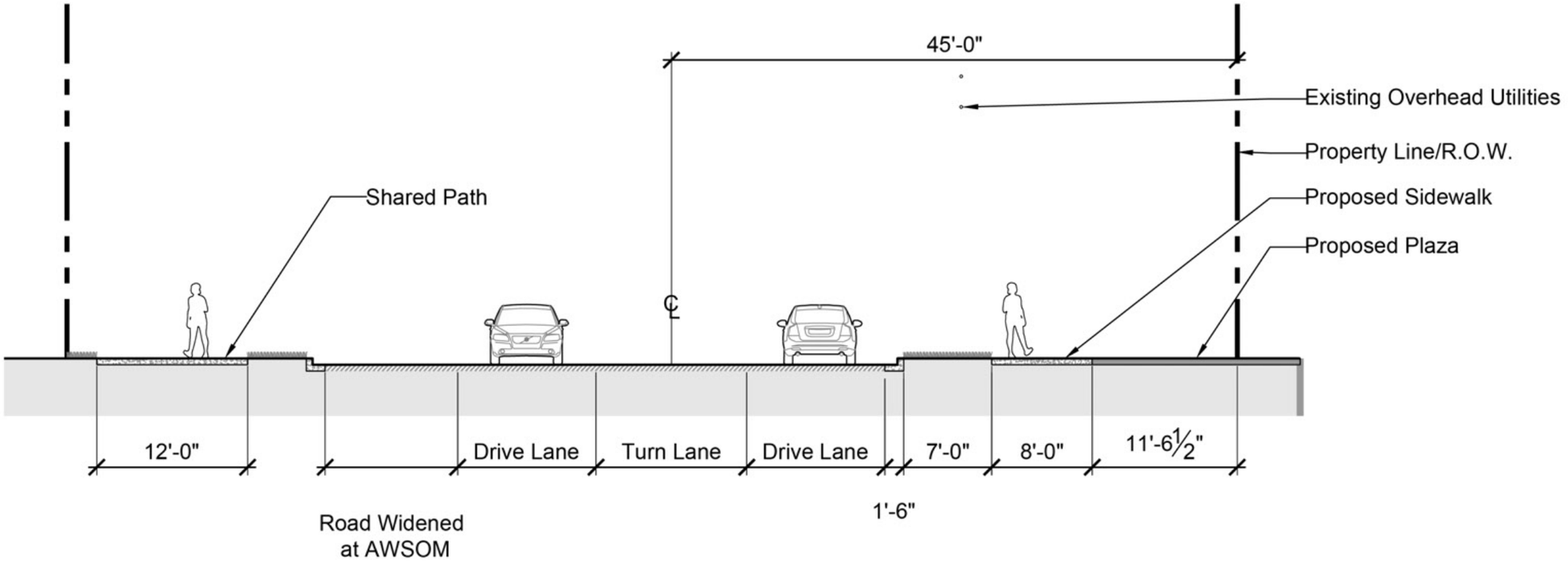




0 5' 10' 20'

Road Section 2





75' MAXIMUM

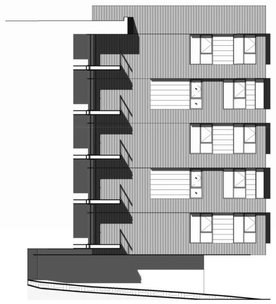
1 ELEVATION - STUDENT WEST1
1/16" = 1'-0"

2 ELEVATION - STUDENT SOUTH A1
1/16" = 1'-0"

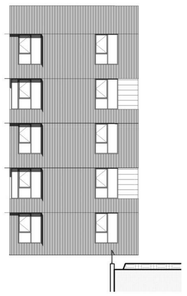
3 ELEVATION - STUDENT SOUTH B1
1/16" = 1'-0"

75' MAXIMUM

4 ELEVATION - STUDENT EAST A1
1/16" = 1'-0"

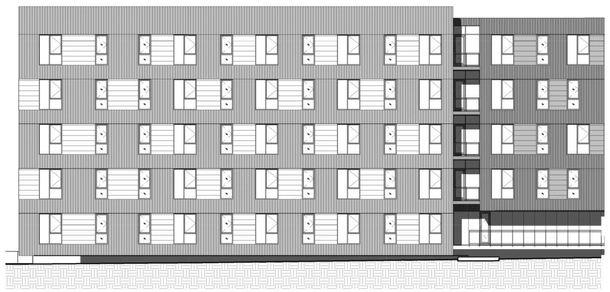


5 ELEVATION - STUDENT EAST A2
1/16" = 1'-0"



6 ELEVATION - STUDENT EAST B1
1/16" = 1'-0"

75' MAXIMUM



7 ELEVATION - STUDENT NORTH A2
1/16" = 1'-0"

8 ELEVATION - STUDENT NORTH B1
1/16" = 1'-0"

POLK
STANLEY
WILCOX

www.polkstanleywilcox.com

NOT FOR CONSTRUCTION

contact:

Polk Stanley Wilcox | Fayetteville
509 W. Spring St. | Suite 150
Fayetteville, AR 72701
479.444.0473 office

Polk Stanley Wilcox | Little Rock
801 South Spring Street
Little Rock, AR 72201
501.378.0878 office

consultants:

STRUCTURAL: Martin/Martin
900 S. Walton Boulevard Suite 27
Bentonville, AR, 72712

MEPFP: HP Engineering
5504 W. Pinnacle Pointe Drive | Suite 200
Rogers, AR, 72758

LANDSCAPE: OSD
115 St. John's Place
Brooklyn, NY 11217

CIVIL: CEI Engineering Associates, Inc.
2600 NE 11 Street, Suite 300
Bentonville, AR, 72712

LIGHTING: Essential Light Design Studio
1705 S. Walton Boulevard | Suite 3
Bentonville, AR, 72712

project name:

CAMPUS HOUSING
BENTONVILLE, AR

SCHEMATIC DESIGN

issue date | revisions:

08/16/24

#	date	description

psw job number:

1087A

contents:

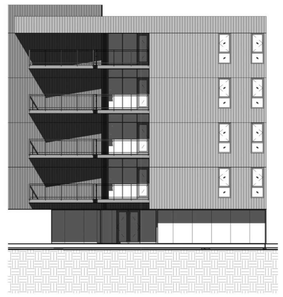
BUILDING
ELEVATIONS

PRD24-0008

75' MAXIMUM

1 ELEVATION - MULTIFAMILY WEST
1/16" = 1'-0"

2 ELEVATION - MULTIFAMILY SOUTH A
1/16" = 1'-0"



3 ELEVATION - MULTIFAMILY SOUTH B
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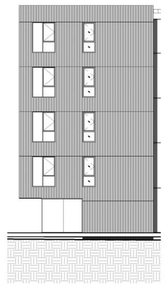
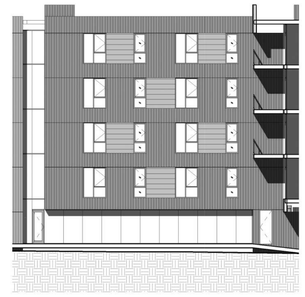


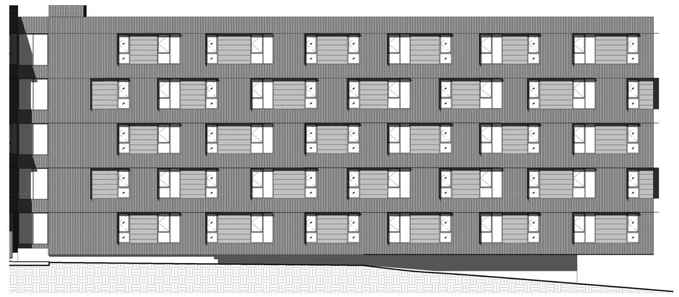
4 ELEVATION - MULTIFAMILY EAST COURTYARD A
1/16" = 1'-0"



5 ELEVATION - MULTIFAMILY EAST COURTYARD B
1/16" = 1'-0"

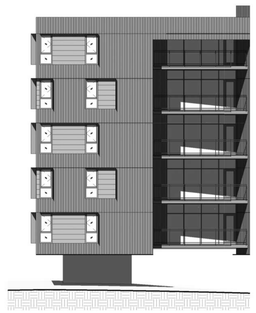
75' MAXIMUM

6 ELEVATION - MULTIFAMILY SOUTH COURTYARD A
1/16" = 1'-0"

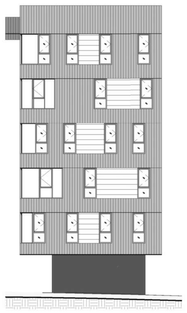


7 ELEVATION - MULTIFAMILY SOUTH COURTYARD B
1/16" = 1'-0"

75' MAXIMUM



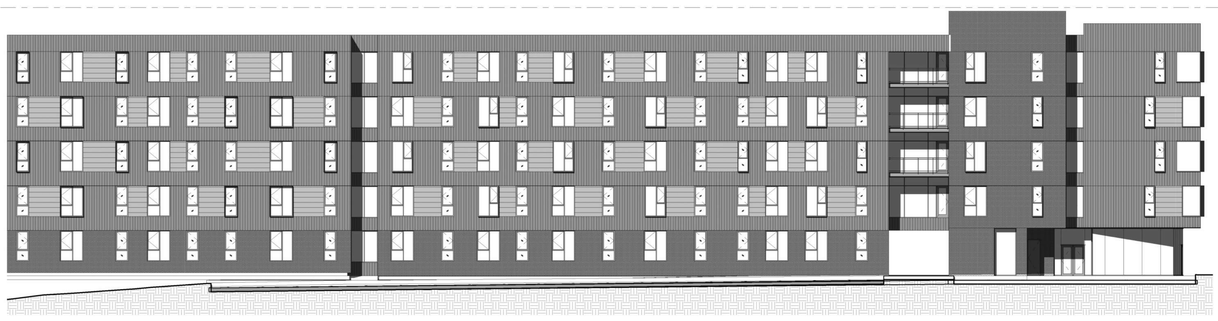
8 ELEVATION - MULTIFAMILY EAST A
1/16" = 1'-0"



9 ELEVATION - MULTIFAMILY EAST B
1/16" = 1'-0"

75' MAXIMUM

10 ELEVATION - MULTIFAMILY NORTH A
1/16" = 1'-0"



11 ELEVATION - MULTIFAMILY NORTH B
1/16" = 1'-0"

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project name:

CAMPUS HOUSING
BENTONVILLE, AR

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psw job number:

1087A

contents:

BUILDING ELEVATIONS

PRD24-0008

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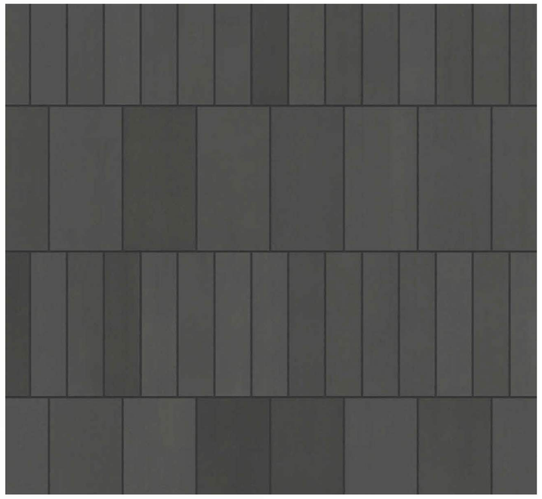
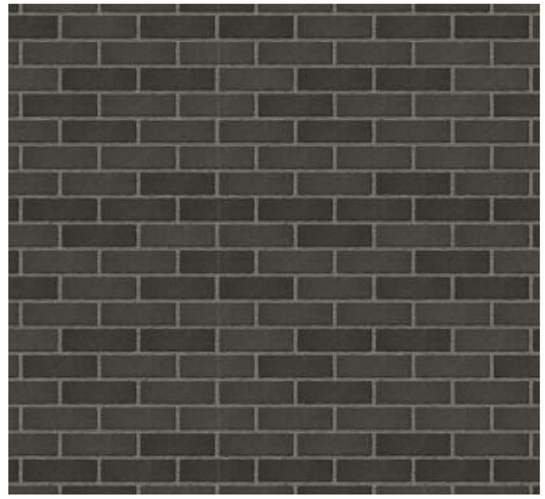
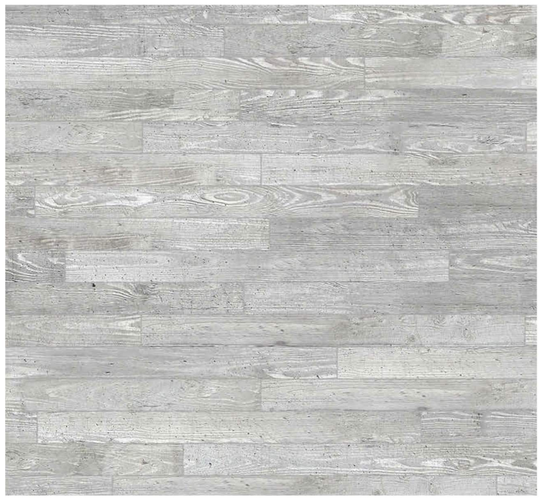


BLACKENED ZINC PANELS

CORTEN/WEATHERED STEEL PANELS



CHARCOAL/BLACK BRICK



CONCRETE

BLACK STEEL ACCENTS

GLASS WINDOWS/STOREFRONT

POLK
STANLEY
WILCOX

www.polkstanleywilcox.com

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contact:

Polk Stanley Wilcox | Fayetteville
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CAMPUS HOUSING
BENTONVILLE, AR

SCHEMATIC DESIGN

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psw job number:

1087A

contents:

MATERIAL LIST

PRD24-0008

8/15/2024 11:18:38 AM
Autodesk Docs://1087A McKisick House/1087A-McKisick House_Arch_R23_Local.rvt

RESOLUTION NO. _____

A RESOLUTION AMENDING THE CITY OF BENTONVILLE FUTURE LAND USE MAP FOR A SPECIFIC AREA FROM RESIDENTIAL ESTATE TO LOW-DENSITY RESIDENTIAL; AND FOR OTHER PURPOSES.
(PROJECT NUMBER: PRD24-0008)

WHEREAS, ALWF LANDS LLC duly filed a petition with the Planning Commission requesting that the hereinafter described property situated in Benton County, Arkansas, be changed from its present land use classification of RESIDENTIAL ESTATE to LOW-DENSITY RESIDENTIAL, which property is described as follows:

LOT 3, DIMMIT ADDITION, BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN ON PROPERTY LINE ADJUSTMENT FILED FOR RECORD IN/AS PLAT BOOK 2015 PAGE 177, OF THE RECORDS OF BENTON COUNTY, ARKANSAS, AND BEING FURTHER DESCRIBED AS: A PART OF TRACT NUMBERED ONE (1), DIMMIT ADDITION TO THE CITY OF BENTONVILLE, ARKANSAS, AS SHOWN ON PLAT RECORD "W" AT PAGE 47, OF THE LAND RECORDS OF BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER (NW1/4) OF THE NORTHEAST QUARTER (NE1/4) OF SECTION 29, TOWNSHIP 20 NORTH, RANGE 30 WEST, BENTON COUNTY, ARKANSAS; THENCE S00°44'15"E 567.30 FEET; THENCE N89°17'00"E 28.64 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF NE "J" STREET AS DESCRIBED IN A WARRANTY DEED FILED AS LAND DOCUMENT 2004-23483; THENCE LEAVING SAID RIGHT-OF-WAY LINE, N89°17'00"E 922.90 FEET ALONG THE NORTH LINE OF SAID TRACT ONE (1) TO A SET 1/2" IRON REBAR AT THE NORTHEAST CORNER OF SAID TRACT ONE (1) FOR THE TRUE POINT OF BEGINNING; THENCE S10°46'43"W 308.67 FEET ALONG THE EAST LINE OF SAID TRACT ONE (1) TO AN EXISTING IRON REBAR; THENCE S46°11'35"W 132.52 FEET ALONG THE EAST LINE OF SAID TRACT ONE (1) TO AN EXISTING IRON REBAR ON THE SOUTH LINE OF SAID TRACT ONE (1); THENCE S89°16'00"W 754.63 FEET ALONG THE SOUTH LINE OF SAID TRACT ONE (1) TO A SET 1/2" IRON REBAR ON THE PROPOSED EAST RIGHT-OF-WAY LINE OF SAID NE "J" STREET; THENCE ALONG SAID RIGHT-OF-WAY N00°36'40"W 191.42 FEET TO A SET 1/2" IRON REBAR; THENCE LEAVING SAID RIGHT-OF-WAY LINE, N88°57'57"E 812.82 FEET TO A SET 1/2" IRON REBAR; THENCE N07°41'09"E 193.88 FEET TO AN EXISTING FENCE CORNER POST; THENCE N84°52'43"E 71.63 FEET TO THE POINT OF BEGINNING. AND

LOT 4, DIMMIT ADDITION, BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN ON PROPERTY LINE ADJUSTMENT FILED FOR RECORD IN PLAT BOOK 2015 AT PAGE 177 OF THE RECORDS OF BENTON COUNTY, ARKANSAS, AND BEING FURTHER DESCRIBED AS: A PART OF TRACT NUMBERED ONE (1), EVANS ADDITION, AND A PART OF TRACT NUMBERED ONE (1), DIMMIT ADDITION, TO THE CITY OF BENTONVILLE, ARKANSAS, AS SHOWN ON PLAT RECORD "W" AT PAGES 46 AND 47 OF THE LAND RECORDS OF BENTON COUNTY, ARKANSAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHEAST QUARTER (NE1/4) OF SECTION TWENTY-NINE (29), TOWNSHIP TWENTY (20) NORTH, RANGE THIRTY (30) WEST, BENTON COUNTY, ARKANSAS; THENCE S00°44'15"E 300.00 FEET; THENCE N89°16'05"E 39.93 FEET TO A SET 1/2" IRON REBAR ON THE PROPOSED EAST RIGHT-OF-WAY LINE OF NE "J" STREET FOR THE TRUE POINT OF BEGINNING; THENCE LEAVING SAID RIGHT-OF-WAY LINE, N89°16'05"E 828.47 FEET ALONG THE NORTH LINE OF SAID TRACT ONE (1) TO AN EXISTING IRON REBAR AT THE NORTHEAST CORNER OF TRACT ONE (1) OF SAID EVANS ADDITION; THENCE S17°59'50"E 280.18 FEET TO A SET 1/2" IRON REBAR AT THE SOUTHEAST CORNER OF SAID TRACT ONE (1); THENCE S84°52'43"W 71.63 FEET TO AN EXISTING FENCE CORNER POST; THENCE S07°41'09"W 196.04 FEET TO A SET 1/2" IRON REBAR; THENCE S89°06'58"W 812.82 FEET TO A SET 1/2" IRON REBAR ON THE PROPOSED EAST RIGHT-OF-WAY LINE OF NE "J" STREET; THENCE N00°36'40"W 201.81 FEET ALONG SAID RIGHT-OF-WAY LINE TO A SET 1/2" IRON REBAR; THENCE LEAVING SAID RIGHT-OF-WAY LINE, N89°17'00"E 463.25 FEET TO THE SOUTH EAST CORNER OF A TRACT OF LAND DESCRIBED IN A WARRANTY DEED FILED AS LAND DOCUMENT 91-33821 OF THE LAND RECORDS OF BENTON COUNTY, ARKANSAS; THENCE N00°44'15"W 130.00 FEET TO A SET 1/2" IRON REBAR AT THE NORTHEAST CORNER OF SAID TRACT FILED AS LAND DOCUMENT 91-33821; THENCE S89°17'12"W 462.97 FEET ALONG THE NORTH LINE OF SAID TRACT FILED AS LAND DOCUMENT 91-33821 TO A POINT ON THE PROPOSED EAST RIGHT-OF-WAY LINE OF NE "J" STREET; THENCE N00°36'40"W 137.31 FEET ALONG SAID RIGHT-OF-WAY LINE TO THE POINT OF BEGINNING;

WHEREAS, the Planning Commission duly met and considered the application and duly set the petition for public hearing to be held October 15, 2024 at the Council Chambers of the City of Bentonville;

WHEREAS, public notice of said hearing having been published in the Northwest Arkansas Democrat Gazette for the time and in the manner required by law; and

WHEREAS, the Planning Commission voted to recommend to the City Council that the petition be approved and that said future land use classification as presented on the property be changed.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the above described real property is hereby changed from its present land use classification of RESIDENTIAL ESTATE to LOW-DENSITY RESIDENTIAL on the City of Bentonville Future Land Use Map;

Section 2 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

PASSED AND APPROVED this _____ day of _____, 2024.

APPROVED:

_____
Stephanie Orman, Mayor

ATTEST:

_____
Malorie Marrs, City Clerk

ORDINANCE NO. _____

AN ORDINANCE CHANGING REAL ESTATE IN THE CITY OF BENTONVILLE, ARKANSAS, FROM ITS PRESENT ZONING CLASSIFICATION OF A-1, AGRICULTURAL TO PRD, PLANNED RESIDENTIAL DEVELOPMENT; AND FOR OTHER PURPOSES. (PROJECT NUMBER: PRD24-0008)

WHEREAS, ALWF LANDS LLC duly filed a petition with the Planning Commission requesting that the hereinafter described property situated in Benton County, Arkansas, be changed from its present zoning classification of A-1, AGRICULTURAL to PRD, PLANNED RESIDENTIAL DEVELOPMENT to be used in accordance with city zoning laws and state laws, which property is described as follows:

LOT 3, DIMMIT ADDITION, BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN ON PROPERTY LINE ADJUSTMENT FILED FOR RECORD IN/AS PLAT BOOK 2015 PAGE 177, OF THE RECORDS OF BENTON COUNTY, ARKANSAS, AND BEING FURTHER DESCRIBED AS: A PART OF TRACT NUMBERED ONE (1), DIMMIT ADDITION TO THE CITY OF BENTONVILLE, ARKANSAS, AS SHOWN ON PLAT RECORD "W" AT PAGE 47, OF THE LAND RECORDS OF BENTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER (NW1/4) OF THE NORTHEAST QUARTER (NE1/4) OF SECTION 29, TOWNSHIP 20 NORTH, RANGE 30 WEST, BENTON COUNTY, ARKANSAS; THENCE S00°44'15"E 567.30 FEET; THENCE N89°17'00"E 28.64 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF NE "J" STREET AS DESCRIBED IN A WARRANTY DEED FILED AS LAND DOCUMENT 2004-23483; THENCE LEAVING SAID RIGHT-OF-WAY LINE, N89°17'00"E 922.90 FEET ALONG THE NORTH LINE OF SAID TRACT ONE (1) TO A SET 1/2" IRON REBAR AT THE NORTHEAST CORNER OF SAID TRACT ONE (1) FOR THE TRUE POINT OF BEGINNING; THENCE S10°46'43"W 308.67 FEET ALONG THE EAST LINE OF SAID TRACT ONE (1) TO AN EXISTING IRON REBAR; THENCE S46°11'35"W 132.52 FEET ALONG THE EAST LINE OF SAID TRACT ONE (1) TO AN EXISTING IRON REBAR ON THE SOUTH LINE OF SAID TRACT ONE (1); THENCE S89°16'00"W 754.63 FEET ALONG THE SOUTH LINE OF SAID TRACT ONE (1) TO A SET 1/2" IRON REBAR ON THE PROPOSED EAST RIGHT-OF-WAY LINE OF SAID NE "J" STREET; THENCE ALONG SAID RIGHT-OF-WAY N00°36'40"W 191.42 FEET TO A SET 1/2" IRON REBAR; THENCE LEAVING SAID RIGHT-OF-WAY LINE, N88°57'57"E

812.82 FEET TO A SET 1/2" IRON REBAR; THENCE N07°41'09"E 193.88 FEET TO AN EXISTING FENCE CORNER POST; THENCE N84°52'43"E 71.63 FEET TO THE POINT OF BEGINNING. AND LOT 4, DIMMIT ADDITION, BENTONVILLE, BENTON COUNTY, ARKANSAS, AS SHOWN ON PROPERTY LINE ADJUSTMENT FILED FOR RECORD IN PLAT BOOK 2015 AT PAGE 177 OF THE RECORDS OF BENTON COUNTY, ARKANSAS, AND BEING FURTHER DESCRIBED AS: A PART OF TRACT NUMBERED ONE (1), EVANS ADDITION, AND A PART OF TRACT NUMBERED ONE (1), DIMMIT ADDITION, TO THE CITY OF BENTONVILLE, ARKANSAS, AS SHOWN ON PLAT RECORD "W" AT PAGES 46 AND 47 OF THE LAND RECORDS OF BENTON COUNTY, ARKANSAS, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHEAST QUARTER (NE1/4) OF SECTION TWENTY-NINE (29), TOWNSHIP TWENTY (20) NORTH, RANGE THIRTY (30) WEST, BENTON COUNTY, ARKANSAS; THENCE S00°44'15"E 300.00 FEET; THENCE N89°16'05"E 39.93 FEET TO A SET 1/2" IRON REBAR ON THE PROPOSED EAST RIGHT-OF-WAY LINE OF NE "J" STREET FOR THE TRUE POINT OF BEGINNING; THENCE LEAVING SAID RIGHT-OF-WAY LINE, N89°16'05"E 828.47 FEET ALONG THE NORTH LINE OF SAID TRACT ONE (1) TO AN EXISTING IRON REBAR AT THE NORTHEAST CORNER OF TRACT ONE (1) OF SAID EVANS ADDITION; THENCE S17°59'50"E 280.18 FEET TO A SET 1/2" IRON REBAR AT THE SOUTHEAST CORNER OF SAID TRACT ONE (1); THENCE S84°52'43"W 71.63 FEET TO AN EXISTING FENCE CORNER POST; THENCE S07°41'09"W 196.04 FEET TO A SET 1/2" IRON REBAR; THENCE S89°06'58"W 812.82 FEET TO A SET 1/2" IRON REBAR ON THE PROPOSED EAST RIGHT-OF-WAY LINE OF NE "J" STREET; THENCE N00°36'40"W 201.81 FEET ALONG SAID RIGHT-OF-WAY LINE TO A SET 1/2" IRON REBAR; THENCE LEAVING SAID RIGHT-OF-WAY LINE, N89°17'00"E 463.25 FEET TO THE SOUTH EAST CORNER OF A TRACT OF LAND DESCRIBED IN A WARRANTY DEED FILED AS LAND DOCUMENT 91-33821 OF THE LAND RECORDS OF BENTON COUNTY, ARKANSAS; THENCE N00°44'15"W 130.00 FEET TO A SET 1/2" IRON REBAR AT THE NORTHEAST CORNER OF SAID TRACT FILED AS LAND DOCUMENT 91-33821; THENCE S89°17'12"W 462.97 FEET ALONG THE NORTH LINE OF SAID TRACT FILED AS LAND DOCUMENT 91-33821 TO A POINT ON THE PROPOSED EAST RIGHT-OF-WAY LINE OF NE "J" STREET; THENCE N00°36'40"W 137.31 FEET ALONG SAID RIGHT-OF-WAY LINE TO THE POINT OF BEGINNING;

WHEREAS, the Planning Commission duly met and considered the application and duly set the petition for public hearing to be held October 15, 2024 in the Council Chambers of the City of Bentonville;

WHEREAS, public notice of said hearing having been published in the Northwest Arkansas Democrat-Gazette for the time and in the manner required by law; and

WHEREAS, the Planning Commission voted to recommend to the City Council that the petition be approved and that said property be rezoned from its present classification of A-1, AGRICULTURAL to PRD, PLANNED RESIDENTIAL DEVELOPMENT.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF BENTONVILLE, ARKANSAS:

Section 1: That the above described real property is hereby changed from its present zoning classification of A-1, AGRICULTURAL to PRD, PLANNED RESIDENTIAL DEVELOPMENT to be used in accordance with the city zoning laws and state laws;

Section 2 - Severability Provision: If any part of this Ordinance is held invalid, the remainder of this Ordinance shall continue in effect as if such invalid portion never existed; and

Section 3 - Repeal of Conflicting Provisions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Ordinance are repealed to the extent of such conflict.

PASSED AND APPROVED this_____ day of _____, 2024.

APPROVED:

_____

Stephanie Orman, Mayor

ATTEST:

_____

Malorie Marrs, City Clerk