

# SPECIFICATIONS AND CONTRACT DOCUMENTS



For the Construction of

Bob Wallace Forcemain Relocation –  
Directional Drilling

Huntsville, AL

COH Project No. 71-16-SM02  
Garver Project No. 15058160


Prepared For:

City of Huntsville  
Water Pollution Control

September 2016



**CERTIFICATIONS**

<p><b>BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING GARVER PROJECT NO. 15058160 CITY OF HUNTSVILLE WATER POLLUTION CONTROL PROJECT NO. 71-16-SM02</b></p>	
<p>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 Alabama.</p>	
<b>SEAL AND SIGNATURE</b>	<b>APPLICABLE DIVISION OR PROJECT RESPONSIBILITY</b>
<p align="center">ROBERT WESLEY CARDWELL, P.E.</p>  <p align="center">Digitally Signed: Digitally Signed 09/10/2016</p>	<p>Division 01 Division 33</p>

<p><b>GARVER, LLC CERTIFICATE OF AUTHORIZATION:</b></p>  <p><b>AL ENGINEERING COA NO. 500-E</b></p>   <p>Expiration Date: 01/31/2017</p>
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**BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING**

**TABLE OF CONTENTS**

**CONTRACT DOCUMENTS AND GENERAL REQUIREMENTS**

**DIVISION 00 – BIDDING AND CONTRACTING REQUIREMENTS**

ATTACHMENT F	NOTICE TO CONTRACTORS
ATTACHMENT A	BID QUANTITIES
ATTACHMENT B	BID PROPOSAL
ATTACHMENT C	ADDENDA ACKNOWLEDGMENT FORM
ATTACHMENT D	SUBCONTRACTOR'S LISTING
ATTACHMENT E	REFERENCES OF SIMILAR PROJECTS
ATTACHMENT F	NOTICE TO CONTRACTORS
ATTACHMENT G	SAMPLE COPY OF INVOICE
ATTACHMENT H	W-9 TAXPAYER FORM
ATTACHMENT I	CITY OF HUNTSVILLE REPORT OF OWNERSHIP FORM
ATTACHMENT J	ALABAMA ACT 2016-852

CITY OF HUNTSVILLE SUPPLEMENT TO GENERAL REQUIREMENTS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS

00 73 00                      GARVER SUPPLEMENTARY CONDITIONS

**TECHNICAL SPECIFICATIONS**

**DIVISION 01 – GENERAL REQUIREMENTS**

01 11 00	SUMMARY OF WORK
01 14 00	WORK RESTRICTIONS
01 26 00	CONTRACT MODIFICATION PROCEDURES
01 29 00	PAYMENT PROCEDURES
01 31 00	PROJECT MANAGEMENT AND COORDINATION
01 32 90	SAFETY PLAN
01 33 00	SUBMITTAL PROCEDURES
01 34 00	PHOTOGRAPHIC AND VIDEOGRAPHIC DOCUMENTATION
01 42 00	REFERENCES
01 50 00	TEMPORARY FACILITIES AND CONTROLS
01 77 00	CLOSEOUT PROCEDURES

**DIVISION 33 – UTILITIES**

33 05 07.13    HORIZONTAL DIRECTIONAL DRILLING

ATTACHMENT "F"

**MANDATORY** Pre-bid meeting to be held on WEDNESDAY, SEPTEMBER 21, 2016 at 2:00 p.m., at the WATER POLLUTION CONTROL CONFERENCE ROOM, 1800 VERMONT ROAD, HUNTSVILLE, AL 35802.

**NOTICE TO CONTRACTORS**

**WANTED:** Sealed bids in duplicate for the construction of: **BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING**, more particularly known as **Project No. 71-16-SM02**.

**Description of Project:**

Project includes, but is not limited to, the following description: Installation of new, Owner furnished, 24-inch DIPS DR-11 high density polyethylene (HDPE) force main by horizontal directional drilling. Horizontal drilling work will be completed at five locations. Three locations require drilling beneath roadways: Drake Avenue, Patton Road, and Triana Boulevard. The remaining two locations require drilling beneath Spring Branch creek and a small creek located near the Metro Kiwanis Sportsplex. The Work also includes any necessary open cut segments at bore pits, landscape restoration, road repair, traffic control, soil erosion control, and other appurtenances as needed for a complete project.

The attention of all bidders is called to Code of Alabama §§ 34-8-1 and 34-8-2 (1975) and 34-8-1, 34-8-2, 34-8-4, 34-8-6, 34-8-7, 34-8-8 and 34-8-9 (amended 1996) setting forth the definition of general contractor and the licensing procedures and requirements for state licensing. A copy of the above Codes may be obtained from the OWNER (City of Huntsville). No one is entitled to bid and no contract may be awarded to anyone who does not possess a valid general contractor's license and the required classification for the municipal type work to be performed. The general contractor's license and classification must appear on the outside of the bid envelope along with the general contractor's name and address, project name and number and date and time of bid opening. Section 39-3-5 Code of Alabama has been amended as follows:

"In awarding the Contract, preference will be given to Alabama resident contractors and a nonresident bidder domiciled in a state having laws granting preference to local contractors shall be awarded the Contract only on the same basis as the nonresident bidder's state awards contracts to Alabama contractors bidding under similar circumstances."

This project **BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING**, more particularly known as, **Project No. 71-16-SM02**, requires the contractor to possess a State of Alabama Classification of **Municipal and Utilities Contractor (MU)**.

After proposals are opened and read, they will be compared on the basis of the summation of bid amounts for each item shown in Attachment "A". In the event of a discrepancy between the prices shown in figures and in words, the words shall govern. A proposal will not be considered unless signed by the bidder or his authorized agent and accompanied by cashier's check or properly signed bid bond, as required by law.

In determining the successful bidder, the Owner will consider in addition to the bid prices, such responsibility factors as characteristics and responsibility, skill, experience, record of integrity in business, and of performance offered and past record of performance on Owner contracts on other similar projects. Any other factors not specifically mentioned or provided for herein, in addition to that of the bid price which would affect the final cost of the Owner, will be taken into consideration in making award of contract. The right is reserved to reject any bid where investigation of the business and technical organization of the bidder available for the contemplated work, including financial resources, equipment, and experience on similar projects does not satisfy the Owner that such bidder is qualified to perform the work. The City Council of the City of Huntsville reserves the right to reject any and all bids and to waive informalities.

Separate sealed bids for the construction of this project will be received at the **CONFERENCE ROOM** of the **CITY OF HUNTSVILLE WATER POLLUTION CONTROL DEPARTMENT, 1800 VERMONT ROAD, HUNTSVILLE, AL 35802** on the **29<sup>th</sup> DAY OF SEPTEMBER, 2016** until **2:00 PM**. Each bid shall be accompanied by an original signed, dated and sealed Bid Bond in the amount of not less than five percent (5%) of the total shown on the schedule of prices, but not exceeding \$50,000.00. Quantities are known as Attachment "A". No bidder may withdraw his bid within ninety (90) days after the actual date of opening.

These Addenda, Special Provisions, Plans, the Supplement to General Requirements for Construction of Public Improvements City of Huntsville Specifications, Standard Specifications for Construction of Public Improvements Contract Projects and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complimentary and to describe and provide for a complete work. Contract Document Order of Precedence shall be as follows:

## ATTACHMENT "F"

1. Addenda
2. General Requirements (Instructions to Bidders and Bid Proposal including Attachments)
3. Supplement to General Requirements
4. Drawings
5. Technical Specifications
6. City of Huntsville Standard Specifications for Construction of Public Improvements Contract Projects

Standard Specifications for Construction of Public Improvements Contract Projects and Engineering Standards are available at no charge by downloading from the City Engineering website: <http://www.huntsvilleal.gov/government/departments/engineering-department/>. Plans and proposals can be downloaded from our website at no cost: <http://www.huntsvilleal.gov/engineeringbids>. Contractors will be responsible for costs of duplicating their own plans and can choose photocopying facility of their choice. Additionally, Contractors are responsible for checking website for any revisions/updates. Contractor is required to submit pricing, provided by the COH (Attachment "A") and made available for download from the Engineering website, on either a CD-RW (preferably in a live/flash drive format) in the Excel format. The CD-RW (preferably in a live/flash drive format) must be in working condition and included with original bid packet and reflect the correct revision, along with two signed hard copies. Bid must be submitted from the file (Quantities) provided and downloaded from the City of Huntsville's website. Failure to do so may be cause for rejection of bid. The City reserves the right to reject any altered bid resulting from altering the CD in any manner. If a price discrepancy is found on the CD-RW, or the correct version of bid quantities is not submitted on the CD-RW which corresponds to the printed hard copy, then printed hard copy prices submitted with original bid documents, with Contractor signature, will prevail. All bids must be SEALED before submittal at the bid opening. Any bids received that are not sealed will be immediately rejected.

### E-VERIFY – NOTICE

The Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975) § 31-13-1 through 31-13-30 (also known as and hereinafter referred to as "the Alabama Immigration Act") as amended by Act No. 2012-491 on May 16, 2012 is applicable to all competitively bid contracts with the City of Huntsville. As a condition for the award of a contract and as a term and condition of the contract with the City of Huntsville, in accordance with § 31-13-9 (a) of the Alabama Immigration Act, as amended, any business entity or employer that employs one or more employees shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. During the performance of the contract, such business entity or employer shall participate in the E-Verify program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The business entity or employer shall assure that these requirements are included in each subcontract in accordance with §31-13-9(c). Failure to comply with these requirements may result in breach of contract, termination of the contract or subcontract, and possibly suspension or revocation of business licenses and permits in accordance with §31-13-9 (e) (1) & (2). Code of Alabama (1975) § 31-13-9 (k) requires that the following clause be included in all City of Huntsville contracts that have been competitively bid and is hereby made a part of this contract:

"By signing this contract the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom."

Contractor's E-Verify Memorandum of Understanding shall be a part of the contract bid documents and shall be submitted with the bid package.

**ALABAMA IMMIGRATION ACT (Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975)**

Compliance with the requirements of the (Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975) § 31-13-1 through 31-13-30, as amended by Alabama Act 2012-241, commonly referred to as the Alabama Immigration Law, is required for City of Huntsville, Alabama contracts that are competitively bid as a condition of the contract performance. The Contractor shall submit in the bid package, with the requested information included on the form, the "City of Huntsville, Alabama Report of Ownership Form" listed in the bid proposal as Attachment "I". The bidder selected for award of the contract may be required to complete additional forms relating to citizenship or alien status of the bidder and its employees, including e-verify information, prior to award of a contract.

ATTACHMENT "F"

**ALABAMA ACT 2016-312**

"In accordance with Alabama Act 2016-312 as adopted and approved on May 5, 2016, on behalf of \_\_\_\_\_ (insert name of business) I do hereby certify and represent that this business is not currently engaged in, and will not engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which this state can enjoy open trade.

\_\_\_\_\_

Title: \_\_\_\_\_

(Signature of authorized individual)"

Advertise Date: 9/16/16

**ATTACHMENT "A"**

**CITY OF HUNTSVILLE WATER POLLUTION CONTROL  
Huntsville, AL**

**BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING  
Client Project No. 71-16-SM02**

<b>UNIT BID SHEET</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>BID QUANTITY</b>	<b>BID UNIT</b>	<b>BID UNIT PRICE</b>	<b>BID AMOUNT</b>
1	Mobilization, Bonds, Insurance, including clearing and grubbing and traffic control at all locations	1	LS	N/A	
2	Horizontal Directional Drilling and pull back of 24" DR11 HDPE Pipe per the plans and specifications at the <b>Spring Branch Creek</b> location	1	LS	N/A	
3	Horizontal Directional Drilling and pull back of 24" DR11 HDPE Pipe per the plans and specifications at the <b>Triana Boulevard</b> location	1	LS	N/A	
4	Horizontal Directional Drilling and pull back of 24" DR11 HDPE Pipe per the plans and specifications at the <b>Patton Road</b> location	1	LS	N/A	
5	Horizontal Directional Drilling and pull back of 24" DR11 HDPE Pipe per the plans and specifications at the <b>Drake Ave./Goss Rd.</b> location	1	LS	N/A	
6	Horizontal Directional Drilling and pull back of 24" DR11 HDPE Pipe per the plans and specifications at the <b>Sportsplex</b> location	1	LS	N/A	
7	Site restoration at all locations	1	LS	N/A	
				<b>TOTAL BASE BID =</b>	

**ALL ITEMS SHALL BE CONSIDERED IN-PLACE. PRICES SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND REMOVALS AS REQUIRED FOR CONSTRUCTION OF THE REQUIRED WORK**

**Company:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

ATTACHMENT "B"

PROPOSAL

TO: THE CITY OF HUNTSVILLE WATER POLLUTION CONTROL DEPARTMENT

1800 Vermont Road  
Huntsville, Alabama

PROPOSAL OF \_\_\_\_\_  
(NAME)

\_\_\_\_\_  
(ADDRESS)

TO MAKE CERTAIN IMPROVEMENTS ENTITLED:

BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING  
COH PROJECT 71-16-SM02

FOR THE CITY OF HUNTSVILLE, ALABAMA.

GENTLEMEN:

The undersigned bidder has carefully examined the drawings or plans, bid documents, the specifications, the general requirements, the supplement to general requirements, the general terms and conditions, this proposal, the agreement, together with any addenda thereto, and agrees to furnish and deliver all the materials, and to do and perform all the work and labor required to be furnished and delivered, done and performed in and about the improvements as described above and in accordance with certain specifications prepared and approved by the OWNER (City of Huntsville, Alabama). It is MANDATORY that any and all addenda be acknowledged by the undersigned bidder on Attachment "C" which must be submitted with bid package; otherwise, bid shall be rejected.

The undersigned bidder understands that when unit prices are called for, the quantities shown herein are approximate only and are subject to increase or decrease, and offers to do the work whether the quantities are increased, or decreased, at the unit prices stated in the following schedule. The undersigned bidder also understands that when lump sum bids are called for, he will be required to furnish all equipment, labor, materials and other items or cost to construct a complete facility. The undersigned bidder further understands that any deletions or additions designated on the outside of the bid envelope, must indicate the particular bid item relative to the deletion or addition, even if the deletion or addition references to deduct or add to the Total Base Bid. Any bids received that are unsealed will be immediately rejected.

Contractors are authorized to download quantities, Attachment "A", or quantity revisions from COH Engineering website and paste to a CD-RW (preferably in a live/flash drive format) of their choice which must be submitted with the original bid packet. In addition, two hard copies must be signed and submitted with original bid packet. Failure to do so may be cause for rejection of bid. The City reserves the right to reject any altered bid resulting from altering the bid CD in any manner. If a price discrepancy is found on the CD-RW, or the correct version of bid quantities is not submitted on the CD-RW which corresponds to the printed hard copies, then printed hard copy prices submitted with original bid documents, with Contractor signature, will prevail.

Certificates of Insurance are required naming the City as the Certificate Holder. Also, the name of the project and project number should be included on the certificate. The Certificates should reflect the insurance coverage required herein. In addition, a copy of the policy may be requested upon award. Certificates signed using digital signatures will not be accepted unless accompanied by a written statement from the insurance/surety company indicating that their electronic signature is intended as their signature. The Certificates are to be signed by a person authorized by the Insurer to bind coverage on its behalf and must indicate coverage will not be canceled or non-renewed except after thirty (30) days prior written notice to the City at the following address: City of Huntsville, P.O. Box 308, Huntsville, Alabama 35804 ATTN: Mary Dolberry.

The undersigned bidder understands that the Contract Time for completion of all work is 105 calendar days.



**BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING**  
**COH PROJECT 71-16-SM02**

**THE UNDERSIGNED BIDDER ALSO AGREES AS FOLLOWS:**

All bonds must be approved by the Mayor and the Clerk-Treasurer of the City of Huntsville. Within fifteen (15) days after the date of acceptance of this proposal by City Council action, the contractor shall execute the contract and furnish to the OWNER a payment (labor and material) bond and a performance bond, each in the amount of 100% of the contract amount. No contract extension will be allowed for delays in the issuance of the notice to proceed that are a result of the contractor failing to submit the required items within the 15 days.

It is further understood and agreed that the Contractor shall commence work to be performed under this contract within fifteen (15) days from the date of this contract, unless otherwise instructed in writing by the OWNER. All work shall be carried on continuously to completion.

Accompanying this proposal is a certified check or bid bond in the amount of not less than five percent (5%) of the total amount shown on the schedule of prices not exceeding \$50,000.00 payable to the City of Huntsville, Alabama, which is to be forfeited, as liquidated damages, if, in the event that his proposal is accepted, the undersigned shall fail to execute the contract and furnish a satisfactory contract bond under the conditions and within the time specified in this proposal; otherwise, said certified check or bid bond is to be returned to the undersigned.

DATED: \_\_\_\_\_, 20 \_\_\_\_.

-----  
(IF AN INDIVIDUAL, PARTNERSHIP, OR NON-INCORPORATED ORGANIZATION)  
SIGNATURE OF BIDDER \_\_\_\_\_

BY \_\_\_\_\_

ADDRESS OF BIDDER \_\_\_\_\_

NAMES AND ADDRESSES OF MEMBERS OF THE FIRM:

\_\_\_\_\_  
\_\_\_\_\_

OUR CONTRACTOR'S STATE LICENSE NO. IS \_\_\_\_\_

-----  
(IF A CORPORATION)  
SIGNATURE OF BIDDER \_\_\_\_\_

BY \_\_\_\_\_

BUSINESS ADDRESS \_\_\_\_\_

INCORPORATED UNDER THE LAWS OF THE STATE OF \_\_\_\_\_

NAMES PRESIDENT \_\_\_\_\_

OF SECRETARY \_\_\_\_\_

OFFICERS TREASURER \_\_\_\_\_

**BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING  
COH PROJECT 71-16-SM02**

**MANDATORY ACKNOWLEDGEMENT OF ADDENDA:** Addenda will only be emailed to those bidders who attend and have signed in at the pre-bid meeting. All addenda, as well as other project information, are available for downloading on Engineering’s website at [www.huntsvilleal.gov/engineering/bidlist](http://www.huntsvilleal.gov/engineering/bidlist). Acknowledgement of receipt/download from website of addenda is mandatory using Attachment “C” located in this document and attachment must be submitted with bid package. Failure to do so shall be cause for rejection of the bid. It is the responsibility of all bidders to refer to the website for any updates.

ATTACHMENT "C"

BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING  
COH PROJECT 71-16-SM02

MANDATORY ACKNOWLEDGEMENT OF ADDENDA

Acknowledgement of receipt of Addenda is Mandatory. Failure to acknowledge receipt/download from website shall be cause for rejection of the bid. By signing below, Bidder acknowledges receipt of Addenda and the date received.

<u>ADDENDUM NO.</u>	<u>DATE RECEIVED/DOWNLOADED FROM WEBSITE (if applicable)</u>

COMPANY \_\_\_\_\_

SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

**ATTACHMENT "D"**

**BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING  
COH PROJECT 71-16-SM02**

**SUBCONTRACTOR'S LISTING**

All subcontractors must be approved in writing by Owner. Any additional subcontractors needed during the contract period shall be approved by written letter from the Owner. Contractor shall **immediately** notify Mary Dolberry via email at [mary.dolberry@huntsvilleal.gov](mailto:mary.dolberry@huntsvilleal.gov) and the Owner's project inspector of any changes to subcontractor list for the duration of the project.

<u>TASKS TO BE PERFORMED</u>	<u>SUBCONTRACTOR NAME</u>	<u>LICENSE NO.</u>	<u>ADDRESS</u>	<u>ITEM #'S OF WORK TO BE PERFORMED</u>
Surveying/Layout				
Permitting				
Clearing & Grubbing				
Erosion Control				
Traffic Control				
Excavation				
Concrete				
Storm Drainage				
Sanitary Sewer				
Shoring/Monitoring				
Retaining Walls				
Bridges				
Railroads				
Traffic (signals, loops)				
Street Lights				
Electrical				
Water				
Asphalt				
Landscaping (Trees, grassing)				
Irrigation				
Striping				
Sewer Testing				
Guardrails				
Handrails				
Painting				
Special (fencing, benches, dewatering etc.)				
Mechanical				
SCADA				

**ATTACHMENT "E"**

**BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING**  
**COH PROJECT 71-16-SM02**

Contractor shall provide at least five (5) references including NAME OF PROJECT, Owner Name, address, phone number and contact name that demonstrates contractor's ability on similar projects.

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_  
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3. \_\_\_\_\_  
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4. \_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_

5. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Standard Specifications for Construction of Public Improvements Contract Projects and Engineering Standards are available at no charge by downloading from the City Engineering website: <http://www.huntsvilleal.gov/government/departments/engineering-department/>. Plans and proposals can be downloaded from our website at no cost: <http://www.huntsvilleal.gov/engineeringbids>. Contractors will be responsible for costs of duplicating their own plans and can choose photocopying facility of their choice. Additionally, Contractors are responsible for checking website for any revisions/updates. Contractor is required to submit pricing, provided by the COH (Attachment "A") and made available for download from the Engineering website, on either a CD-RW (preferably in a live/flash drive format) in the Excel format. The CD-RW (preferably in a live/flash drive format) must be in working condition and included with original bid packet and reflect the correct revision, along with two signed hard copies. Bid must be submitted from the file (Quantities) provided and downloaded from the City of Huntsville's website. Failure to do so may be cause for rejection of bid. The City reserves the right to reject any altered bid resulting from altering the CD in any manner. If a price discrepancy is found on the CD-RW, or the correct version of bid quantities is not submitted on the CD-RW which corresponds to the printed hard copy, then printed hard copy prices submitted with original bid documents, with Contractor signature, will prevail. All bids must be SEALED before submittal at the bid opening. Any bids received that are not sealed will be immediately rejected.

### E-VERIFY – NOTICE

The Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975) § 31-13-1 through 31-13-30 (also known as and hereinafter referred to as "the Alabama Immigration Act") as amended by Act No. 2012-491 on May 16, 2012 is applicable to all competitively bid contracts with the City of Huntsville. As a condition for the award of a contract and as a term and condition of the contract with the City of Huntsville, in accordance with § 31-13-9 (a) of the Alabama Immigration Act, as amended, any business entity or employer that employs one or more employees shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. During the performance of the contract, such business entity or employer shall participate in the E-Verify program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The business entity or employer shall assure that these requirements are included in each subcontract in accordance with §31-13-9(c). Failure to comply with these requirements may result in breach of contract, termination of the contract or subcontract, and possibly suspension or revocation of business licenses and permits in accordance with §31-13-9 (e) (1) & (2). Code of Alabama (1975) § 31-13-9 (k) requires that the following clause be included in all City of Huntsville contracts that have been competitively bid and is hereby made a part of this contract:

"By signing this contract the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom."

Contractor's E-Verify Memorandum of Understanding shall be a part of the contract bid documents and shall be submitted with the bid package.

**ALABAMA IMMIGRATION ACT (Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975)**

Compliance with the requirements of the (Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975) § 31-13-1 through 31-13-30, as amended by Alabama Act 2012-241, commonly referred to as the Alabama Immigration Law, is required for City of Huntsville, Alabama contracts that are competitively bid as a condition of the contract performance. The Contractor shall submit in the bid package, with the requested information included on the form, the "City of Huntsville, Alabama Report of Ownership Form" listed in the bid proposal as Attachment "I". The bidder selected for award of the contract may be required to complete additional forms relating to citizenship or alien status of the bidder and its employees, including e-verify information, prior to award of a contract.

ATTACHMENT "F"

**ALABAMA ACT 2016-312**

"In accordance with Alabama Act 2016-312 as adopted and approved on May 5, 2016, on behalf of \_\_\_\_\_ (insert name of business) I do hereby certify and represent that this business is not currently engaged in, and will not engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which this state can enjoy open trade.

\_\_\_\_\_

Title: \_\_\_\_\_

(Signature of authorized individual)"

Advertise Date: 9/16/16



**ATTACHMENT "G"**

REQUEST FOR PAYMENT							
CITY OF HUNTSVILLE ENGINEERING DIVISION							
PROJECT NAME AND NUMBER: _____							
ESTIMATE NUMBER: _____	PERIOD FROM: _____		TO _____				
CONTRACT DURATION	DAYS						
START DATE: _____	END DATE: 1/0/00		TOTAL CONTRACT TIME (3)		0		DAYS
	TIME	C.O. # 1			CONTRACT DAYS REMAINING		0
	TIME	C.O. # 2					
	TIME	C.O. # 3					
TOTAL CONTRACT AMOUNT (1)	AS AWARDED		\$ -	CURRENT	\$ -		
		C.O. # 1	\$ -				
		C.O. # 2	\$ -				
		C.O. # 3	\$ -				
TOTAL AMOUNT EARNED TO DATE LESS STORED MATERIALS (2):				\$	-		
MATERIAL STORED (INVOICE ATTACHED)				\$	-		
RETAINAGE (5%) OF 50% OF CONTRACT				\$	-		
AMOUNT EARNED AFTER RETAINAGE				\$	-		
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     Amount is in accordance with ALDOT and COH specifications and is based on the contract amount before change orders.                 </div>							
LIQUIDATED DAMAGES PER DAY				200			
LIQUIDATED DAMAGES ASSESSED TO DATE:							
<div style="border: 1px solid black; padding: 2px; display: inline-block;">                     Damages, if applicable, will automatically be calculated by subtracting the contract end date from the invoice period end date and multiplying the days by the daily damages amount. Damages will automatically be deducted from amounts otherwise due.                 </div>							
TOTAL AMOUNT PREVIOUSLY APPROVED TO DATE:				\$	-		
<b>AMOUNT DUE THIS ESTIMATE WITHOUT LIQUIDATED DAMAGES</b>				\$	-		
A: % OF TIME ELAPSED:	TIME ELAPSED TO DATE		DAYS		=		
	TOTAL CONTRACT TIME (3)		0		DAYS		
B: PROJECT COMPLETION:	TOTAL EARNED TO DATE (2)		-		=		#DIV/0!
	TOTAL CONTRACT AMOUNT		-				
C: PROGRESS OF WORK:	B - A: =						
CONTRACTORS CERTIFICATE							
I, _____ the duly qualified, acting and authorized agent for the contractor _____							
on the above project, do hereby certify that we have performed all of the work set forth in strict accordance with the plans, specifications, laws and ordinances applicable thereto, and do further certify that all labor, materials and equipment listed herein have been paid for in full as allowed on all prior estimates and if requested to do so, we will show evidence of payment for the same in writing before the final payment of this estimate. We further certify (if this is the final estimate) that the amount received hereunder is considered compensation and final payment in full for all work performed under the contract, including any amendments thereto and, upon payment of said sum, hereby release the Owner, its employees, agents, and representatives in accordance with said contract. We further certify that we fully guarantee all work performed hereunder for a period of twelve months from the date of payment of the final estimate (in accordance with the terms of our original contract and all amendments thereto), during which time all terms and conditions of the original contract document shall remain in full force and effect, including the insurance requirements, Hold Harmless Agreement, and Indemnifying Agreement as contained in said contract documents.							
CERTIFIED FOR PAYMENT ON THIS THE _____				DAY OF _____			
BY: _____				CONTRACTOR: _____			
TITLE: _____							
SIGNED: _____				WITNESS: _____			
SIGNATURE							
We have checked the quantities and extensions to this estimate, and to the best of our knowledge, the estimate is true and correct.							
APPROVED FOR PAYMENT							
BY: _____	CONSTRUCTION INSPECTOR			BY: _____	KATHY MARTIN, CITY ENGINEER OR LYNN MAJORS, ADMINISTRATIVE OFFICER		
BY: _____	PROJECT ENGINEER			IF FINAL ESTIMATE, DATE WORK WAS COMPLETED: _____			

## ATTACHMENT "H"

All vendors/contractors are required to submit a Federal Tax Form W-9 to City of Huntsville at the time a contract is awarded, unless vendor/contractor is already registered and doing business with the City. No payments of invoices can be made until this W-9 Tax Form has been properly submitted. A copy of the W-9 Tax Form can be obtained at the following website: [www.irs.ustreas.gov/pub/irs-pdf/fw9.pdf](http://www.irs.ustreas.gov/pub/irs-pdf/fw9.pdf)

**CITY OF HUNTSVILLE, ALABAMA REPORT OF OWNERSHIP FORM**

**A. General Information.** Please provide the following information:

- Legal name(s) (include "doing business as", if applicable): \_\_\_\_\_
- City of Huntsville current taxpayer identification number (if available): \_\_\_\_\_  
(Please note that if this number has been assigned by the City and if you are renewing your business license, the number should be listed on the renewal form.)

**B. Type of Ownership.** Please complete the un-shaded portions of the following chart by checking the appropriate box below and entering the appropriate Entity I.D. Number, if applicable (for an explanation of what an entity number is, please see paragraph C below):

Type of Ownership <i>(check appropriate box)</i>	Entity I. D. Number & Applicable State
<input type="checkbox"/> Individual or Sole Proprietorship	Not Applicable
<input type="checkbox"/> General Partnership	Not Applicable
<input type="checkbox"/> Limited Partnership (LP)	Number & State:
<input type="checkbox"/> Limited Liability Partnership (LLP)	Number & State:
<input type="checkbox"/> Limited Liability Company (LLC) (Single Member)	Number & State:
<input type="checkbox"/> LLC (Multi-Member)	Number & State:
<input type="checkbox"/> Corporation	Number & State:
<input type="checkbox"/> Other, please explain:	Number & State (if a filing entity under state law):

**C. Entity I.D. Numbers.** If an Entity I.D. Number is required and if the business entity is registered in this state, the number is available through the website of Alabama's Secretary of State at [www.sos.state.al.us/](http://www.sos.state.al.us/), under "Government Records". If a foreign entity is not registered in this state please provide the Entity I.D. number (or other similar number by whatever named called) assigned by the state of formation along with the name of the state.

**D. Formation Documents.** Please note that, with regard to entities, the entity's formation documents, including articles or certificates of incorporation, organization, or other applicable formation documents, as recorded in the probate records of the applicable county and state of formation, are not required unless: (1) specifically requested by the City, or (2) an Entity I.D. Number is required and one has not been assigned or provided.

*Please date and sign this form in the space provided below and either write legibly or type your name under your signature. If you are signing on behalf of an entity please insert your title as well.*

Signature: \_\_\_\_\_ Title (if applicable): \_\_\_\_\_

Type or legibly write name: \_\_\_\_\_ Date: \_\_\_\_\_

**ATTACHMENT "J"**

**"In accordance with Alabama Act 2016-312 as adopted and approved on May 5, 2016, on behalf of \_\_\_\_\_ *(insert name of business)* I do hereby certify and represent that this business is not currently engaged in, and will not engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which this state can enjoy open trade.**

\_\_\_\_\_  
**Title: \_\_\_\_\_  
*(Signature of authorized individual)* "**

**BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING**  
**COH PROJECT 71-16-SM02**

**CITY OF HUNTSVILLE, ALABAMA**

**TABLE OF CONTENTS**

**SUPPLEMENT TO GENERAL REQUIREMENTS**

<u>SECTION</u>	<u>SECTION NO.</u>
General	1
Proposal Preparation	2
Quantities	3
Change Orders	4
Maintain Office	5
Subcontractors	6
Bid Bond	7
N/A	8
Liability Insurance	9
Licenses and Classifications	10
Permits	11
Payment	12
N/A	13
Examination of Plans, Specifications, Special Provisions, and Site Work	14
Inclusions to Contract	15
Commencement of Work	16
Contract Time	17
Liquidated Damages	18
Storage of Materials	19
Traffic Flow	20
Termination for Convenience	21
Termination for Cause	22
Unbalanced Bids	23
Additional Insurance Requirements	24
Domestic Preferences	25
Time is of the Essence	26
No Damages for Delays	27
Contractor Responsible for Locating Utilities Prior to Construction Initiation	28
Correction to City of Huntsville’s Standard Specifications for the Construction of Public Improvements, Contract Projects, 1991-Recovery Time	29
Warranties	30
Coordination with other Contractors	31
W-9 Taypayer Form	32
Final Payment	33
Project Completion Date	34
Record Drawings	35
Lien Waivers	36
Lowest Responsible Bidder	37
Non-Resident Bidders	38
Correction to Section 80.08C of The City of Huntsville “Standard Specifications for Construction of Public Improvements”	39
Correction to section 80 – Prosecution & Progress 80.01 subletting and contract. (a) limitations	40
Correction to Section 80 – Prosecution and Progress 80.03 Progress Schedule of Oper.	41

<u>SECTION</u>	<u>SECTION NO.</u>
Correction to Section 80 – Prosecution and Progress 80.09(b)	42
Correction to Section 105 – Excavation and Embankment	43
Correction to Section 847 – Pipe Culvert Joint Sealers	44
NPDES Construction Requirements	45
DELETION of Section 50.01 – Authority of Engineer of Record	46
Shop Drawings	47
E-Verify Statement	48
City of Huntsville Engineering Department Construction Requirements	49
Survivability of Contract Provisions	50
Surety Bonds	51
Governing Law	52
Alabama Immigration Act	53
Successors and Assigns	54
Written Notice	55
Rights and Remedies	56
Entire Agreement	57

**SUPPLEMENT TO GENERAL REQUIREMENTS  
FOR  
CONSTRUCTION OF PUBLIC IMPROVEMENTS  
BOB WALLACE FORCEMAIN RELOCATION – DIRECTIONAL DRILLING  
COH PROJECT 71-16-SM02  
CITY OF HUNTSVILLE, ALABAMA**

## SUPPLEMENT TO GENERAL REQUIREMENTS

### 1. GENERAL

The attention of all bidders is called to Code of Alabama §§ 34-8-1 and 34-8-2 (1975) AND 34-8-1, 34-8-2, 34-8-4, 34-8-6, 34-8-7, 34-8-8 AND 34-8-9 (AMENDED 1996) setting forth the definition of general contractor and the licensing procedures and requirements for state licensing. No one is entitled to bid and no contract may be awarded to anyone who does not possess a valid general contractor's license and the required classification for the municipal type work to be performed. The general contractor's State of Alabama license and classification must appear on the outside of the bid envelope along with the general contractor's name and address, project name and number and date and time of bid opening. Failure to provide this will be cause to reject the bid.

In determining the successful bidder, the Owner will consider in addition to the bid prices, such responsibility factors as characteristics and responsibility, skill, experience, record of integrity in business, and of performance offered and past record of performance on Owner contracts on other similar projects. Any other factors not specifically mentioned or provided for herein, in addition to that of the bid price which would affect the final cost to the Owner, will be taken into consideration in making award of contract. The right is reserved to reject any bid where investigation of the business and technical organization of the bidder available for the contemplated work, including financial resources, equipment, and experience on similar projects does not satisfy the Owner that such bidder is qualified to perform the work. The City Council of the City of Huntsville reserves the right to reject any and all bids and to waive informalities.

Separate sealed bids for the construction of this project shall be accompanied by Bid Bond in the amount of five percent (5%) of the amount of the bid not to exceed \$50,000.00. Quantities are known as Attachment "A". No bidder may withdraw his bid within ninety (90) days after the actual date of opening. Addenda, the Supplement to General Requirements for Construction of Public Improvements City of Huntsville Specifications, Standard Specifications for Construction of Public Improvements Contract Projects, the supplemental specifications, the plans, special provisions and all supplementary documents are essential parts of the contract, and 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, unless obviously incorrect, shall govern over scaled dimensions. Contract Document Order of Precedence shall be as follows: 1. Addenda; 2. General Requirements (instructions to Bidders and Bid Proposal including attachments); 3. Supplement to General Requirements; 4. Drawings/City of Huntsville Standard Specifications for Construction of Public Improvements Contract Projects, 1991; 5. Supplemental Specifications (Earthwork, Chain Link Fences, and Gates); 6. Special Conditions; and 7. Current ALDOT Specifications. All bid openings and any scheduled pre-bid conferences are open to the public and will be held in the Public Services Conference Room on the 1st Floor at 320 Fountain Circle, Huntsville, Alabama, unless otherwise noted.

All references to OWNER shall mean City of Huntsville, Alabama. All references to City Engineer shall mean OWNER.

### 2. PROPOSAL PREPARATION

(A) Proposal Form. The bidder's proposal must be submitted on the complete original proposal form furnished him by the City. Unless otherwise provided in the proposal, joint venturers may submit a proposal for a joint venture of qualified bidders on a proposal form issued to one of them, provided each venturer has taken out a proposal and provided the proposal is signed by each co-venturer.

(B) Details. On the proposal form, the bidder shall enter in numbers a unit price and the extended amount bid (unit price x quantity) in the appropriate column for each bid item, exclusive of those items for which a fixed contract unit price and extension amount are shown. On lump sum items an entry shall be shown in the amount bid column. If a bidder wishes to bid an item free, then he shall enter 0 (zero) in both the unit price column and amount bid column. After all extensions are made, the bidder shall total the extended amounts of the bid items and show his total bid amount in the appropriate place on the proposal form. All figures shall be legibly shown in ink or typed. Any interlineation, erasure or other alteration of a figure shall be initialed by the signer of the proposal. The City will check the extension of each item given in the proposal and correct all errors and discrepancies. In case of a discrepancy between a unit bid price and the extension amount, the unit price shall govern. The sum of the extension amounts will be the contract bid price. The undersigned bidder further understands that any deletions or additions designated on the outside of the bid envelope, must indicate the particular bid item relative to the deletion or addition, even if the deletion or addition references to deduct or add to the Total Base Bid. Any bids received that are unsealed will be immediately rejected.

(C) Signing. The bidder's proposal must be signed with ink by the individual, by one or more members of the partnership, by one or more members or officers of each firm representing a joint venture, or by one or more officers of a corporation or by an agent of the Contractor legally qualified and acceptable to the City. If the proposal is made by an individual, his name and post office address must be shown; by a partnership, the name and post office address of each partnership member must be shown; as a joint venture, the name and post office address of each member or officer of the firms represented by the joint venture must be shown; by a corporation, the name of the corporation and the business address of its corporate officials must be shown. The proposal bid bond, if bid bond is tendered, shall be properly signed by the bidder and the surety.

(D) Irregular Proposals. Proposals will be considered irregular and will be rejected if they contain any omissions, alteration of form, additions not called for, incomplete bids (includes failure to enter a unit bid price on a bid item or, in the case of an alternate, the alternate being bid by the Contractor), interlineations, erasures or alterations not initialed by the person signing



the proposal, or other irregularities of any kind. Bids that are not signed will be considered non-responsive and will be rejected. No proposal will be opened that does not contain the contractor's Alabama State license number. Proposals may be rejected at any time prior to the execution of the contract. Any bidder using the same or different names for submitting more than one proposal upon any project will be disqualified from further consideration on that project.

(E) Delivery of Proposals. Each proposal for each contract shall be placed, together with the proposal guaranty, in a sealed envelope on the outside of which is written in large letters "Proposals for Work" and so marked as to indicate the project name, project number, bidder name, and State license number. Proposals will be received by the OWNER or his representative unless otherwise provided until the hour and date set in the notice to Contractors for the opening thereof. No proposal will be considered which has not been received prior to the hour and date set for the opening of bids. Proposals received after that time will be returned. No proposal will be opened that does not contain the contractor's Alabama State license number.

### **3. QUANTITIES**

The undersigned bidder understands that when unit prices are called for, the quantities shown herein are approximate only and are subject to increase or decrease, and offers to do the work whether the quantities are increased, or decreased, at the unit prices stated in the proposal. Any substantial changes requiring an increase must be approved by change order prior to work and authorized by City Council Action. The undersigned bidder also understands that when lump sum bids are called for, he will be required to furnish all equipment, labor, material and other items or cost to construct a complete facility. See Attachment "A" - Bid Quantities or revised Attachment if quantities have changed after pre-bid meeting.

### **4. CHANGE ORDERS**

#### **(A) Changes in the Work**

Without invalidating the agreement, the owner may, at any time or from time to time, order additions, deletions or revisions in the work; these will be authorized by change orders. Upon receipt of a change order, the contractor will proceed with the work involved. All such work shall be executed under the applicable conditions of the contract documents. A change order signed by the contractor indicates his agreement.

The OWNER may authorize minor changes or alterations in the work not involving extra cost and not inconsistent with the overall intent of the contract documents. These may be accomplished by a field order.

Additional work performed by the contractor without authorization of a change order will not entitle him to an increase in the contract price or an extension of the contract time, except in the case of an emergency.

The owner will execute appropriate change orders prepared by the engineer covering changes in the work to be performed and work performed in an emergency and any other claim of the contractor for a change in the contract time or the contract price which shall be approved by the OWNER.

It is the contractor's responsibility to notify his surety of any changes affecting the general scope of the work or change in the contract price and the amount of the applicable bonds shall be adjusted accordingly. The contractor will furnish proof of such adjustment to the owner.

#### **(B) Change of Contract Price.**

The contract price may only be changed by a change order. Any claim for additional compensation shall be based on written notice delivered to the Owner and Engineer within ten (10) days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five (45) days of such occurrence unless OWNER allows an additional period of time to ascertain more accurate data. The contract price constitutes the total compensation payable to the contractor for performing the work. All duties, responsibilities and obligations assigned to or undertaken by the contractor shall be at his expense without changing the contract price. The owner may at any time without notice to the sureties, by written order designated or indicated to be a change order, make any change in the work within the general scope of the contract, including but not limited to changes: (1) in the specifications (including drawings and designs); (2) in the method or manner of performance of the work; (3) in the owner-furnished facilities, equipment, materials, services, or site; or (4) directing acceleration in the performance of the work. Any other written order or an oral order from the owner which causes any such change, shall be treated as a change order under this clause, provided that the contractor gives the owner written notice stating the date, circumstances, and source of the order and that the contractor regards the order as a change order.

#### **(C) Change in the Contract Time.**

The contract time may only be changed by a change order. Any claim for an extension in the contract time shall be based on written notice delivered to the owner and engineer within ten (10) days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five (45) days of such occurrence unless OWNER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the contract time shall be determined by OWNER if owner and contractor cannot otherwise agree. Any change in the contract time resulting from any such claim shall be incorporated in a change order. The contract time will be extended in an amount equal to time lost due to delays beyond the control of contractor if he makes a claim as provided above. Such delays shall include, but not be restricted

to, acts or neglect by any separate contractor employed by owner, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

All time limits stated in the contract documents are of the essence of the agreement. The provisions shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party. No claim for delay shall be allowed because of failure to furnish drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

**(D) Time extension for abnormal weather conditions**

In order for the owner to award a time extension for abnormal weather, the following conditions must be satisfied:

1. The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.
2. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without fault or negligence of the contractor.

The following table of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) and similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's normal progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. The contractor's bid shall include the impact of the anticipated lost days in his quotation for the time he is to be on site.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
11	8	6	4	4	5	6	4	4	3	4	8

Actual adverse weather delay days must prevent work on critical activities for 50% or more of the contractor's scheduled work day before it is considered a weather delay day.

**5. MAINTAIN OFFICE**

The successful contractor shall establish an office in Huntsville, Alabama, with telephone service, and shall maintain close liaison with the OWNER.

**6. SUBCONTRACTORS**

The prime contractor shall be responsible for all work covered under the executed contract; therefore, this responsibility cannot be shifted by subcontracting the work to others. All subcontractors shall be approved by the OWNER and shall be properly licensed as required by Alabama State Law. (Code of Alabama §§ 34-8-1 and 34-8-2 (1975) AND 34-8-1, 34-8-2, 34-8-4, 34-8-6, 34-8-7, 34-8-8 AND 34-8-9 (AMENDED 1996)) A list of all subcontractors proposed for use on the project shall be provided to the OWNER at the time that bids are received. This document will be known as ATTACHMENT "D". Lien waivers will be required from all subcontractors at the time of submittal of the final payment request. Contractor shall keep the "Subcontractor's Listing" updated throughout the project duration and submit a copy of the listing with the request for final payment. Noncompliance with this request may cause delay in payment to the Contractor.

All subcontractors must be approved in writing by Owner. If the subs listed on Attachment "D" are approved by the Owner, you will be notified in your notice to proceed. Any additional subcontractors needed during the contract period shall be approved by written letter from the Owner. See Section 39 for Correction to City of Huntsville Standards Specifications for Construction.

**7. BID BOND**

Accompanying this proposal is a certified check or original signed, dated and sealed bid bond in the amount of not less than five percent (5%) of the total amount shown on the schedule of prices, not exceeding \$50,000.00 dollars, payable to the City of Huntsville, Alabama, which is to be forfeited, as liquidated damages, if, in the event that his proposal is accepted, the undersigned shall fail to execute the contract and furnish a satisfactory contract bond under the conditions and within the time specified in this proposal; otherwise, said certified check or bid bond is to be returned to the undersigned.

**8. N/A**

**9. LIABILITY INSURANCE (SEE ALSO ATTACHED INSURANCE FOR CONTRACTORS, WHICH IS SHOWN AS SECTION 24.)**

The Contractor shall provide and maintain comprehensive general public liability insurance protecting the Contractor and the City against claims arising out of or resulting from the Contractor's operation under his contract for personal injury or property damage with minimum combined single limits of \$1,000,000, whether such operations are performed by himself, or by anyone directly or indirectly employed by them. In addition, a copy of the policy may be requested upon award. Certificates of insurance

acceptable to the City shall be filed with the City prior to commencement of work and said certificate shall provide that policies will not be altered or canceled until at least 30 days prior written notice has been given to the City.

The Contractor shall indemnify and hold the OWNER, its officers and employees harmless from any suits, claims, demands, damages, liabilities, costs and expenses including reasonable attorney's fees, arising out of or resulting from the performance of the work. Certificates of Insurance are required naming the City as the Certificate Holder. The Certificates should reflect the insurance coverage required herein. The Certificates are to be signed by a person authorized by the Insurer to bind coverage on its behalf and must be an original signature. Certificates signed using digital signatures will not be accepted unless accompanied by a written statement from the insurance/surety company indicating that their electronic signature is intended as their signature. The Certificates must indicate coverage will not be canceled or non-renewed except after thirty (30) days prior written notice to the City at the following address: City of Huntsville, P.O. Box 308, Huntsville, Alabama 35804, Attention: Mary Dolberry.

## **10. LICENSES AND CLASSIFICATIONS**

In order to receive the award of this contract, the Contractor/Subcontractor(s) shall be required to possess a valid general contractor's license in accordance with Code of Alabama §§34-8-2 (1975) and (1996 amended) Code of Alabama as stated in Section 1 above. This general contractor's license shall be a State of Alabama general contractor's license and shall be maintained throughout the term of this contract. A valid City of Huntsville license shall also be maintained throughout the term of this contract by the Contractor/Subcontractor(s).

The required classification for this project is stated in the Notice to Contractors also known as Attachment "F".

## **11. PERMITS**

Additionally, the contractor shall be required to obtain and pay for all other federal, state or local permits, licenses, and fees which may be necessary or required in order to perform the work detailed herein. A City of Huntsville Contractor's License must be obtained from the City of Huntsville Inspection Department at the time signatures are obtained on contracts. A copy of City of Huntsville license shall be provided to the OWNER at the time the contract is executed. If project requires an ADEM permit, the Contractor is responsible for transferring the ADEM permit from the City of Huntsville to the Contractor upon award of bids.

## **12. PAYMENT**

The OWNER agrees to pay the Contractor as follows: Once each month per project. The OWNER shall make partial payment to the Contractor on the basis of duly certified and approved estimates of the work performed during the preceding month by the Contractor, less five percent (5%) of the amount of such estimate, which is to be retained by the City until all of the work has been performed. Owner reserves the right to withhold payments for, but not limited to: a) defective work not remedied or defective materials not removed from site; b) claims filed, or reasonable evidence indicating imminent filing of claims against the Contractor; c) failure of the Contractor to make payments properly to subcontractors for labor, materials and equipment; d) a reasonable doubt that the Contract can be completed for the balance then unpaid; e) damage to another Contractor; f) performance of work in violation of the terms of the Contract; g) expiration of Contract time. Liquidated damages will be deducted from all invoices when the invoice estimate period end date is later than the contract completion date. All pay requests will be submitted by hard copy and on CD-RW. The hard copy will be printed from the CD-RW. A sample copy of the invoice is attached as Attachment "G". The OWNER will provide the CD-RW to the contractor. Two originals and two copies of the invoices are required before payment will be made. The CD-RW should be submitted each month, along with the originals and copies, to the Administrative Officer in the Engineering Department. No further retainage will be held after fifty percent (50%) of the contract is complete. All payments to Contractor will be made as soon as practical after the approval and finance processes have been completed. SEE SECTION 33 FOR INFORMATION ON FINAL PAYMENT.

## **13. N/A**

## **14. EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, and SITE WORK**

Before submitting a proposal, bidders shall examine carefully the site of the proposed work, the general and local conditions, the proposal form, standard specifications, supplemental specifications, special provisions, all addenda, and the bid bond form, and it is mutually agreed that the submission of a proposal shall be prima facie evidence that the bidder has made such examination and has judged for and satisfied himself as to the conditions to be encountered in performing the work, and to the requirements of plans, standard specifications, supplemental specifications, special provisions, contract, and bonds. No adjustments or compensation will be allowed for losses caused by failure to comply with this requirement. Boring logs and other records of subsurface investigations may be available for inspection by bidders. Bidders shall request such records if they are not otherwise provided with bid documents. If available, it is understood that such information was obtained and is intended for the City of Huntsville's design and estimating purposes only. It is made available to bidders that they may have access to identical subsurface information available to the City, and is not intended as a substitute for personal investigation, interpretations and judgment of the bidders. Bidders are advised that the City disclaims responsibility for any opinions, conclusions, interpretations, or deductions that may be expressed or implied in any of the information presented or made available to bidders; it being expressly understood that the making of deductions, interpretations, and conclusions from all of the accessible factual information is the bidder's sole responsibility.

The Contractor shall have a continuing duty to read, carefully study and compare each of the Contract Documents, the Shop Drawings, and the Product Data and shall give written notice to the Owner of any inconsistency, ambiguity, or error omission which the Contractor may discover with respect to these documents before proceeding with the affected work. The issuance or the express or implied approval by the Owner or the Engineer of the Contract Documents, Shop Drawings, or Product Data shall not relieve the Contractor of the continuing duties imposed hereby, nor shall any such approval be evidence of the Contractor's compliance with this Contract. The Owner has requested the Engineer to only prepare documents for the Project, including drawings and specs for the project which are accurate, adequate, consistent, coordinated and sufficient for construction. HOWEVER, the OWNER MAKES NO REPRESENTATION OR WARRANTY OF ANY NATURE WHATSOEVER TO THE CONTRACTOR CONCERNING SUCH DOCUMENTS. By the execution hereof, the Contractor acknowledges and represents that it has received, reviewed, and carefully examined such documents, has found them to be complete, accurate, adequate, consistent, coordinated and sufficient for construction, and that the Contractor has not, does not, and will not, rely upon any representation or warranties by the Owner concerning such documents as no such representation or warranties have been or are hereby made.

**15. INCLUSIONS TO CONTRACT**

The parties further agree that the advertisement for bids, instructions to bidders, contractor's proposal, plans and specifications, general requirements, supplement to general requirements and general terms and conditions, together with any addenda thereto, made prior to submission of the contractor's proposal and all modifications agreed to by the parties and issued after the execution of this contract are a part of this contract as if fully set out herein.

**16. COMMENCEMENT OF WORK**

It is further understood and agreed that the Contractor shall commence work to be performed under this contract within fifteen (15) days from the date of this contract, unless otherwise instructed in writing by the OWNER. All work shall be carried on continuously to completion.

**17. CONTRACT TIME**

All work is to be completed within the allotted time of the original contract, which is stated in the bid proposal documents, unless a valid change order has been issued which alters the contract time period.

**18. LIQUIDATED DAMAGES**

It is further understood and agreed by and between the parties to this contract, that in the event the work to be performed under this contract is not completed at the expiration of the contract time, then, and in that event, the Contractor shall pay to the City the amounts per calendar day by the schedule shown in the schedule in the City of Huntsville Standard Specifications, Section 80.11 – "Schedule of Liquidated Damages" for each day thereafter until such work is completed. The City will deduct said sum or sums from any money due the Contractor under this contract for any and all invoices submitted after the contract due date. (See Section 12.). Attachment "G" – Sample of Request for Payment with Liquidated Damages shall become a part of the contract documents. Liquidated damages will be deducted from all invoices when the invoice estimate period end date is later than the contract completion date.

**Section 80.11 – "Schedule of Liquidated Damages" has been amended as follows effective 2/1/11 and revised in COH specifications 3/7/11:**

Original Contract Amount		Liquidated Damages Daily Charge	
More Than	To and Including	Calendar Day or Fixed Date	Work Day
\$ 0	\$ 100,000	\$ 200	\$ 400
\$ 100,000	\$ 500,000	\$ 550	\$ 1,100
\$ 500,000	\$ 1,000,000	\$ 900	\$ 1,800
\$ 1,000,000	\$ 2,000,000	\$ 1,350	\$ 2,700
\$ 2,000,000	.....	\$ 1,550	\$ 3,100

When the contract time is on the calendar day or date basis, the schedule for calendar days shall be used. When the contract time is on a work day basis, the schedule for work days shall be used.

Amounts in accordance with ALDOT and COH specifications and is based on contract amount before Change Orders.

**19. STORAGE OF MATERIALS**

The Contractor shall not permit the storage of materials on or use of any property outside the right-of-way easement or property identified as the project site.

## 20. TRAFFIC FLOW

The Contractor shall be responsible for the uninterrupted, orderly and safe flow of traffic around, on, over or across the project site.

## 21. TERMINATION FOR CONVENIENCE

A. The City may for any reason whatever terminate performance under this Contract in whole or in part by the Contractor for convenience. The City shall give written notice of such termination to the Contractor specifying when the full or partial termination becomes effective.

B. The Contractor shall incur no further obligations in connection with the Work and the Contractor shall stop Work when such termination becomes effective. The Contractor shall also terminate outstanding orders and subcontracts and shall not purchase any additional supplies, equipment or materials for the Work, and shall make every effort to mitigate the costs of termination. The Contractor shall settle the liabilities and claims arising out of their termination of subcontracts and orders. The City may direct the Contractor to assign the contractor's right, title and interest under terminated orders or subcontracts to the City or its designee and may direct the Contractor to take steps to preserve the Work in place at the time of the termination.

C. The Contractor shall transfer title and deliver to the Owner such completed Work and materials, equipment, parts, fixtures, information and Contract rights as the Contractor has.

D. (1) The Contractor shall submit a termination claim to the City and the Consultant specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Contractor fails to file a termination claim within six (6) months from the effective date of termination, the owner shall pay the Contractor, an amount derived in accordance with subparagraph (3) below.

(2) The City and the Contractor may agree to the compensation, if any, due to the Contractor hereunder.

(3) Absent agreement to the amount due to the Contractor, the City shall pay the Contractor the following amounts:

(a) Contract prices for labor, materials, equipment and other services accepted under this Contract.

(b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the Contractor's performance, plus a fair and reasonable allowance for overhead and profit thereon (such profit shall not include anticipated profit or consequential damages); provided, however, that if it appears that the Contractor would not have profited or would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any. Costs incurred in performing the terminated portion of the work must have been incurred prior to the effective date of the termination.

(c) Reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Paragraph B of this clause. These costs shall not include amounts paid in accordance with other provisions hereof.

The Total Sum to be paid the Contractor under this clause shall not exceed the total Contract Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

The Owner specifically reserves the right to convert a termination for convenience into a termination for cause within one (1) year after the effective date of the termination for convenience, in the event that the Owner becomes aware of circumstances or conditions with regards to the Work that would have warranted the Owner terminating for default, had those circumstances or conditions been properly known by the Owner, at the time of the termination for convenience. The Owner may, upon written notice to the Contractor of its intention to convert the termination for convenience to a termination for cause, initiate the termination for cause procedures at that time, as set forth in the Performance Bond, and the termination for convenience shall then be converted to a termination for cause.

## 22. TERMINATION FOR CAUSE

A. If the Contractor persistently or repeatedly refuses or fails to prosecute the work in a timely manner, supply enough properly skilled workers, supervisory personnel or proper equipment or material, or if it fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a material provision of this Contract, then the Owner may, by written notice to the Contractor, without prejudice to any other right or remedy, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment, and machinery thereon owned by the Contractor and may finish the Work by whatever methods it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

B. If the unpaid balance of the Contract Price exceeds the cost of finishing the work, including compensation for the

additional professional services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the City. This obligation for payment shall survive the termination of the Contract.

C. In the event the employment of the Contractor is terminated by the City for cause pursuant to Paragraph A and it is subsequently determined by a court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience and the provisions of the Termination for Convenience clause shall apply.

### **23. UNBALANCED BIDS**

The City may reject a bid as nonresponsive if the prices bid are materially unbalanced between line items. A bid is materially unbalanced when it is based on prices which are significantly overstated or understated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the City even though it may be the low evaluated bid.

### **24. ADDITIONAL INSURANCE REQUIREMENTS**

The Contractor shall carry insurance of the following kinds and amounts in addition to any other forms of insurance or bonds required under the terms of the contract specifications. The Contractor shall procure and maintain for the duration of the job until final acceptance by the Owner, or as later indicated, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

#### **A. MINIMUM SCOPE OF INSURANCE**

##### 1. General Liability

Insurance will be written on an occurrence basis. Claims-made coverage will be accepted only on an exception basis after the Owner's approval. General Liability Coverage and Owners Contractors Protective Insurance should be written by this same insurance company.

Commercial General Liability

Products and Completed Operations  
Contractual  
Personal Injury  
Explosion, Collapse and Underground  
Broad Form Property Damage

##### 2. Professional Liability

N/A

##### 3. Automobile Liability

Business Automobile Liability providing coverage for all owned, hired and non-owned autos. Coverage for loading and unloading shall be provided under either automobile liability or general liability policy forms.

##### 4. Worker's Compensation Insurance

Statutory protection against bodily injury, sickness or disease or death sustained by employee in the scope of employment. Protection shall be provided by a commercial insurance company or a recognized self-insurance fund authorized before the State of Alabama Industrial Board of Relations.

##### 5. Employers Liability Insurance

Covering common law claims of injured employees made in lieu of or in addition to a worker's compensation claim.

#### **B. MINIMUM LIMITS OF INSURANCE**

##### 1. General Liability

Commercial General Liability on an occurrence form for bodily injury and property damage:

\$2,000,000	General Aggregate Limit
\$2,000,000	Products - Completed Operations Aggregate

\$1,000,000 Personal and Advertising Injury  
\$1,000,000 Each Occurrence

2. Professional Liability

N/A

3. Automobile Liability

\$1,000,000 Combined Single Limit per accident for bodily injury and property damage.

4. Worker's Compensation

As required by the State of Alabama Statute.

5. Employers Liability

\$100,000 Bodily Injury  
\$500,000 Policy Limit by Disease

**C. OTHER INSURANCE PROVISIONS**

The Owner is hereby authorized to adjust the requirements set forth in this document in the event it is determined that such adjustment is in the Owner's best interest. If the insurance requirements are not adjusted by the Owner prior to the Owner's release of specifications with regard to the project in question, then the minimum limits shall apply.

The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages Only:

a. The Owner, its officers, employees, agents and specified volunteers are to be covered as Additional Insureds, as their interest may appear, as respects: liability arising out of activities performed by or on behalf of the contractor, architect, engineer, land surveyor or consulting firm for products used by and completed operations of the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, employees, agents or specified volunteers.

b. The Contractor's insurance coverage shall be primary insurance as respects the Owner, its officers, employees, agents, and specified volunteers, as their interest may appear. Any insurance or self-insurance maintained by the Owner, its officers, officials, employees, agents or specified volunteers shall be excess of the Contractor's insurance and shall not contribute to it.

c. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. All Coverages

a. The Contractor is responsible to pay all deductibles. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Owner. Cancellation of coverage for non-payment of premium will require ten (10) day's written notice to the Owner.

b. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Owner, its officers, employees, agents or specified volunteers.

**D. ACCEPTABILITY OF INSURERS**

Insurance is to be placed with insurers with an A. M. Best's rating of no less than B + V.

**E. VERIFICATION OF COVERAGE**

The Owner shall be indicated as a Certificate Holder and the Contractor shall furnish the Owner with Certificates of Insurance reflecting the coverage required by this document. The A.M. Best Rating and deductibles, if applicable, shall be indicated on the Certificate of Insurance for each insurance policy. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates are to be received and approved by the Owner before work commences. The Owner reserves the right to require complete, certified copies of all required insurance policies at any time. Certificates signed using digital signatures will not be accepted unless accompanied by a written statement from the insurance/surety company indicating that their electronic signature is intended as their signature.

**F. SUBCONTRACTOR WORKING FOR GENERAL CONTRACTOR, OR ARCHITECT, ENGINEERS, LAND SURVEYORS OR CONSULTING FIRMS WORKING FOR THE ENGINEER OF RECORD**

The Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and/or endorsements for each subcontractor. The Engineer of Record shall include all architects, engineers, land surveyors or consulting firms as insured under its policies other than professional liability, or shall furnish separate certificates and/or endorsements for each architect, engineer, land surveyor or consulting firm. Subcontractors working for the contractor or architects, engineers, land surveyors, or consulting firms working for the Engineer of Record shall be required to carry insurance.

**G. HOLD HARMLESS AGREEMENT**

1. Other Than Professional Liability Exposures

The Contractor, architect, engineer, land surveyor or consulting firm, to the fullest extent permitted by law, shall indemnify and hold harmless the City of Huntsville, its elected and appointed officials, employees, agents and specified volunteers against all claims, damages, losses and expenses, including, but not limited to, attorney's fees, arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to personal injury, including bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom and (2) is caused by any negligent act or omission of the contractor, architect, engineer, land surveyor or consulting firm, or any of their subcontractors, subconsultants, or anyone directly or indirectly employed by any of them or anyone for whose acts they are legally liable. Such obligation should not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this paragraph.

2. The architect, engineer, land surveyor or consulting firm agrees that as respects to negligent acts, errors, or omissions in the performance of professional services, to indemnify and hold harmless the City of Huntsville, its officers, agents, employees, and specified volunteers from and against any and all claims, demands, losses and expenses including, but not limited to attorney's fees, liability, or consequential damages of any kind or nature resulting from any such negligent acts, errors, or omissions of the architect, engineer, land surveyor or consulting firm or any of their subconsultants, or anyone directly or indirectly employed by any of them or anyone for whose acts they are legally liable.

**25. DOMESTIC PREFERENCES**

In the performance of this contract, the contractor shall comply with Ala Code (1975) §§ 39-3-1 through 39-3-5 in supplying steel, materials, supplies, other products, and labor. Failure to comply with these requirements shall subject the contractor to the penalties set forth in the sections of the Alabama Code set forth above.

**26. TIME IS OF THE ESSENCE**

Time is of the essence in the performance of this contract.

**27. NO DAMAGES FOR DELAYS**

In the event that the Contractor is delayed in the performance of the work for the reasons set forth in §80.09 of the City of Huntsville's Standard Specifications for the Construction of Public Improvements, Contract Projects, 1991, then the Contractor's recovery for such delay shall be limited to the extensions of time in contract performance in accordance with the provisions of §80.09 and in §4(c) "Changes in Contract Time" as set forth in the Request for Bids.

In such circumstances, time extensions are the sole remedy provided to the Contractor. The Contractor shall make no claim for extra compensation due to delays of the project beyond his control. Such delays may include those caused by an act of neglect on the part of the owner or the engineer, or by an employee of either, or by any separate contractor employed by the Owner, or by any changes ordered in the work, or by labor disputes, fire, unusual delays in transportation, adverse weather condition not reasonably anticipatable, unavoidable casualties, or by delay specifically authorized by the Owner in writing pending the resolution of any disputes, or by any other cause which the Owner determines may justify delay.

**28. CONTRACTOR RESPONSIBLE FOR LOCATING UTILITIES PRIOR TO CONSTRUCTION INITIATION**

The Contractor's attention is specifically directed to §50.07 -Cooperation with Utilities and Non-Highway Public Facilities of the City of Huntsville's Standard Specifications for the Construction of Public Improvements, Contract Projects, 1991. In addition to the responsibilities placed on the Contractor by that clause, the Contractor shall be responsible for having existing utilities located prior to excavations. The existence and location of any underground utility pipes or structures shown on these drawings have been obtained by a search of the available records. The City assumes no responsibility as to completeness or accuracy of the depicted location on these drawings. The Contractor shall be responsible for taking precautionary measures to protect the utility lines shown and all other lines not of record or not shown on these drawings by verification of their location in the field prior to the initiation of the work.

**29. CORRECTION TO CITY OF HUNTSVILLE'S STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF PUBLIC IMPROVEMENTS, CONTRACT PROJECTS, 1991-RECOVERY TIME**



§80.09 (b) 2. of the City of Huntsville's Standard Specifications for the Construction of Public Improvements, Contract Projects, 1991 refers to the definition of recovery time as being set forth in Section 10.01. Inasmuch as this definition was omitted from §10.01, the following definition shall be incorporated:

Recovery Time. Recovery time is defined as the time required, after the controlling item or items of work have been substantially damaged as a result of conditions and causes beyond the control of the Contractor and not due to his negligence of fault, to restore the work to the condition existing prior to such damage so that normal operations can be resumed on the contract pay items. Recovery time shall be the number of days required by the Contractor, working with normal forces, to restore the work as described above.

### **30. WARRANTIES**

Contractor shall provide a minimum of one year warranty of all materials and services from date of final completion. Additionally, all manufacturer's warranties on materials used in providing the services shall be provided to the owner with the final payment request. Separate warranty bonds may be required on specialty items as determined by the Owner and will be shown as a separate line item in the quantities prior to bidding.

### **31. COORDINATION WITH OTHER CONTRACTORS**

It shall be the responsibility of the contractor to coordinate with other separate contractors who may be working on the site or an adjacent site with regards to access to the site, storage of materials and working on a non-interference basis.

### **32. W-9 TAXPAYER FORM**

All vendors/contractors are required to submit a Federal Tax Form W-9 to City of Huntsville at the time a contract is awarded, unless vendor/contractor is already registered and doing business with the City. No payments of invoices can be made until this W-9 Tax Form has been properly submitted. A copy of the W-9 Tax Form can be obtained at the following website: [www.irs.ustreas.gov/pub/irs-pdf/fw9.pdf](http://www.irs.ustreas.gov/pub/irs-pdf/fw9.pdf)

### **33. FINAL PAYMENT**

Final payment to construction contractor will be made after contractor provides the following: advertising of completion for four (4) consecutive weeks, lien waivers have been provided from all subcontractors, Record Drawings (As-Builts) have been submitted to the OWNER by construction contractor, all property pins have been reset by a licensed land surveyor hired by the construction contractor to meet "Standards of Practice for Surveying in the State of Alabama" as required by the Alabama Board of Registration for Engineering and Land Surveyors, and all construction signs have been removed. This final payment will be retainage only. All work shall be complete prior to advertisement of completion. Advertisement of completion shall be in a Huntsville local newspaper. The final payment request of retainage only shall be submitted along with two (2) original, certified copies (with raised notary seal) of the advertisement of completion, warranties, lien waivers and Record Drawings. The advertisement of completion must read as follows:

#### **LEGAL NOTICE (Header)**

      (company name)       hereby gives Legal Notice of Completion of Contract with       (project name)      ,       (project no.(s))       located in the City of Huntsville, Alabama. All claims should be filed at       (company address)       during this period of advertisement, i.e. June 17, 24, July 1, 8, 2011 (example of dates).

### **34. PROJECT COMPLETION DATE**

The project completion date will be a date mutually agreed upon by the OWNER and Contractor. This date will be after all items have been completed. Therefore, all work will be complete before any advertisement of completion is made. The completion date will always be before the first advertisement date. This final project completion date will be the date used to determine the one year warranty for all work and materials, unless a separate warranty bond has been called for as a line item prior to bidding.

### **35. RECORD DRAWINGS**

#### **POLICY FOR RECORD DRAWINGS**

The purpose of this policy is to document procedures for the preparation and delivery of Record Drawings. Record Drawings shall include all changes in the plans, including those issued as Change Orders, Plan Clarification, Addenda, Notice to Bidders, responses to Requests for Information, Jobsite Memos, and any additional details needed for the construction of the project, but not shown on the plans. After completion of all construction and before final acceptance is made, the Contractor shall submit one set of full size record drawings with dimensioned changes shown in red pencil, and one digital copy of record drawings using the criteria listed below.

#### **City Construction Projects:**

The Contractor shall be responsible for field surveying upon substantial completion of construction (to be performed by a registered land surveyor in Alabama). Contractor is responsible for providing digital record drawings showing all info specified below, as applicable. Record drawings shall be maintained by the Contractor at the work site and shall be updated based on

job progress to reflect all changes. Record drawings shall be made available for review on a monthly basis at the job site. A monthly review of record drawings will be part of the monthly monetary progress review. Progress payments may be withheld if the Record Drawings are not kept up-to-date. A late review could result in a delay of payment.

**Format Requirements for all record drawing submittals:**

All drawings shall be prepared in Micro Station .DGN format, unless otherwise approved by the City Engineer. Transmittal letters shall consist of a list of files being submitted, a description of the data in each file, and a level/layer schematic of each design file. DGN design files should have working units as follows: master units in feet, no sub-units, and 1,000 positional units. All data submitted shall use NAD 1983 Alabama East Zone coordinates as described in The Code of Alabama (1975), section 35-2-1 and NGVD 1929. Digital files shall be submitted on 4-3/4" CD-RW (preferably in a live/flash drive format) ROM, 100 MB zip drive, 3 and 1/2 inch floppy disk, or to the City of Huntsville F.T. P. Site. Contractor is required to certify that record drawings are in the correct format upon submittal. Record Drawings shall be prepared and provided to the OWNER in the manner required and described below in Level Symbology.

**Record Drawing Criteria, unless otherwise noted by City Engineer:**

**1. Roadways:**

- a. Any changes during construction of roadway/intersections that differ from plan drawings.

**2. Sanitary Sewers:**

- a. Gravity Line
  - i. Horizontal Location of Manholes – Northing and easting Coordinates
  - ii. Vertical Location of Manholes – Lid elevation and Invert elevation.
  - iii. Changes in location of clean outs, or end of service lateral.
  - iv. Changes in length, slope, size, or material of lines.
- b. Force Mains
  - i. Horizontal Location of Air Relief/Vacuum/Isolation Valves – Northing and easting Coordinates
  - ii. Horizontal and Vertical Location of Fittings/Bends
  - iii. Changes in length, size, depth or material of lines
  - iv. Changes in restraint types
- c. Pump Stations
  - i. Changes in Structural Requirements – (length, width, thickness, cover, laps, bar size, spacing, materials, material strengths, etc.)
  - ii. Changes in Site Development and/or Landscaping
  - iii. Changes in Equipment

**3. Storm Drainage:**

- a. Structures (boxes, inlets, end treatments, etc.):
  - i. Horizontal locations of Features – Northing and easting coordinates
  - ii. Vertical location of Features – Tops and Inverts
  - iii. Changes in type, size, or material of feature.
- b. Pipes / Culverts:
  - i. Document length
  - ii. Document slope
  - iii. Document size
  - iv. Document invert elevation
  - v. Changes in material of structure
- c. Flumes, Ditches, and/or Swales/Berms: (the following are minimum requirements).
  - i. Horizontal location (to verify location within described easements)

For easement widths less than 15- feet	At 100-foot intervals along the centerline of feature.
For easement widths 15-feet or Greater	At 200-foot intervals along the centerline of feature.

- ii. Vertical location (to verify positive drainage)

For slopes less than 0.5%	At 50-foot intervals along the centerline of feature.
For slopes 0.5% or greater	At 100-foot intervals along the centerline of feature.

- iii. Changes in width or material of feature.
- iv. Changes in location and type of geotechnical fabric used.
- v. Changes in overall grading of site topography.

**d. Detention / Retention Facility:**

- i. Changes in size, location, or material of facility.

- ii. Changes in location and type of geotechnical fabric used.
- iii. Where applicable, copy of maintenance agreement.

**Checklist for review of record drawings:**

- a. Changes in sidewalk location or size.
- b. Changes in shoulder widths.
- c. Changes in grades at intersections. (also to include changes in island location)
- d. Changes in location of driveway aprons.
- e. Changes in pavement section, to be supported by adequate documentation.
- f. Changes in gutter flow line elevation. (could be substituted in 3b) versus edge of pavement).
- g. Geotechnical fabric locations, to include vertical elevation.
- h. Changes in Traffic Engineering related items such as signals, signage and markings, etc.

Any other changes that may have occurred during construction.

**LEVEL SYMBOLOGY**

DESIGN LEVEL	CONTENTS	LINE CODE	COLOR	WEIGHT	TEXT SIZE	FONT	CELL NAME
1	State Plane Coordinate Grid	0	0	0	20	0	
2	Benchmarks	0	0	0			
3	Street Text	0	3	0	20	0	
4	Street R/W	7	0	0			
5	Street Centerline	7	0	0			
6	Street Pavement	0	3	0			
6	Proposed Street Pavement	3	16	0			
7	Parking Lots	1	3	1			
8	Secondary Roads	2	3	0			
8	Trails	3	3	0			
9	Secondary Roads/Trails Text	0	3	0	20	0	
10	Sidewalks	5	3	0			
11	Bridges/Culverts	0	0	0			
12	Hydrology - Major	6	1	0			
12	Hydrology – Minor, Ditches	7	1	0			
13	Hydrology - Text	0	1	0	25	23	
14	Tailings & Quarries, Athletic Fields/Text, misc. areas	0	1	0			
15	City Limits/County Line	1	0	3			
16	City /limit text	0	0	1	30	0	
17	Railroad Tracks (Patterned)	0	2	0			RR
18	Railroad Text	0	2	0	25	0	
19	Railroad R/W	2	2	0			
20	Utility Poles (Cell)	0	5	0			P POLE
21	Utility Easements	3	5	0			
22	Utility Text	0	5	1			
23	Geographic Names	0	3	1			
24	Building Structures	0	0	0			
	Pools and Text	0	1	0	10	1	
24	Future Site of Structures	2	0	0			STRUCT
	Existing Structures (exact location and shape unknown)	2	0	0			STRCEX
25	Property Lines	6	6	1			
26	Cadastral Polygons	6	6	0			
27	Ownership Text	0	6	1			
28	Cemeteries/Text	4	6	0	10	1	
29	Lot Numbers				25	0	
30	Block Numbers				30	0	
31	Addition Names	0	0	0	35	0	
32	Open						
33	Lot Ticks						
34	Lot Lines/Property Lines	6	6	0			
35	Trees/Hedge Rows	0	6	0	AS=1		TREES

36	GPS Monuments	0	5	0	15	0	GPS
37	2' Topo Contour						
38	5' Topo Contour	0	7	0			
39	25' Major Topo Contour	0	7	0			
40	X Spot Elevation	0	7	0			
41	FEMA Monuments/Labels	0	3/0	0	18	1	GPSPNT
42	Quarter Sections						
43	Section Lines	0	5	0			
44	Features	0	2	0			
44	Cell Towers	0	12	0	AS=1		CELTWR
45	Fences (Pattern)	0	8	0	AS=1		FENCE
46	Format/Legend	0	0	0			Limleg Madleg
47	Mass Points	0	7	2			
48	Break Lines	0	7	2			
49	Open						
50	Signs						
51	Open						
52	Open						
53	Open						
54	Open						
55	Open						
56	Property Address	0	1	0			
57	Text Tag for Buildings	0	1	0	10-20	1	
58	Open						
59	Open						
60	Open						
61	Open						
62	Monuments for Setup (point cell)						
63	Open						

### 36. LIEN WAIVERS

Lien waivers will be required from all subcontractors working for the contractor. These lien waivers shall be included with your final payment package. The contractor is responsible for obtaining signatures from his subcontractors. If no subcontractors are used, contractor must provide a statement indicating such.

### 37. LOWEST RESPONSIBLE BIDDER

For the purpose of determining the lowest responsible bidder, the OWNER shall consider the base bid amount together with any options set forth in the Request for Bids. In the event that the City does not have sufficient funds to award both the base bid and all options, then the City reserves the right to determine the lowest responsible bidder on the base bid only or the base bid and the number of options affordable considering the funds available to the City for the procurement. This method for determining the low bidder is for the purpose of allowing the City to procure the most advantageous bid for the OWNER. City of Huntsville reserves the right to award any and/or all options at any time during the life of the contract.

### 38. NON-RESIDENT BIDDERS

"In awarding the Contract, preference will be given to Alabama resident contractors and a nonresident bidder domiciled in a state having laws granting preference to local contractors shall be awarded the Contract only on the same basis as the nonresident bidder's state awards contracts to Alabama contractors bidding under similar circumstances."

### 39. CORRECTION TO SECTION 80.08(C) of The City of Huntsville "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS" is revised as shown:

(C) DAYS WORK NOT PERMITTED: The Contractor shall not permit work on any pay item to be done on Sundays and the following holidays: New Year's Day, Martin Luther King's Birthday as nationally observed, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and Christmas Day, except with permission of the Director.

### 40. CORRECTION TO SECTION 80 – of The City of Huntsville "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS" - PROSECUTION AND PROGRESS 80.01 Subletting and Contract. (a) LIMITATIONS

The Contractor shall not sublet the contract or any portion thereof, or of his right, title, or interest therein, without written consent of the DIRECTOR. If such consent is given, the Contractor will be permitted to sublet a portion of the work, but shall perform with his own organization, work amounting to not less than 30 percent of the total contract cost. Any items designated in the contract as "specialty items" may be performed by sub-contract and the cost of such specialty items performed by sub-contract may be deducted from the total

cost before computing the amount of work required to be performed by the contractor with his own organization. No sub-contracts, or transfer of contract, shall relieve the Contractor of his liability under the contract and bonds. The Department reserves the right to disapprove a request for permission to subcontract when the proposed Subcontractor has been disqualified from bidding for those reasons listed in Subarticle 20.02(b) and Article 30.03.

#### **41. CORRECTION TO SECTION 80 – of The City of Huntsville “STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS” - PROSECUTION AND PROGRESS 80.03 Progress Schedule of Operations**

A critical path schedule is required within thirty (30) days after award. The critical path schedule must be submitted in Microsoft Projects format (electronic format and hard copy), with the critical path highlighted. The critical path schedule shall show information on the task or tasks that must be finished on schedule for the project to finish on schedule. Task dependencies, constraints, and relationships shall be shown on the schedule. **If the progress report (critical path) is not received, YOUR first pay estimate will NOT BE PROCESSED UNTIL IT IS RECEIVED.** See section 80.03 and 80.04 for additional requirements.

#### **42. CORRECTION TO SECTION 80 – of The City of Huntsville “STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS” PROSECUTION AND PROGRESS 80.09 (b) Contracts on a Calendar Day or Calendar Date Basis**

§80.09 (b) – Change 10 calendar days to 15 calendar days at each occurrence within section 80.09(b).

Section 80.09(B) is revised to remove the last sentence of the first paragraph: ( "Also where the total cost of the completed work exceeds the total cost shown on the proposal, an extension in calendar days will be granted the Contractor, as provided in Section 80.09(a)1." ) It is replaced by: "Where the scope of work is increased, an extension of time commensurate with the scope of the change may be granted by the OWNER, when in his judgment, the facts justify an extension. The contractor shall provide justification substantiated to the satisfaction of the OWNER with any requests for time extensions. Justification shall include, but not be limited to, a revised schedule showing the impact to critical path tasks. "

#### **43. CORRECTION TO SECTION 105 – of The City of Huntsville “STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS” - EXCAVATION AND EMBANKMENT 105.04 (a) Method of Measurement**

Section 105.04 will remain as stated when estimated borrow material is less than 2500 C.Y.

When estimated borrow material is more than 2500 C.Y., Section 105.04 is revised to remove the last paragraph: "Borrow material will be measured at the point of delivery, inside the delivery truck less 30 percent for shrinkage."

#### **44. CORRECTION TO SECTION 847 – of The City of Huntsville “STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS” - PIPE CULVERT JOINT SEALERS**

Section 847 is deleted and replaced with Section 846 – Pipe Culvert Joint Sealers, ALDOT Specifications for Highway Construction, Current Edition.

#### **45. NPDES CONSTRUCTION REQUIREMENTS**

For areas of this project meeting the Alabama Department Of Environmental Management (ADEM) definition of a "Construction Site", the Contractor shall prepare and apply for, pay the necessary fees, post the required registration at the jobsite prior to commencing work, and maintain the worksite and records in accordance with the ADEM requirements for National Pollutant Discharge Elimination System (NPDES) registration. Offsite borrow pits utilized in the construction of this project are included in the requirement. NPDES Construction Site is construction that disturbs one (1) acre or greater or will disturb less than one (1) acre but is part of a larger common plan of development or sale whose total land disturbing activities total one (1) acre or greater. An NPDES construction site also includes construction sites, irrespective of size, whose stormwater discharges have a reasonable potential to be a significant contributor of pollutants to a water of the State, or whose stormwater discharges have a reasonable potential to cause or contribute to a violation of an applicable Alabama water quality standard as determined by the Department. The Contractor is referred to the "Alabama Department Of Environmental Management Field Operations Division – Water Quality Program - Division 335 – 6" for complete definitions and requirements. The Contractor is also referred to Item 11 of these General Requirements, sections 50.15, 50.16, and 70.02 of the City of Huntsville Standard Specifications For Construction Of Public Improvements, Contract Projects (Specifications).

Contractor violations of the permit by rule which results in enforcement actions from ADEM including fines and/or work stoppage shall be the responsibility of the Contractor. Fines assessed to the Contractor or the OWNER because of Contractor action shall be paid by the Contractor. No extension of contract time shall be considered as a result of enforcement. Enforcement history will also be considered by the OWNER in its decision to issue future proposals or award future contracts in accordance with disqualification provisions of Section 20.02(b) of the Specifications.

#### **46. DELETION OF SECTION 50.01 – Authority of the Engineer of Record**

This section is deleted.

#### 47. SHOP DRAWINGS

The approval of shop drawings by the Engineer will cover only the features of the design and in no case shall this approval be considered to cover error or omissions in shop details or a check of any dimensions. The Contractor shall be responsible for the accuracy of the shop drawings, the fabrication of materials and the fit of all connections; and he shall bear the cost of all extra work in erection caused by errors in shop drawings or in fabrication, inaccurate workmanship, misfits of connections or for any changes in fabrication necessary. No work shall be done on the material before the shop drawings have been approved. Any material that the Contractor orders prior to the approval shall be at the Contractor's risk.

Substitutions or changes whether indicated or implied on shop drawings will not be considered as changes regardless of the Engineer's approval of shop drawings unless the change has been previously submitted and approved as a change order per the requirements for changes in the contract.

After a shop drawing has been approved, no changes shall be made unless directed in writing to the Owner and acceptance by the Owner of said changes. Any acceptance of change by the Owner does not constitute a change to the contract unless that change has been approved and directed in writing per change order. Compensation for preparing and furnishing all shop and working drawings shall be included in the contract unit prices for the various pay items of work.

#### 48. E-VERIFY – NOTICE

The Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975) § 31-13-1 through 31-13-30 (also known as and hereinafter referred to as "the Alabama Immigration Act") as amended by Act No. 2012-491 on May 16, 2012 is applicable to all competitively bid contracts with the City of Huntsville. As a condition for the award of a contract and as a term and condition of the contract with the City of Huntsville, in accordance with § 31-13-9 (a) of the Alabama Immigration Act, as amended, any business entity or employer that employs one or more employees shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama.

During the performance of the contract, such business entity or employer shall participate in the E-Verify program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The business entity or employer shall assure that these requirements are included in each subcontract in accordance with §31-13-9(c). Failure to comply with these requirements may result in breach of contract, termination of the contract or subcontract, and possibly suspension or revocation of business licenses and permits in accordance with §31-13-9 (e) (1) & (2).

Code of Alabama (1975) § 31-13-9 (k) requires that the following clause be included in all City of Huntsville contracts that have been competitively bid and is hereby made a part of this contract:

"By signing this contract the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom."

Contractor's E-Verify Memorandum of Understanding shall be a part of the contract bid documents and shall be submitted with the bid package.

#### 49. CITY OF HUNTSVILLE'S TRAFFIC ENGINEERING DEPARTMENT CONSTRUCTION REQUIREMENTS

For areas of this project that require removal of traffic loops, striping, markings, rpm's and ceramic markers, the following shall apply:

1. **TRAFFIC SIGNAL LOOP REPAIRS** – All vehicular and bicycle detector loop replacements shall be in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, Current Edition. Unless otherwise specified, traffic signal loops shall be replaced exactly as existed prior to any paving or resurfacing work. The general contractor will be responsible for documenting location of loops, location of any associated items for loop operation and assuring that loops are replaced exactly as existed prior to paving. All vehicular and bicycle loop repairs shall be replaced within fourteen (14) calendar days after paving work.
2. **TRAFFIC SIGNAL STRIPING, MARKINGS, RAISED PAVEMENT MARKERS AND CERAMIC MARKERS FOR GUIDANCE** - All traffic striping, markings, raised pavement markers and ceramic markers for guidance shall be in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, Current Edition. Unless otherwise specified, traffic striping, markings, raised pavement markers and ceramic markers for guidance shall be replaced exactly as traffic striping, markings, raised pavement markers and ceramic markers for guidance existed prior to any paving or resurfacing work. The general contractor will be responsible for documenting location of all striping, markings, raised pavement markers and ceramic markers for guidance and assuring that all are replaced exactly as existed prior to paving. All traffic striping, markings, raised pavement markers and ceramic markers for guidance shall be reflectorized. All resurfaced areas shall be marked with temporary striping and markings for traffic usage by nightfall each day, 7 days a week, in accordance with State of Alabama regulations. All permanent striping, markings, raised pavement markers and ceramic markers for guidance shall be replaced within thirty (30) calendar days after paving work.

## **50. SURVIVABILITY OF CONTRACT PROVISIONS**

Termination of this Contract by either party shall not affect the rights and obligations of the parties that accrued prior to the effective date of the termination. Terms and conditions of the contract that survive termination include, but are not necessarily limited to, provisions regarding payments, insurance, termination, warranty, governing law of the contract, liquidated damages, bonding requirements, notice procedures, waiver, and other requirements necessary and appropriate for the proper resolution of disputes, claims, and enforcement of the rights of the parties.

## **51. SURETY BONDS**

The Contractor shall furnish separate performance and payment bonds to the Owner within fifteen (15) days after the date of acceptance of this proposal by City Council action. Each bond shall set forth a penal sum in an amount not less than the Contract Price. Each bond furnished by the Contractor shall incorporate by reference the terms of this Contract as fully as though they were set forth verbatim in such bonds. In the event the Contract Price is adjusted by Change Order executed by the Contractor, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amount. The performance and payment bonds furnished by the Contractor shall be in forms suitable to the Owner, in conformance with all the requirements of the Code of Alabama (1975), §39, and shall be executed by a surety, or sureties, reasonably suitable to the Owner. All bonds must be approved by the Mayor and the Clerk-Treasurer of the City of Huntsville.

## **52. GOVERNING LAW**

The Contract shall be governed by the laws of the State of Alabama.

## **53. ALABAMA IMMIGRATION ACT (Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975))**

Compliance with the requirements of the (Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Code of Alabama (1975) § 31-13-1 through 31-13-30, as amended by Alabama Act 2012-241, commonly referred to as the Alabama Immigration Law, is required for City of Huntsville, Alabama contracts that are competitively bid as a condition of the contract performance. The Contractor shall submit in the bid package, with the requested information included on the form, the "City of Huntsville, Alabama Report of Ownership Form" listed in this document as Attachment "I". The bidder selected for award of the contract may be required to complete additional forms relating to citizenship or alien status of the bidder and its employees, including e-verify information, prior to award of a contract.

## **54. SUCCESSORS AND ASSIGNS**

The Owner and Contractor bind themselves, their successors and assigns to the other party hereto and to successors and assigns of such other party in respect to covenants, agreements, and obligations contained in this Contract. The Contractor shall not assign this Contract without written consent of the Owner. In no event shall a contract be assigned to an unsuccessful bidder whose bid was rejected because he or she was not a responsible or responsive bidder.

## **55. WRITTEN NOTICE**

Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

## **56. RIGHTS AND REMEDIES**

Duties and obligations imposed by the Contract Documents and rights and remedies available there under shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

No action or failure to act by the Owner, Engineer, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

## **57. ENTIRE AGREEMENT**

This Contract represents the entire agreement between the Owner and the Contractor and supersedes all prior communications, negotiations, representations or agreements, either written or oral. This agreement may be amended only by written instrument signed by both Owner and Contractor.

**GARVER SUPPLEMENTARY CONDITIONS**

**(THE FOLLOWING CONDITIONS SHALL BE IN ADDITION TO ANY AND ALL REQUIREMENTS LISTED IN OWNER SUPPLEMENT TO GENERAL REQUIREMENTS)**

**24. ADDITIONAL INSURANCE REQUIREMENTS**

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.



DIVISION 1  
GENERAL REQUIREMENTS

## SECTION 01 11 00 - SUMMARY OF WORK

### PART 1 - GENERAL

#### 1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. The completed Work will provide Owner with: installed, tested, and accepted 24" DR 11 HDPE pipe at the designated locations. More specifically, the Project includes, but is not limited to construction of the following:
1. Horizontal directional drilling and pipe installation beneath Spring Branch Creek.
  2. Horizontal directional drilling and pipe installation beneath Triana Boulevard.
  3. Horizontal directional drilling and pipe installation beneath Patton Road.
  4. Horizontal directional drilling and pipe installation beneath Drake Avenue.
  5. Horizontal directional drilling and pipe installation beneath a small creek near Metro Kiwanis Sportsplex.
- B. Alternates: Alternates, if included, are specified in detail in the Bid Form and only those alternates that were selected by the Owner, as evidenced in the Agreement, are made a part of this Contract.

#### 1.2 PROVISIONS FOR FUTURE WORK

- A. Provisions for future construction are as shown.

### PART 2 - PRODUCTS (NOT USED)

### PART 3 - EXECUTION (NOT USED)

END OF SECTION

## SECTION 01 14 00 – WORK RESTRICTIONS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes description and requirements of:
  - 1. General constraints for sequencing and scheduling the Work.
- B. Related sections:
  - 1. Section 01 11 00 - Summary of Work.
  - 2. Section 01 26 00 - Contract Modification Procedures.
  - 3. Section 01 50 00 - Temporary Facilities and Controls.

#### 1.2 GENERAL CONSTRAINTS ON SEQUENCE AND SCHEDULING OF WORK

- A. Contractor shall comply with City of Huntsville, and any other authorities having jurisdiction, standard requirements and restrictions for work.
- B. On-Site Work Hours: During normal business working hours of 8:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.
  - 1. Weekend Hours: As approved by Owner.
  - 2. Early Morning Hours: As approved by Owner.

#### 1.3 UTILITIES

- A. Provide advance notice to and utilize services of Alabama One-Call System, Inc. for location and marking of underground utilities operated by utility agencies other than the OWNER. Contact information: Alabama One-Call System, Inc., 3104 Bates Lane, Fultondale, AL 35068, phone number 800-292-8525, website: [www.al1call.com](http://www.al1call.com).
- B. Maintain electrical, telephone, water, gas, sanitary facilities, and other utilities within existing facilities in service. Provide temporary utilities when necessary.

### PART 2 - PRODUCTS (NOT USED)

### PART 3 - EXECUTION (NOT USED)

END OF SECTION

## SECTION 01 26 00 – CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes description and requirements of:
  - 1. Proposal Requests.
  - 2. Claims.
  - 3. Change Orders and Written Amendments.
  - 4. Field Order Procedures.

#### 1.2 PROPOSAL REQUEST

- A. Owner may, in anticipation of ordering an addition, deletion, or revision to the Work, request Contractor to prepare a detailed proposal of cost and times to perform contemplated change.
- B. Proposal request will include reference number for tracking purposes and detailed description of and reason for proposed change, and such additional information as appropriate and as may be required for Contractor to accurately estimate cost and time impact on the Project.
- C. Proposal request is for information only; Contractor is neither authorized to execute proposed change nor to stop Work in progress as result of such request.
- D. Contractor's written proposal shall be transmitted to Engineer promptly, but not later than 14 days after Contractor's receipt of Owner's written request. Proposal shall remain firm for a maximum period of 45 days after receipt by Engineer.
- E. Owner's request for proposal or Contractor's failure to submit such proposal within the required time period will not justify a claim for an adjustment in Contract Price or Contract Times (or Milestones).

#### 1.3 CLAIMS

- A. Include, at a minimum:
  - 1. Specific references including:
    - a. Drawing numbers.
    - b. Specification section and article/paragraph number.
  - 2. Stipulated facts and pertinent documents, including photographs and statements.
  - 3. Interpretations relied upon.
  - 4. Description of:
    - a. Nature and extent of claim.
    - b. Who or what caused the situation.
    - c. Impact to the Work and work of others.
    - d. Discussion of claimant's justification for requesting a change to price or times or both.
  - 5. Estimated adjustment in price claimant believes it is entitled to with documentation and justification.
  - 6. Requested Change in Contract Times: Include at least;
    - a. Progress schedule documentation showing logic diagram for request.
    - b. Documentation that float times available for Work have been used.
    - c. Revised activity logic with durations including sub-network logic revisions, duration changes, and other interrelated schedule impacts, as appropriate.
  - 7. Documentation as may be necessary as set forth below for Work Change Directive, and as Engineer may otherwise require.

## 1.4 WORK CHANGE DIRECTIVES

### A. Procedures:

1. Upon completion of Work covered by the Work Change Directive or when final Contract Times and Contract Price is determined, Contractor shall submit documentation for inclusion in a Change Order.
2. Engineer will:
  - a. Initiate, including a description of the Work involved and any attachments.
  - b. Affix signature, demonstrating Engineer's recommendation.
  - c. Engineer will update Owner monthly on the status of the Work Change Directives.
3. Owner will:
  - a. Affix signature, demonstrating approval of the changes involved.
  - b. Return one electronic copy to Engineer. Engineer will retain one electronic copy, send one electronic copy to the Resident Project Representative or other field representative, and forward one electronic copy to Contractor.
4. Contractor's documentation shall include but not be limited to:
  - a. Appropriately detailed records of Work performed to enable determination of value of the Work.
  - b. Full information required to substantiate resulting change in Contract Times and Contract Price for Work. On request of Engineer, provide additional data necessary to support documentation.
  - c. Support data for Work performed on a unit price or Cost of the Work basis with additional information such as:
    - 1). Dates Work was performed, and by whom.
    - 2). Time records, wage rates paid, and equipment rental rates.
    - 3). Invoices and receipts for materials, equipment, and subcontracts, all similarly documented.
  - d. Claim for additional cost must be made within 10 days of the directive by the Engineer. Claims on work made after 10 days will not be considered.

- B. Effective Date of Work Change Directive: Date of signature by Owner, unless otherwise indicated thereon.

## 1.5 CHANGE ORDERS OR WRITTEN AMENDMENTS

### A. Procedure:

1. Engineer will prepare the proposed Change Order or Written Amendment and transmit an electronic copy of such with Engineer's written recommendation (Change Order only) and request to Contractor for signature.
2. Contractor shall, upon receipt, either:
  - a. Promptly execute the document, retaining one electronic copy for its file, and return one electronic copy to Engineer for Owner's signature, or
  - b. Return unsigned one electronic copy with written justification for not executing Change Order or Written Amendment.
3. Engineer will, upon receipt of Contractor-executed copy, promptly forward Engineer's written recommendation and partially executed copy for Owner's signature, or if Contractor fails to execute the Change Order or Written Amendment, Engineer will promptly so notify Owner and transmit Contractor's justification to Owner.
4. Upon receipt of Contractor-executed Change Order or Written Amendment, Owner will promptly either:
  - a. Execute Change Order or Written Amendment, retaining one copy for its file and returning one electronic copy to Engineer, or
  - b. Return to Engineer unsigned copy with written justification for not executing Change Order or Written Amendment.
5. Upon receipt of Owner-executed Change Order or Written Amendment, Engineer will transmit one electronic copy to Contractor, one copy to Resident Project Representative

or other field representative, and retain one electronic copy, or if Owner fails to execute the Change Order or Written Amendment, Engineer will promptly so notify Contractor and transmit Owner's justification to Contractor.

6. Upon receipt of Owner-executed Change Order, Contractor shall:
  - a. Perform Work covered by Change Order or Written Amendment.
  - b. Revise Schedule of Values to adjust Contract Price and submit with next Application for Payment.
  - c. Revise progress schedule to reflect changes in Contract Times, if any, and to adjust times for other items of Work affected by change.
  - d. Enter changes in Project record documents after completion of change related Work.
  
- B. In signing a Change Order or Written Amendment, Owner and Contractor acknowledge and agree that:
  1. Stipulated compensation (Contract Price or Contract Times, or both) set forth includes payment for:
    - a. The Cost of the Work covered by the Change Order or Written Amendment.
    - b. Contractor's fee for overhead and profit.
    - c. Interruption of progress schedule.
    - d. Delay and impact, including cumulative impact, on other Work under the Contract Documents, and
    - e. Extended overheads.
  2. Change Order or Written Amendment constitutes full mutual accord and satisfaction for the change to the Work.
  3. Unless otherwise stated in the Change Order or Written Amendment, all requirements of the original Contract Documents apply to the Work covered by the Change Order or Written Amendment.

#### 1.6 FIELD ORDER PROCEDURES

- A. Engineer will issue Field Orders, with one electronic copy to Contractor.
- B. Effective date of the Field Order shall be the date of signature by Engineer, unless otherwise indicated thereon.
- C. Contractor shall acknowledge receipt by signing and returning one electronic copy to Engineer.
- D. Field Orders will be incorporated into subsequent Change Orders, as a no-cost change to the Contract.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

## SECTION 01 29 00 – PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUBMITTALS

- A. Informational Submittals:
  - 1. Schedule of Values: Submit on Contractor's standard form.
  - 2. Schedule of Estimated Progress Payments:
    - a. Submit with initially acceptable Schedule of Values.
    - b. Submit adjustments thereto with Application for Payment.
  - 3. Application for Payment.
  - 4. Final Application for Payment.

#### 1.2 SCHEDULE OF VALUES

- A. Prepare a separate Schedule of Values for each schedule of the Work under the Agreement.
- B. Upon request of Engineer, provide support documentation to support the accuracy of the Schedule of Values.
- C. Unit Price Work: Reflect unit price quantity and price breakdown from conformed Bid Form.
- D. Lump Sum Work:
  - 1. Reflect Schedule of Values format included in conformed Bid Form, specified allowances, alternates, and equipment selected by Owner, as applicable.
  - 2. List bonds and insurance premiums, mobilization, demobilization, preliminary and detailed progress schedule preparation, facility startup, and contract closeout separately.
  - 3. Break down by Division 2 through 44 with appropriate subdivision of each Specification for each Project facility.
- E. An unbalanced or front-end loaded schedule will not be acceptable.
- F. Summation of the complete Schedule of Values representing all the Work shall equal the Contract Price.
- G. Submit Schedule of Values on a compact Disk (CD) in a spreadsheet format compatible with latest version of Excel.

#### 1.3 SCHEDULE OF ESTIMATED PROGRESS PAYMENTS

- A. Show estimated payment requests throughout Contract Times aggregating initial Contract Price.
- B. Base estimated progress payments on initially acceptable progress schedule. Adjust to reflect subsequent adjustments in progress schedule and Contract Price as reflected by modifications to the Contract Documents.

#### 1.4 APPLICATION FOR PAYMENT

- A. Transmittal Summary Form: Attach one Summary Form with each detailed Application for Payment for each schedule and include Request for Payment of Materials and Equipment on Hand as applicable. Execute certification by authorized officer of Contractor.
- B. Use detailed Application for Payment Form suitable to Engineer.

- C. Provide separate form for each schedule as applicable.
- D. Include accepted Schedule of Values for each schedule or portion of Work, the unit price breakdown for the Work to be paid on unit price basis, a listing of Owner-selected equipment, if applicable, and allowances, as appropriate.
- E. Preparation:
  - 1. Round values to nearest dollar.
  - 2. List each Change Order executed prior to date of submission as separate line item. The totals will equal those shown on the Transmittal Summary Form for each schedule as applicable.
  - 3. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form(s) for each schedule as applicable, a listing of materials on hand for each schedule as applicable, and such supporting data as may be requested by Engineer.

#### 1.5 PAYMENT

- A. General:
  - 1. Progress payments will be made monthly.
  - 2. The date for Contractor's submission of monthly Application for Payment shall be established at the Preconstruction Conference.
- B. Payment for all the Work shown or specified in Contract Documents is included in the Contract Price. No measurement or payment will be made for individual items.
- C. Payment for Lump Sum Work covers all Work specified or shown in the Contract Documents.

#### 1.6 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

- A. Payment will not be made for following:
  - 1. Loading, hauling, and disposing of rejected material.
  - 2. Quantities of material wasted or disposed of in manner not called for under Contract Documents.
  - 3. Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.
  - 4. Material not unloaded from transporting vehicle.
  - 5. Defective Work not accepted by Owner.
  - 6. Material remaining on hand after completion of Work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION



## SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes description and requirements of:
  - 1. Submittals Related to Project Management and Coordination.
  - 2. Field Engineering, Surveying, and Construction Staking
  - 3. Utility Notification and Coordination.
  - 4. Adjacent Facilities and Properties.
  - 5. Physical Conditions.
  - 6. Construction Photographs.
- B. Related sections:
  - 1. Section 01 34 00 – Photographic and Videographic Documentation

#### 1.2 SUBMITTALS

- A. Informational:
  - 1. Statement of Qualification (SOQ) for land surveyor or civil engineer.
  - 2. Photographs and other records of examination.
  - 3. Key Personnel Names: Within 5 working days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

#### 1.3 FIELD ENGINEERING, SURVEYING, AND CONSTRUCTION STAKING

- A. The Contractor shall accurately layout the Work according to the plans.
- B. Owner will employ Surveyor registered in State of Alabama to locate survey control points, benchmarks, and property corners prior to starting Work. Contractor shall submit staking requests to Owner with copy to Engineer with minimum 48 hours notice.
- C. Contractor shall protect survey control points, benchmarks, and property corners throughout the duration of the Work. Promptly report to Engineer any survey control points, benchmarks, and property corners throughout the duration of the Work.

#### 1.4 UTILITY NOTIFICATION AND COORDINATION

- A. Coordinate the Work with various utilities within Project limits. Notify applicable utilities prior to commencing Work, if damage occurs, or if conflicts or emergencies arise during Work.
- B. Before excavation, contact Alabama One-Call to arrange for field location of known utilities.

#### 1.5 ADJACENT FACILITIES AND PROPERTIES

- A. Examination:
  - 1. After Effective Date of the Agreement and before Work at Site is started, Owner, Contractor, Engineer, and affected property owners and utility owners shall make a thorough examination of pre-existing conditions including existing buildings, structures,

and other improvements in vicinity of Work, as applicable, which could be damaged by construction operations.

2. Periodic reexamination shall be jointly performed.

B. Documentation:

1. Record and submit documentation of observations made on examination inspections for signature of Engineer and Contractor and in accordance with paragraph Construction Photographs and Audio-Video Recordings.
2. Upon receipt, Engineer will review, sign, and return one record copy of documentation to Contractor. Such documentation shall be used as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of Contractor's operations, and is for the protection of adjacent property owners, Contractor, and Owner.

#### 1.6 PHYSICAL CONDITIONS

A. Exercise reasonable care to verify locations of existing subsurface facilities and utilities.

B. Areas immediate and adjacent to planned excavations shall be thoroughly checked by means of visual examination and with electronic metal and pipe detection equipment for indications of underground utilities and facilities.

C. Make exploratory excavation where existing underground facilities or utilities may potentially conflict with proposed excavations and facilities or where there is reasonable cause to verify the presence or absence of, or to obtain physical information regarding underground facilities or utilities. Conduct exploratory excavations as acceptable to and in the presence of Engineer prior to proceeding with major excavation in the area and sufficiently in advance of construction to avoid possible delays to Contractor's Work. Promptly take measurements, photographs, and obtain survey data.

#### 1.7 CONSTRUCTION PHOTOGRAPHS

A. Photographically document all phases of the project including preconstruction, construction progress, and post-construction.

B. Engineer shall have the right to select the subject matter and vantage point from which photographs are to be taken.

C. Photograph Format: Reference Section 01 34 00, PHOTOGRAPHIC AND VIDEOGRAPHIC DOCUMENTATION for photograph requirements.

D. Preconstruction and Post-Construction:

1. After Effective Date of the Agreement and before Work at Site is started, and again upon issuance of Substantial Completion, take photographs of all areas of the Construction Site and property adjacent to perimeter of Construction Site.
2. Particular emphasis shall be directed to structures both inside and outside the Site.

E. Construction Progress Photos:

1. Photographically demonstrate progress of construction, showing every aspect of Site and adjacent properties as well as interior and exterior of new or impacted structures.
2. Take photos as frequent as required to document all major aspects of construction. Coordinate with Engineer.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

## SECTION 01 32 90 – SAFETY PLAN

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes: Development and maintenance of a Construction Safety Plan.

#### 1.2 REFERENCES

- A. OSHA.

#### 1.3 CONSTRUCTION SAFETY PLAN

- A. Detail the Methods and Procedures to comply with Federal, and Local Health and Safety Laws, Rules and Requirements for the duration of the Contract Times. Include the following:
  1. Identification of the Certified or Licensed Safety Consultant, who will prepare, initiate, maintain and supervise safety programs, and procedures.
  2. Procedures for providing workers with an awareness of safety and health hazards expected to be encountered in the course of construction.
  3. Safety equipment appropriate to the safety and health hazards expected to be encountered during construction. Include warning devices, barricades, safety equipment in public right-of-way and protected areas, and safety equipment used in multi-level structures.
  4. Methods for minimizing employees' exposure to safety and health hazards expected during construction.
  5. Procedures for reporting safety or health hazards.
  6. Procedures to follow to correct a recognized safety and health hazard.
  7. Procedures for investigation of accidents, injuries, illnesses and unusual events that have occurred at the construction site.
  8. Periodic and scheduled inspections of general work areas and specific work stations.
  9. Training for employees and workers at the jobsite.
  10. Methods of communication of safe working conditions, work practices and required personal protection equipment.
- B. Assume responsibility for every aspect of Health and Safety on the jobsite, including the health and safety of subcontractors, suppliers, and other persons on the jobsite:
  1. Forward available information and reports to the Safety Consultant who shall make the necessary recommendations concerning worker health and safety at the jobsite.
  2. Employ additional health and safety measures specified by the Safety Consultant, as necessary, for workers in accordance with OSHA guidelines.
- C. Transmit to OWNER and ENGINEER copies of reports and other documents related to accidents or injuries encountered during construction.

### PART 2 - PRODUCTS (NOT USED)

### PART 3 - EXECUTION (NOT USED)

END OF SECTION

## SECTION 01 33 00 – SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes description and requirements of:
  - 1. Submittals Related to Project Submittals as related to:
    - a. Action Submittals
    - b. Informational Submittals
- B. Related sections:
  - 1. 01 29 00 – Payment Procedures.
  - 2. 01 31 00 – Project Management and Coordination.
  - 3. 01 32 00 – Construction Progress Documentation.
  - 4. 01 77 00 – Closeout Procedures.

#### 1.2 DEFINITIONS

- A. Action Submittal: Written and graphic information submitted by Contractor that requires Engineer's approval.
- B. Informational Submittal: Information submitted by Contractor that does not require Engineer's approval.

#### 1.3 PROCEDURES

- A. Direct Submittals to Engineer.
- B. Contractor will submit all submittals electronically.
- C. Transmittal of Submittal:
  - 1. Contractor shall:
    - a. Review each submittal and check for compliance with Contract Documents.
    - b. Stamp each submittal with uniform approval stamp before submitting to Engineer.
      - 1). Stamp to include Project name, submittal number, Specification number, Contractor's reviewer name, date of Contractor's approval and statement certifying that submittal has been reviewed, checked, and approved for compliance with Contract Documents.
      - 2). Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
  - 2. Complete, sign, and transmit with each submittal package, one Transmittal of Contractor's Submittal form. A blank Transmittal of Contractor's Submittal form may be provided by Engineer.
  - 3. Identify Each Submittal with the Following:
    - a. Numbering and Tracking System:
      - 1) Sequentially number each submittal.
      - 2) Resubmission of submittal shall have original number with sequential alphabetic suffix.
    - b. Specification section and paragraph to which submittal applies.
    - c. Project title and Engineer's project number.
    - d. Date of transmittal.
    - e. Names of Contractor, subcontractor or Supplier and Manufacturer as appropriate.
  - 4. Identify and describe each deviation or variation from Contract Documents.

- D. Format:
  - 1. Do not base Shop Drawings on reproductions of Contract Documents.
  - 2. Package submittal information by individual Specification section. Do not combine different Specification sections together in submittal package, unless otherwise directed in Specification.
  - 3. Present in a clear and thorough manner and in sufficient detail to show kind, size, arrangement, and function of components, materials, and devices, and compliance with Contract Documents.
- E. Timeliness: Schedule and submit in accordance Schedule of Submittals, and requirements of individual Specification sections.
- F. Processing Time:
  - 1. Time for review shall commence on Engineer's receipt of submittal.
  - 2. Engineer will act upon Contractor's submittal and transmit response to Contractor not later than 30 days after receipt, unless otherwise specified.
  - 3. Re-submittals will be subject to same review time.
  - 4. No adjustment of Contract Times or Price will be allowed due to delays in progress of Work caused by rejection and subsequent re-submittals.
- G. Re-submittals: Clearly identify each correction or change made.
- H. Incomplete Submittals:
  - 1. Engineer will return entire submittal for Contractor's revision if preliminary review deems it incomplete.
  - 2. When any of the following are missing, submittal will be deemed incomplete:
    - a. Contractor's review stamp completed and signed.
    - b. Transmittal of Contractor's Submittal completed and signed.
- I. Submittals not required by Contract Documents:
  - 1. Will not be reviewed and will be returned stamped "Not Reviewed."
  - 2. Engineer will keep one electronic copy and return one electronic copy to Contractor.
- J. Coordination with Project:
  - 1. It is the CONTRACTOR'S responsibility to coordinate all equipment furnished with project elevations and dimensions. Approval of the submittal does not relieve the CONTRACTOR of the responsibility.
  - 2. CONTRACTOR shall be responsible for coordinating all project aspects and project changes with all submittals.

#### 1.4 ACTION SUBMITTALS

- A. Prepare and submit Action Submittals required by individual Specification sections.
- B. Contractor will submit all submittals electronically.
- C. Shop Drawings:
  - 1. Identify and Indicate:
    - a. Applicable Contract Drawing and Detail number, products, units and assemblies, and system or equipment identification or tag numbers.
    - b. Equipment and Component Title: Identical to title shown on Drawings.
    - c. Critical field dimensions and relationships to other critical features of Work. Note dimensions established by field measurement.
    - d. Project-specific information drawn accurately to scale.
  - 2. Manufacturer's standard schematic drawings and diagrams as follows:

- a. Modify to delete information that is not applicable to the Work.
    - b. Supplement standard information to provide information specifically applicable to the Work.
  - 3. Product Data: Provide as specified in individual Specifications.
  - 4. Foreign Manufacturers: When proposed, include following additional information:
    - a. Names and addresses of at least two companies that maintain technical service representatives close to Project.
    - b. Complete list of spare parts and accessories for each piece of equipment.
- D. Samples:
- 1. Copies: One, unless otherwise specified in individual Specifications.
  - 2. Preparation: Mount, display, or package Samples in manner specified to facilitate review of quality. Attach label on unexposed side that includes the following:
    - a. Manufacturer name.
    - b. Model number.
    - c. Material.
    - d. Sample source.
  - 3. Manufacturer's Color Chart: Units or sections of units showing full range of colors, textures, and patterns available.
  - 4. Full-size Samples:
    - a. Size as indicated in individual Specification section.
    - b. Prepared from same materials to be used for the Work.
    - c. Cured and finished in manner specified.
    - d. Physically identical with product proposed for use.
- E. Action Submittal Dispositions: Engineer will review, mark, and stamp as appropriate, and distribute marked-up copies as noted:
- 1. Furnish as Submitted:
    - a. Contractor may incorporate product(s) or implement Work covered by submittal.
    - b. Distribution
      - 1). One electronic copy furnished to Resident Project Representative.
      - 2). One electronic copy retained in Engineer's file.
      - 3). One electronic copy returned to Contractor appropriately annotated.
  - 2. Furnish as Corrected or Noted:
    - a. Contractor may incorporate product(s) or implement Work covered by submittal, in accordance with Engineer's notations.
    - b. Distribution:
      - 1). One electronic copy furnished to Resident Project Representative.
      - 2). One electronic copy retained in Engineer's file.
      - 3). One electronic copy to Contractor appropriately annotated.
  - 3. Revise and Resubmit:
    - a. Make corrections or obtain missing portions, and resubmit.
    - b. Except for portions indicated, Contractor may begin to incorporate product(s) or implement Work covered by submittal, in accordance with Engineer's notations.
    - c. Distribution:
      - 1). One electronic copy furnished to Resident Project Representative.
      - 2). One electronic copy retained in Engineer's file.
      - 3). One electronic copy to Contractor appropriately annotated.
  - 4. Rejected:
    - a. Contractor may not incorporate product(s) or implement Work covered by submittal.
    - b. Distribution:
      - 1). One electronic copy furnished to Resident Project Representative.
      - 2). One electronic copy retained in Engineer's file.
      - 3). One electronic copy returned to Contractor appropriately annotated.

## 1.5 INFORMATIONAL SUBMITTALS

- A. General:
  - 1. Contractor will submit all submittals electronically.
  - 2. Refer to individual Specification sections for specific submittal requirements.
  - 3. Engineer will review each submittal. If submittal meets conditions of the Contract, Engineer will forward electronic copies to appropriate parties. If Engineer determines submittal does not meet conditions of the Contract and is therefore considered unacceptable, Engineer will retain one electronic copy and return one electronic copy with review comments to Contractor, and require that submittal be corrected and resubmitted.
- B. Application for Payment: In accordance with Section 01 29 00, PAYMENT PROCEDURES.
- C. Certificates:
  - 1. General:
    - a. Provide notarized statement that includes signature of entity responsible for preparing certification.
    - b. Signed by officer or other individual authorized to sign documents on behalf of that entity.
  - 2. Welding: In accordance with individual Specification sections.
  - 3. Installer: Prepare written statements on Manufacturer's letterhead certifying that installer complies with requirements as specified in individual Specification sections.
  - 4. Material Test: Prepared by qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
  - 5. Certificates of Successful Testing or Inspection: Submit when testing or inspection is required by Laws and Regulations or governing agency or specified in individual Specification sections.
- D. Construction Photographs and Video: In accordance with Section 01 31 00, PROJECT MANAGEMENT AND COORDINATION, and as may otherwise be required in Contract Documents.
- E. Contract Closeout Submittals: In accordance with Section 01 77 00, CLOSEOUT PROCEDURES.
- F. Contractor-Design Data:
  - 1. Written and graphic information.
  - 2. List of assumptions.
  - 3. List of performance and design criteria.
  - 4. Summary of loads or load diagram, if applicable.
  - 5. Calculations.
  - 6. List of applicable codes and regulations.
  - 7. Name and version of software.
  - 8. Information requested in individual Specification section.
- G. Manufacturer's Instructions: Written or published information that documents Manufacturer's recommendations, guidelines, and procedures in accordance with individual Specification sections.
- H. Schedules:
  - 1. Schedule of Submittals: Prepare separately or in combination with Progress Schedule.
    - a. Show for Each, at a Minimum, the Following:
      - 1). Specification section number.
      - 2). Identification by numbering and tracking system as specified under Paragraph "Transmittal of Submittal".



- 3). Estimated date of submission to Engineer, including reviewing and processing time.
  - b. On a monthly basis, submit updated schedule to Engineer if changes have occurred or re-submittals are required.
- I. Special Guarantee: Supplier's written guarantee as required in individual Specification sections.
  - J. Statement of Qualification: Evidence of qualification, certification, or registration as required in Contract Documents to verify qualifications of professional land surveyor, engineer, materials testing laboratory, specialty Subcontractor, trade, Specialist, consultant, installer, and other professionals.
  - K. Submittals Required by Laws, Regulations, and Governing Agencies:
    1. Submit promptly notifications, reports, certifications, payrolls, and otherwise as may be required, directly to the applicable Federal, State, or local governing agency or their representative.
    2. Transmit to Engineer for Owner's records one electronic copy of correspondence and transmittals (to include enclosures and attachments) between Contractor and governing agency.
  - L. Test and Inspection Reports:
    1. General: Shall contain signature of person responsible for test or report.
    2. Factory:
      - a. Identification of product and Specification section, type of inspection or test with referenced standard or code.
      - b. Date of test, Project title and number, and name and signature of authorized person.
      - c. Test results.
      - d. If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.
      - e. Provide interpretation of test results, when requested by Engineer.
      - f. Other items as identified in individual Specification sections.
    3. Field: As a minimum, include the following:
      - a. Project title and number.
      - b. Date and time.
      - c. Record of temperature and weather conditions.
      - d. Identification of product and Specification section.
      - e. Type and location of test, Sample, or inspection, including referenced standard or code.
      - f. Date issued, testing laboratory name, address, and telephone number, and name and signature of laboratory inspector.
      - g. If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.
      - h. Provide interpretation of test results, when requested by Engineer.
      - i. Other items as identified in individual Specification sections.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

## SECTION 01 34 00 – PHOTOGRAPHIC AND VIDEOGRAPHIC DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes Requirements for:
  - 1. Pre-construction photographs.
  - 2. Pre-construction videos.
  - 3. Post-construction photographs.
  - 4. Post-construction videos.
- B. The purpose of the photographs and videos is to document site conditions at locations of Work prior to the CONTRACTOR beginning work at each Project site and after Substantial Completion of the Work.
- C. Areas to be photographed and videoed shall include the site of the Work and all existing facilities either on or adjoining the Project site, including the interior of existing structures, that could be damaged as a result of the CONTRACTOR's Work.
- D. The scope of the photographic and videographic documentation shall be the sole responsibility of the CONTRACTOR, but shall be acceptable to the ENGINEER.
- E. Related sections:
  - 1. Section 01 31 00 – Project Management and Coordination
  - 2. Section 01 33 00 – Submittal Procedures.
  - 3. Section 01 77 00 – Closeout Procedures.

#### 1.2 SUBMITTALS

- A. Key Plan: Submit key plan of Project site with notation of vantage points marked for location and direction of each photograph. Include the same label information as the corresponding set of photographs.
- B. Photographs:
  - 1. Digital Media:
    - a. Provide photos as individual, indexed JPG files with the following characteristics:
      - 1) Compression shall be set to preserve quality over file size.
      - 2) Highest resolution JPG images shall be submitted. Resizing to a smaller size when high resolution JPGs are available shall not be permitted.
      - 3) JPG image resolution shall be 4000 by 3000 or higher.
      - 4) Images shall have rectangular clean images. Artistic borders, beveling, drop shadows, etc. are not permitted.
- C. Videos:
  - 1. Submit 4 copies of each video within 7 days of recording.
  - 2. Videos shall be submitted in a digital color video format on a DVD suitable for playback on a standard DVD player.
  - 3. Identification: On each copy provide a label with the following information:
    - a. Name of project.
    - b. Date video was recorded.
- D. Pre-Construction Photographs and Videos: Submit prior to beginning work at the Project site. Reference Section 01 31 00 for additional requirements.

- E. Post-Construction Photographs and Videos: Submit with project closeout documents as specified in Section 01 77 00. Reference Section 01 31 00 for additional requirements.

## PART 2 - PRODUCTS

### 2.1 MEDIA

- A. Paper Media:
  - 1. Commercial grade, glossy surface, acid-free photographic paper.
- B. Digital Media:
  - 1. One hundred and twenty millimeters, 700-MB, 80-minute CD compatible with latest version of Microsoft Windows.
- C. Videos:
  - 1. DVD, compatible with standard DVD players.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Photographs (Paper and Digital Media):
  - 1. Date Stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.
- B. Videos:
  - 1. Display continuous running time.
  - 2. At start of each video recording, record weather conditions from local newspaper or television and the actual temperature reading at Project Site.

END OF SECTION

## SECTION 01 42 00 - REFERENCES

### PART 1 - GENERAL

#### 1.1 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES

- A. Reference to standards and specifications of technical societies and reporting and resolving discrepancies associated therewith shall be as provided in the General Conditions, and as may otherwise be required herein and in the individual Specification sections.
- B. Work specified by reference to published standard or specification of government agency, technical association or trade association, professional society or institute, testing agency, or other organization shall meet requirements or surpass minimum standards of quality for materials and workmanship established by designated standard or specification.
- C. Where so specified, products or workmanship shall also meet or exceed additional prescriptive or performance requirements included within Contract Documents to establish a higher or more stringent standard of quality than required by referenced standard.
- D. Where two or more standards are specified to establish quality, product and workmanship shall meet or exceed requirements of most stringent.
- E. Where both a standard and a brand name are specified for a product in Contract Documents, proprietary product named shall meet or exceed requirements of specified reference standard.
- F. Copies of Standards and Specifications of Technical Societies:
  - 1. Copies of applicable referenced standards have not been bound in these Contract Documents.
  - 2. Where copies of standards are needed by Contractor, obtain a copy or copies directly from publication source and maintain in an orderly manner at the Site as Work Site records, available to Contractor's personnel, Subcontractors, Owner, and Engineer.

#### 1.2 ABBREVIATIONS

- A. Abbreviations for trade organizations and government agencies: Following is a list of construction industry organizations and government agencies to which references may be made in the Contract Documents, with abbreviations used.
  - 1. AA Aluminum Association
  - 2. AABC Associated Air Balance Council
  - 3. AAMA American Architectural Manufacturers Association
  - 4. AASHTO American Association of State Highway and Transportation Officials
  - 5. ABMA American Bearing Manufacturers' Association
  - 6. ACI American Concrete Institute
  - 7. AEIC Association of Edison Illuminating Companies
  - 8. AGA American Gas Association
  - 9. AGMA American Gear Manufacturers' Association
  - 10. AI Asphalt Institute
  - 11. AISC American Institute of Steel Construction
  - 12. AISI American Iron and Steel Institute
  - 13. AITC American Institute of Timber Construction
  - 14. ALS American Lumber Standards
  - 15. AMCA Air Movement and Control Association

16.	ANSI	American National Standards Institute
17.	APA	The Engineered Wood Association
18.	API	American Petroleum Institute
19.	APWA	American Public Works Association
20.	ARI	Air-Conditioning and Refrigeration Institute
21.	ASAE	American Society of Agricultural Engineers
22.	ASCE	American Society of Civil Engineers
23.	ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
24.	ASME	American Society of Mechanical Engineers
25.	ASNT	American Society for Nondestructive Testing
26.	ASTM	ASTM International
27.	AWI	Architectural Woodwork Institute
28.	AWPA	American Wood Preservers' Association
29.	AWPI	American Wood Preservers' Institute
30.	AWS	American Welding Society
31.	AWWA	American Water Works Association
32.	BHMA	Builders Hardware Manufacturers' Association
33.	CBM	Certified Ballast Manufacturer
34.	CDA	Copper Development Association
35.	CGA	Compressed Gas Association
36.	CIS PI	Cast Iron Soil Pipe Institute
37.	CMAA	Crane Manufacturers' Association of America
38.	CRSI	Concrete Reinforcing Steel Institute
39.	CS	Commercial Standard
40.	CSA	Canadian Standards Association
41.	CSI	Construction Specifications Institute
42.	DIN	Deutsches Institute für Normung e.V.
43.	DIPRA	Ductile Iron Pipe Research Association
44.	EIA	Electronic Industries Alliance
45.	EJCDC	Engineers Joint Contract Documents' Committee
46.	ETL	Electrical Test Laboratories
47.	FAA	Federal Aviation Administration
48.	FCC	Federal Communications Commission
49.	FDA	Food and Drug Administration
50.	FEMA	Federal Emergency Management Agency
51.	FIPS	Federal Information Processing Standards
52.	PM	Factory Mutual
53.	Fed. Spec.	Federal Specifications (FAA Specifications)
54.	FS	Federal Specifications and Standards (Technical Specifications)
55.	GA	Gypsum Association
56.	GANA	Glass Association of North America
57.	ID	Hydraulic Institute
58.	HMI	Hoist Manufacturers' Institute
59.	IBC	International Building Code
60.	ICBO	International Conference of Building Officials
61.	ICC	International Code Council
62.	ICEA	Insulated Cable Engineers' Association
63.	IFC	International Fire Code
64.	IEEE	Institute of Electrical and Electronics Engineers, Inc.
65.	IESNA	Illuminating Engineering Society of North America
66.	IFI	Industrial Fasteners Institute
67.	IGMA	Insulating Glass Manufacturer's Alliance

68.	IMC	International Mechanical Code
69.	INDA	Association of the Non-woven Fabrics Industry
70.	IPC	International Plumbing Code
71.	ISA	Instrumentation, Systems, and Automation
72.	ISO	International Organization for Standardization
73.	ITL	Independent Testing Laboratory
74.	JIC	Joint Industry Conferences of Hydraulic Manufacturers
75.	MIA	Marble Institute of America
76.	Mil.	Military Specifications
77.	MMA	Monorail Manufacturers' Association
78.	NAAMM	National Association of Architectural Metal Manufacturers
79.	NACE	NACE International
80.	NEBB	National Environmental Balancing Bureau
81.	NEC	National Electrical Code
82.	NECA	National Electrical Contractors Association
83.	NEMA	National Electrical Manufacturers' Association
84.	NESC	National Electrical Safety Code
85.	NETA	International Electrical Testing Association
86.	NFPA	National Fire Protection Association
87.	NHLA	National Hardwood Lumber Association
88.	NICET	National Institute for Certification in Engineering Technologies
89.	NIST	National Institute of Standards and Technology
90.	NRCA	National Roofing Contractors Association
91.	NRTL	Nationally Recognized Testing Laboratories
92.	NSF	NSF International
93.	NSPE	National Society of Professional Engineers
94.	NTMA	National Terrazzo and Mosaic Association
95.	NWWDA	National Wood Window and Door Association
96.	OSHA	Occupational Safety and Health Act (both Federal and State)
97.	PCI	Pre-cast/Pre-stressed Concrete Institute
98.	PEI	Porcelain Enamel Institute
99.	PPI	Plastic Pipe Institute
100.	PS	Product Standards Section-U.S. Department of Commerce
101.	RMA	Rubber Manufacturers' Association
102.	RUS	Rural Utilities Service
103.	SAE	Society of Automotive Engineers
104.	SDI	Steel Deck Institute
105.	SDI	Steel Door Institute
106.	SJI	Steel Joist Institute
107.	SMACNA	Sheet Metal and Air Conditioning Contractors National Association
108.	SPI	Society of the Plastics Industry
109.	SSPC	The Society for Protective Coatings
110.	SWI	Steel Window Institute
111.	TEMA	Tubular Exchanger Manufacturers' Association
112.	TCA	Tile Council of North America
113.	TIA	Telecommunications Industry Association
114.	UBC	Uniform Building Code
115.	UFC	Uniform Fire Code
116.	UL	Underwriters Laboratories Inc.
117.	UMC	Uniform Mechanical Code
118.	USBR	U.S. Bureau of Reclamation
119.	WCLIB	West Coast Lumber Inspection Bureau
120.	WWPA	Western Wood Products Association

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

## SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Furnishing, maintaining, and removing construction facilities and temporary controls, including temporary utilities, construction aids, barriers and enclosures, security, access roads, temporary controls, and removal after construction.
- B. Related sections:
  - 1. Section 01 14 00 – Work Restrictions.
  - 2. Section 01 33 00 – Submittal Procedures
  - 3. Section 01 34 00 – Photographic and Videographic Documentation

#### 1.2 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
  - 1. American Association of Nurserymen: American Standards for Nursery Stock.
  - 2. Federal Emergency Management Agency.
  - 3. NFPA, National Fire Prevention Standard for Safeguarding Building Construction Operations.
  - 4. Telecommunications Industry Association (TIA); Electronic Industries Alliance (EIA): 568B, Commercial Building Telecommunications Cabling Standard.
  - 5. U.S. Department of Agriculture: Urban Hydrology for Small Watersheds.
  - 6. U.S. Weather Bureau: Rainfall-Frequency Atlas of the U.S. for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years.

#### 1.3 SUBMITTALS

- A. Informational Submittals:
  - 1. General: For products specified to be furnished under this Section, submit product data in accordance with Section 01 33 00.
  - 2. Copies of permits and approvals for construction as required by Laws and Regulations and governing agencies.
  - 3. Temporary Utility Submittals (as applicable):
    - a. Electric power supply and distribution plans.
    - b. Water supply and distribution plans.
    - c. Drainage plans.
    - d. Sanitary sewer.
    - e. Erosion control plans.
  - 4. Temporary Construction Submittals:
    - a. Contractor's storage area including gravel surfaced area.
    - b. Temporary fencing and protective barrier locations and details.
    - c. Traffic and Pedestrian Control and Routing Plans: As specified herein, and proposed revisions thereto.

#### 1.4 MOBILIZATION

- A. Mobilization shall include, but not be limited to, these Principal Items:
  - 1. Obtaining required permits.
  - 2. Moving Contractor's field office and equipment required for first month operations onto Site.
  - 3. Installing temporary construction power, wiring, and lighting facilities.



4. Providing onsite sanitary facilities and potable water facilities as specified and as required by Laws and Regulations, and governing agencies.
5. Arrange for and erection of Contractor's work and storage yard.
6. Posting OSHA required notices and establishing safety programs and procedures.
7. Have Contractor's superintendent at Site full time.

B. Use area designated for Contractor's temporary facilities as shown on Drawings.

#### 1.5 PROTECTION OF WORK AND PROPERTY

- A. Comply with Owner's safety rules while on Owner's property.
- B. Keep Owner informed of serious onsite accidents and related claims.
- C. Use of Explosives: No blasting or use of explosives will be allowed onsite.

### PART 2 - PRODUCTS – NOT USED

### PART 3 - EXECUTION

#### 3.1 TEMPORARY UTILITIES

- A. Temporary Electrical Power:
  1. Arrange with local utility to provide adequate temporary electrical service.
  2. Provide and maintain adequate jobsite power distribution facilities conforming to applicable Laws and Regulations.
- B. Temporary Electrical Lighting: In work areas, provide temporary lighting sufficient to maintain lighting levels during working hours not less than lighting levels required by Occupational Safety and Health Administration (OSHA) and state agency which administers OSHA regulations where Project is located.
- C. Temporary Heating, Cooling, and Ventilating:
  1. Provide as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for installation of materials, and to protect materials, equipment, and finishes from damage due to temperature or humidity.
  2. Provide adequate forced air ventilation of enclosed areas to cure installed materials, to dispense humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases.
  3. Contractor shall arrange and pay all costs of installation, maintenance, operation, removal, and fuel consumed.
- D. Temporary Water:
  1. Pay for and construct facilities necessary to furnish potable water for human consumption and non-potable water for use during construction. Contractor shall be responsible for paying water use and connection fees.
  2. Remove temporary piping and connections and restore affected portions of the facility to original condition before Substantial Completion.
- E. Temporary Sanitary Facilities:
  1. Provide suitable and adequate sanitary facilities that are in compliance with applicable Laws and Regulations for Contractor's employees, subcontractors, and all other onsite workers. Service, clean, and maintain facilities and enclosures throughout the duration of construction.

2. At completion of the Work, remove sanitary facilities and leave site in neat and sanitary condition.

F. Temporary Fire Protection: Provide sufficient number of fire extinguishers of type and capacity required to protect the Work and ancillary facilities.

G. First Aid: Post first aid facilities and information posters conforming to requirements of OSHA and other applicable Laws and Regulations in readily accessible locations.

### 3.2 SECURITY

A. Make adequate provision for protection of the work area against fire, theft, and vandalism, and for protection of public against exposure to injury.

B. Where necessary, erect a temporary security fence for protection of existing facilities. Maintain fence throughout construction period. Obtain Engineer's written permission before removal of temporary security fencing.

C. Provide and maintain additional temporary security fences as necessary to protect the Work and Contractor-furnished products not yet installed.

### 3.3 REMOVAL

A. Remove temporary buildings and furnishings before inspection for Substantial Completion or when directed.

B. Clean and repair damage caused by installation or use of temporary facilities.

C. Remove underground installations to minimum depth of 24 inches and grade to match surrounding conditions.

D. Restore existing facilities used during construction to specified or original condition.

### 3.4 PROTECTION OF WORK AND PROPERTY

A. General:

1. Perform Work within right-of-way and easements in a systematic manner that minimizes inconvenience to property owners and the public.

2. No residence or business shall be cut off from vehicular traffic for a period exceeding 4 hours, unless special arrangements have been made.

3. Maintain in continuous service all existing oil and gas pipelines, underground power, telephone or communication cable, water mains, irrigation lines, sewers, poles and overhead power, and all other utilities encountered along line of the Work, unless other arrangements satisfactory to owners of said utilities have been made.

4. Where completion of the Work requires temporary or permanent removal or relocation of existing utility, coordinate all activities with owner of said utility and perform all work to their satisfaction.

5. Protect, shore, brace, support, and maintain underground pipes, conduits, drains, and other underground utility construction uncovered or otherwise affected by construction operations.

6. In areas where Contractor's operations are adjacent to or near a utility, such as gas, telephone, television, electric power, water, sewer, or irrigation system, and such operations may cause damage or inconvenience, suspend operations until arrangements necessary for protection have been made by Contractor.

7. Notify property owners and utility offices that may be affected by construction operation at least 2 days in advance. Before exposing a utility, obtain utility owner's permission. Should service of a utility become interrupted due to Contractor's operation, notify proper authority immediately. Cooperate with said authority in restoring service as promptly as possible and bear costs incurred.
  8. Do not impair operation of existing sewer system. Prevent construction material, pavement, concrete, earth, volatile and corrosive wastes, and other debris from entering sewers, pump stations, or other sewer structures.
  9. Maintain original Site drainage wherever possible. Work shall be conducted so as to not flood affected property owners.
  10. Where Contractor utilizes temporary access, upon completion of the Project, Contractor shall restore access to a condition like or better than original condition. Original project conditions shall be documented by the Contractor prior to commencing Work.
- B. Barricades, Lights, Signs, and Equipment:
1. Provide as required by the Manual on Uniform Traffic Control Devices, published by the Alabama Department of Transportation and in sufficient quantity to safeguard public and the Work.
  2. Provide as necessary to prevent unauthorized entry to construction areas and affected roads, streets, and alleyways, inside and outside of fenced area, and as required to ensure public safety and the safety of Contractor's employees, other employer's employees, and others who may be affected by the Work.
  3. Provide to protect existing facilities and adjacent properties from potential damage.
  4. Locate to enable access by facility operators and property owners.
  5. Protect streets, roads, highways, and other public thoroughfares that are closed to traffic by effective barricades with acceptable warning signs.
  6. Locate barricades at the nearest intersecting public thoroughfare on each side of the blocked section.
  7. Illuminate barricades and obstructions with warning lights from sunset to sunrise.
- C. Trees and Plantings:
1. Protect from damage and preserve trees, shrubs, and other plants outside limits of the Work and within limits of the Work, which are designated on the Drawings to remain undisturbed.
  2. Replace any trees or plantings that die as a result of construction activities.
- D. Existing Structures:
1. Where Contractor contemplates removal of small structures such as mailboxes, signposts, and culverts that interfere with Contractor's operations, obtain approval of property owner and Engineer.
  2. Move mailboxes to temporary locations accessible to postal service.
  3. Replace items removed in their original location and a condition equal to or better than original.
- E. Finished Construction: Protect finished floors and concrete floors exposed as well as those covered with composition tile or other applied surfacing.
- F. Waterways: Keep ditches, culverts, and natural drainages continuously free of construction materials and debris.
- G. Dewatering: Construct, maintain, and operate cofferdams, channels, flume drains, sumps, pumps, or other temporary diversion and protection works. Furnish materials required, install, maintain, and operate necessary pumping and other equipment for the environmentally safe removal and disposal of water from the various parts of the Work. Maintain foundations and parts of the Work free from water.

### 3.5 TEMPORARY CONTROLS

- A. Air Pollution Control:
  - 1. Minimize air pollution from construction operations.
  - 2. Burning: Of waste materials, rubbish, or other debris will not be permitted on or adjacent to Site.
  - 3. Conduct operations of dumping rock and of carrying rock away in trucks to cause a minimum of dust. Give unpaved streets, roads, detours, or haul roads used in construction area a dust-preventive treatment or periodically water to prevent dust. Strictly adhere to applicable environmental regulations for dust prevention.
  - 4. Provide and maintain temporary dust-tight partitions, bulkheads, or other protective devices during construction to permit normal operation of existing facilities. Construct partitions of plywood, insulating board, plastic sheets, or similar material. Construct partitions in such a manner that dust and dirt from demolition and cutting will not enter other parts of existing building or facilities. Remove temporary partitions as soon as need no longer exists.
  - 5. Dust Control:
    - a. Prevent dust nuisance caused by operations, unpaved roads, excavation, backfilling, demolition, or other activities.
    - b. Control dust by sprinkling with water, use of dust palliatives, modification of operations, or other means acceptable to agencies having jurisdiction.
  
- B. Mud Control:
  - 1. Prevent mud nuisance caused by construction operations, unpaved roads, excavation, backfilling, demolition, or other activities.
  
- C. Noise Control:
  - 1. Noise Control Plan: Propose plan to mitigate construction noise and to comply with noise control ordinances, including method of construction, equipment to be used, and acoustical treatments.
  - 2. In inhabited areas, particularly residential, perform operations in manner to minimize noise.
  - 3. In residential areas, take special measures to suppress noise during night hours.
  
- D. Water Pollution Control:
  - 1. Divert sanitary sewage and non-storm waste flow interfering with construction and requiring diversion to sanitary sewers. Do not cause or permit action to occur which would cause an overflow to existing waterway.
  - 2. Prior to commencing excavation and construction, obtain Engineer's agreement with detailed plans showing procedures intended to handle and dispose of sewage, groundwater, and storm water flow, including dewatering pump discharges.
  - 3. Comply with procedures outlined in U.S. Environmental Protection Agency manuals entitled, "Guidelines for Erosion and Sedimentation Control Planning," "Implementation, Processes, Procedures, and Methods to Control Pollution Resulting from All Construction Activity," and "Erosion and Sediment Control- Surface Mining in Eastern United States."
  - 4. Do not dispose of volatile wastes such as mineral spirits, oil, chemicals, or paint thinner in storm or sanitary drains. Disposal of wastes into streams or waterways is prohibited. Provide acceptable containers for collection and disposal of waste materials, debris, and rubbish.
  
- E. Erosion, Sediment, and Flood Control: Provide, maintain, and operate temporary facilities to control erosion and sediment releases, and to protect the Work and existing facilities from flooding during construction period.

### 3.6 ACCESS ROADS

- A. Construct access roads as required and within easements, rights-of-way, or Project limits. Obtain Engineer's approval of access roads.
- B. Maintain drainage ways. Install and maintain culverts to allow water to flow beneath access roads. Provide corrosion-resistant culvert pipe of adequate strength to resist construction loads.
- C. Provide gravel, crushed rock, or other stabilization material to permit access by all motor vehicles at all times.
- D. Maintain road grade and crown to eliminate potholes, rutting, and other irregularities that restrict access.
- E. Coordinate with Engineer detours and other operations affecting traffic and access. Provide at least 72 hours notice to Engineer of operations that will alter access to the Site.
- F. Where access road crosses existing fences, install and maintain gates.
- G. Upon completion of construction, restore ground surface disturbed by access road construction to original grade. Replace damaged or broken culverts with new culvert pipe of same diameter and material.

### 3.7 PARKING AREAS

- A. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, Owner's operations, or construction operations.
- B. Provide parking facilities for personnel working on the Project. No employee or equipment parking will be permitted on Owner's existing parking areas, except as specifically designated for Contractor's use.

### 3.8 VEHICULAR TRAFFIC

- A. Comply with Laws and Regulations regarding closing or restricting use of public streets or highways. No public or private road shall be closed, except by written permission of proper authority. Assure the least possible obstruction to traffic and normal commercial pursuits.
- B. Traffic Routing Plan: Show sequences of construction affecting use of roadways, time required for each phase of the Work, provisions for decking over excavations and phasing of operations to provide necessary access, and plans for signing, barricading, and striping to provide passages for pedestrians and vehicles.
- C. Conduct the Work to interfere as little as possible with public travel, whether vehicular or pedestrian.
- D. Whenever it is necessary to cross, close, or obstruct roads, driveways, and walks, whether public or private, provide and maintain suitable and safe bridges, detours, or other temporary expedients for accommodation of public and private travel.
- E. Coordinate traffic routing with that of others working in same or adjacent areas.

### 3.9 CLEANING DURING CONSTRUCTION

- A. In accordance with General Conditions, as may be specified in other Specification sections, and as required herein.
- B. Wet down exterior surfaces prior to sweeping to prevent blowing of dust and debris. At least weekly, sweep all floors (basins, tunnels, platforms, walkways, roof surfaces), and pick up all debris and dispose.
- C. Provide approved containers for collection and disposal of waste materials, debris, and rubbish. At least at weekly intervals, dispose of such waste materials, debris, and rubbish offsite.
- D. At least weekly, brush sweep entry drive and roadways, and all other streets and walkways affected by the Work and where adjacent to the Work.

END OF SECTION

## SECTION 01 77 00 – CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes description and requirements of the required closeout procedures for the project:
  - 1. Providing and delivering informational submittals.
  - 2. Preparing, maintaining, providing and delivering Record Documents.
  - 3. Furnishing Releases from Agreements.
  - 4. Furnishing Evidence of Compliance with Requirements of Governing Authorities.
  - 5. Providing Warranties and Bonds.
  - 6. Providing Certificate of Final Completion.
- B. Related sections:
  - 1. Section 01 29 00 – Payment Procedures.

#### 1.2 SUBMITTALS

- A. Informational Submittals:
  - 1. Submit Prior to Application for Final Payment.
    - a. Record Documents: As required in General Conditions.
    - b. Approved Shop Drawings and Samples: As required in the General Conditions.
    - c. Certificates of Testing and Inspection: As required in the General Conditions, these General Requirements sections, and the individual Specifications sections.
    - d. Special bonds, Special Guarantees, and Service Agreements.
    - e. Releases or Waivers of Liens and Claims: As required in General Conditions.
    - f. Releases from Agreements.
    - g. Final Application for Payment: Submit in accordance with procedures and requirements stated in Section 01 29 00, PAYMENT PROCEDURES.

#### 1.3 RECORD DOCUMENTS

- A. Quality Assurance:
  - 1. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain record documents.
  - 2. Accuracy of Records:
    - a. Coordinate changes within record documents, making legible and accurate entries on each sheet of Drawings and other documents where such entry is required to show change.
    - b. Purpose of Project record documents is to document factual information regarding aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive Site measurement, investigation, and examination.
  - 3. Make entries within 24 hours after receipt of information that a change in the Work has occurred.
  - 4. Prior to submitting each request for progress payment, request Engineer's review and approval of current status of record documents. Failure to properly maintain, update, and submit record documents may result in a deferral by Engineer to recommend whole or any part of Contractor's Application for Payment, either partial or final.

#### 1.4 RELEASES FROM AGREEMENTS

- A. Furnish Owner written releases from property owners or public agencies where side agreements or special easements have been made, or where Contractor's operations have not been kept within the Owner's construction right-of-way.
- B. In the Event Contractor is Unable to Secure Written Releases:
  - 1. Inform Owner of the reasons.
  - 2. Owner or its representatives will examine the Site, and Owner will direct Contractor to complete the Work that may be necessary to satisfy terms of the side agreement or special easement.
  - 3. Should Contractor refuse to perform this Work, Owner reserves right to have it done by separate contract and deduct cost of same from Contract Price, or require Contractor to furnish a satisfactory bond in a sum to cover legal Claims for damages.
  - 4. When Owner is satisfied that the Work has been completed in agreement with Contract Documents and terms of side agreement or special easement, right is reserved to waive requirement for written release if:
    - a. Contractor's failure to obtain such statement is due to grantor's refusal to sign, and this refusal is not based upon any legitimate Claims that Contractor has failed to fulfill terms of side agreement or special easement, or
    - b. Contractor is unable to contact or has had undue hardship in contacting grantor.

#### 1.5 WARRANTIES AND BONDS

- A. Provide executed Warranty or Guaranty Form if required by Contract Documents.
- B. Provide specified additional warranties, guarantees, and bonds from manufacturers and suppliers.

#### 1.6 CERTIFICATE OF FINAL COMPLETION

- A. When 7-day operational test has been successfully completed, ENGINEER will certify that new facilities are operationally complete. ENGINEER will submit a list of known items (punch list) still to be completed or corrected prior to contract completion.
- B. List of items to be completed or corrected will be amended as items are resolved by CONTRACTOR.
- C. When all items have been completed or corrected, submit written certification that the entire work is complete in accordance with the Contract Documents and request final inspection.
- D. Upon completion of final inspection, ENGINEER will either prepare a written acceptance of the entire work or advise CONTRACTOR of work not complete. If necessary, inspection procedures will be repeated.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 - EXECUTION

##### 3.1 MAINTENANCE OF RECORD DOCUMENTS

- A. General:
  - 1. Promptly following commencement of Contract Times, secure from Engineer at no cost to Contractor, one complete set of Contract Documents. Drawings will be full size.



2. Label or stamp each record document with title, "RECORD DOCUMENTS," in neat large printed letters.
  3. Record information concurrently with construction progress and within 24 hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded.
- B. Preservation:
1. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
  2. Make documents and Samples available at all times for observation by Engineer.
- C. Making Entries on Drawings:
1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.
    - a. Make annotations with erasable colored pencil conforming to the following color code:
      - 1) Green when showing information deleted from Drawings.
      - 2) Red when showing information added to Drawings.
      - 3) Blue and circled in blue to show notes.
      - 4) Graphite when indicating dimensions.
  2. Date entries.
  3. Call attention to entry by "cloud" drawn around area or areas affected.
  4. Legibly mark to record actual changes made during construction, including, but not limited to:
    - a. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.
    - b. Horizontal and vertical locations of existing and new Underground Facilities and appurtenances, and other underground structures, equipment, or Work, and Reference to at least two measurements to permanent surface improvements.
    - c. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
    - d. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.
    - e. Changes made by Addenda and Field Orders, Work Change Directive, Change Order, and Engineer's written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.
  5. Dimensions on Schematic Layouts: Show on record drawings, by dimension, the centerline of each run of items that are described in previous subparagraph above.
    - a. Clearly identify the item by accurate note such as "cast iron drain," "galv. water," and the like.
    - b. Show, by symbol or note, vertical location of item ("under slab," "in ceiling plenum," "exposed," and the like).
    - c. Make identification so descriptive that it may be related reliably to Specifications.
  6. Mark and record field changes and detailed information contained in submittals and change orders.
  7. Record actual depths, horizontal and vertical location of underground pipes, duct banks and other buried utilities. Reference dimensions to permanent surface features.
  8. Identify specific details of pipe connections, location of existing buried features located during excavation, and the final locations of piping, equipment, electrical conduits, manholes, and pull boxes.
- D. Deliver record documents with transmittal letter containing date, Project title, CONTRACTOR's name and address, list of documents, and signature of CONTRACTOR.

### 3.2 FINAL CLEANING

- A. At completion of the Work or of a part thereof and immediately prior to Contractor's request for certificate of Substantial Completion; or if no certificate is issued, immediately prior to Contractor's notice of completion, clean entire Site or parts thereof, as applicable.
  - 1. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to Owner.
  - 2. Remove grease, dirt, dust, paint or plaster splatter, stains, labels, fingerprints, and other foreign materials from exposed surfaces.
  - 3. Repair, patch, and touch up marred surfaces to specified finish and match adjacent surfaces.
  - 4. Clean all windows.
  - 5. Clean and wax wood, vinyl, or painted floors.
  - 6. Broom clean exterior paved driveways and parking areas.
  - 7. Hose clean sidewalks, loading areas, and others contiguous with principal structures.
  - 8. Rake and clean all other surfaces.
  - 9. Remove snow and ice from access to buildings.
  - 10. Replace air-handling filters and clean ducts, blowers, and coils of ventilation units operated during construction.
  - 11. Leave water courses, gutters, and ditches open and clean.
- B. Use only cleaning materials recommended by Manufacturer of surfaces to be cleaned.

### 3.3 WASTE DISPOSAL

- A. Arrange for and dispose of surplus materials, waste products, and debris off-site:
  - 1. Prior to making disposal on private property, obtain written permission from OWNER of such property.
- B. Do not fill ditches, washes, or drainage ways which may create drainage problems.
- C. Do not create unsightly or unsanitary nuisances during disposal operations.
- D. Maintain disposal site in safe condition and good appearance.
- E. Complete leveling and cleanup prior to Final Acceptance of the Work.

### 3.4 TOUCH-UP AND REPAIR

- A. Touch-up or repair finished surfaces on structures, equipment, fixtures, and installations that have been damaged prior to inspection for Final Acceptance.
- B. Refinish or replace entire surfaces which cannot be touched-up or repaired satisfactorily.

END OF SECTION

**DIVISION 33**

**UTILITIES**

## SECTION 33 05 07.13 – HORIZONTAL DIRECTIONAL DRILLING

### PART 1 - GENERAL

#### 1.1 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, tools, and equipment required to install the proposed directional bores as shown on the plans and as specified by these technical specifications herein using horizontal directional drilling (HDD, directional drilling) technology. Work includes, but not limited to, proper installation, testing, restoration of underground utilities and environmental protection and restoration.
- B. The directional drilling method involves first drilling a pilot hole as shown on the approved pilot bore plan and then enlarging the pilot hole no larger than 1.5 times the outer diameter of the pull-in pipe, pipe joint or coupling and back the pipe through the enlarged hole.

#### 1.2 REFERENCES

- A. ASTM F1962 – 11 – Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings

#### 1.3 SUBMITTALS

- A. Work Plan
  - 1. Prior to beginning Work, submit a Work Plan detailing the procedure and schedule to be used to execute the project. The Work Plan is to include a description of all equipment to be used, down-hole tools, a list of personnel and their qualification and experience (including backup personnel in the event that an individual is unavailable), list of subcontractors, a schedule of work activity, a safety plan (including SDS of any potentially hazardous substances to be used), an environmental protection plan, and contingency plans for possible problems.
  - 2. The Work Plan shall be comprehensive and specific to actual working conditions for this project.
  - 3. The Work Plan shall include specifics applicable to each drilling location as shown on the plans.
- B. Bore Plan (for each location)
  - 1. Prior to beginning Work, submit a scaled drawing of the pilot bore plan for review and approval. The maximum vertical scale shall be 1" = 2' and the maximum horizontal scale shall be 1" = 20'.
  - 2. The bore plan shall include, but not be limited to, the following:
    - a. Size, capacity and setup requirements of all equipment (including drill rig thrust/pullback, rotary torque capacity and mud pump motor size).
    - b. HDD guidance system type and information including the accuracy, range, and repeatability values for inclination, roll, and azimuth of the system. Include calibration records of all guidance equipment.
    - c. Type of cutting tool head.
    - d. Method of monitoring and controlling line and grade.
    - e. Arrangement of equipment.
    - f. Location and sizes of drilling and receiving pits.
    - g. Location of produce pipe joining areas and staging areas.
    - h. Method of dewatering.
    - i. Method of removing spoils.
    - j. Carrier pipe type and size.
    - k. Method of installing tracer/detection wire.

- I. Method of abandonment of pilot holes.
  - m. Carrier pipe end seals.
- C. If, during construction, the Contractor determines that modifications to the method and equipment as stated in the original bore plan are necessary, the Contractor shall submit a plan describing such modifications, including the reasons for the modifications, to the Owner for review prior to making the modification.

#### 1.4 QUALITY ASSURANCE

- A. All directional drilling operations shall be performed by a qualified directional drilling company who has at least three (3) years experience involving work of a similar nature.
- B. All directional drilling operations shall be performed under the constant direction of a drilling supervisor who shall remain on site and be in responsible charge throughout the drilling operation.

### PART 2 - PRODUCTS

#### 2.1 PIPE

- A. High density polyethylene (HDPE) pipe shall be provided to the Contractor by the City of Huntsville Water Pollution Control (WPC). The length of pipe provided will be as indicated in the approved bore plan (to be submitted by the Contractor).
- B. HDPE piping shall be furnished with an outside diameter conforming to ductile iron pipe sizes (DIPS). The required pipe thickness shall be DR 11 or greater, as determined by the Contractors calculations.
- C. Before delivery to the Contractor, WPC will conduct leak testing to confirm pipe is acceptable for use. Leak tests may be conducted hydrostatically or pneumatically, at the discretion of WPC. The Contractor shall have the option of observing all testing prior to acceptance.

#### 2.2 DIRECTIONAL DRILLING EQUIPMENT

- A. General
  - 1. The directional drilling equipment shall consist of a field power unit, a directional drilling rig of sufficient capacity to perform the bore and pull back the pipe, a drilling, fluid mixing, delivery and recovery system of sufficient capacity to successfully complete the installation, a drilling fluid recycling system to remove solids from the drilling fluid so that the fluid can be reused, if required, a Magnetic Guidance System (MGS) or walkover system to accurately guide boring operations, a vacuum truck of sufficient capacity to handle the drilling fluid volume, and trained and competent personnel to operate the system.
  - 2. All equipment shall be in good, safe condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project.
  - 3. All drill pipe, reamers, pull back heads, swivels, drill heads and collars, pipe cradles, pipe rollers, ropes, cables, clamps, and other non-mechanical but essential items shall be in sound condition and replaced immediately when need is apparent.
  - 4. The equipment must be capable of drilling the specified length in a single bore.
  - 5. If equipment breakdown or other unforeseen stoppages occur and forward motion of the directional cutting head is halted at any time other than for reasons planned in advance (addition of drill stems, etc.), the boring path shall be filled with a proper bentonite solution immediately, or as directed by WPC.
  - 6. The boring tool shall have steering capability and have an electronic tool detection system. The position of the tool during operation shall be capable of being determined accurately, horizontally within 1% of the horizontal distance of the borehole and vertically within 2% of

the vertical depths of the borehole. The boring tool shall have a nominal steering radius of 30 feet.

B. Directional Drill System

1. The drilling system shall consist of a hydraulically powered system to rotate and push hollow drilling pipe into the ground at a variable angle while delivering a pressurized fluid mixture to a guidable drill (bore) head. The drill system shall be anchored to the ground sufficiently to withstand the pulling, pushing and rotating pressured required to complete the installation.
2. The drill sections shall be made of high strength S-grade steel that permits them to bend to a 30-ft. radius without yielding. Drill end fittings shall permit rapid makeup of the drill sections while meeting the torque, pressure and lineal load requirements of the system. The boring head itself shall be capable of housing a probe used by the MGS to determine tool depth and location from surface and to orient the head for steering.
3. The hydraulic power system shall be self-contained with sufficient pressure and volume to power drilling operations. A system to monitor and record maximum pullback pressure during pull-back operations shall be provided.
4. The drilling equipment must be fitted with a permanent alarm system capable of detecting an electric current. The system will have an audible alarm to warn the operator when the drill head nears electrified cables. The drilling equipment shall be grounded, protected, and operated in accordance with manufacturer's requirements for electric strike safety.
5. The control console shall contain a calibrated display of inclination, azimuth, tool face location, mud pump rates, and torque pressures. The downhole steering system accuracy shall be +/- 1% of the horizontal bore length such that the difference between the actual depth and machine calculated depth is not more than 1 foot per 100 feet.

C. Mud-Mixing and Recycle Units

1. The mud-mixing and recycle unit shall be a self-contained system designed to provide a supply of high-pressure bentonite-based cutting fluid to the drill unit. It shall contain a fluid storage tank and a complete bentonite and drilling fluid additive(s) mixing system.
2. The cutting fluid shall be formulated for this specific project and is to be mixed on site. The cutting fluid bentonite and drilling fluid additives(s) concentrations shall be adjusted, as necessary, in response to changing soil conditions.
3. The field power unit shall contain the power-taken off-driven high pressure cutting fluid pumping system. The recycle units shall be of a capacity to minimize the production of new cutting fluid and maximize the reuse and recirculation of original cutting fluid produced.
4. The Contractor shall be responsible for obtaining any necessary supply water.

D. Spoils Equipment

1. The cutting fluid removal system shall include a self-contained vacuum truck which has sufficient vacuum and tank capacity to remove excess cutting fluid mixture and cuttings from the project site as required or as directed by WPC. Under no circumstances are spoils to be discharged into sewers or storm drains.
2. The Contractor must contain all drilling and pipe lubricating mud by taking special measures to prevent runoff onto adjacent properties and/or waterways. All surplus drilling and pipe lubricating mud shall be removed from the site and properly disposed of by the Contractor.
3. The Contractor shall erect and maintain all required erosion control measures through the duration of the project.

E. Guidance System

1. An electronic "walkover" tracking system or a Magnetic Guidance System (MGS) probe and interface for a continuous and accurate determination of the location of the drill head during the drilling operation shall be provided.
2. The guidance system shall be capable of tracking at all depths up to 50 feet and in any soil condition, including hard rock. It shall enable the driller to guide the drill head by providing

immediate information on the tool face, azimuth (horizontal direction), and inclination (vertical direction).

3. The tracking system shall be accurate to +/- 2% of the vertical depth of the borehole at sensing position at depths up to 50 feet.
4. The Contractor shall supply all components and materials to install, operate, and maintain the guidance system.
5. If a MGS is used, the Contractor shall setup and operate with personnel trained and experienced with system.

F. Drilling Fluids

1. A mixture of bentonite clay, project specific cutting fluid additives, and potable water shall be used as the cutting fluid (MUD) and over ream hole filler for the directional bore. The drilling fluid mixture shall have minimum viscosities as measured by a Marsh funnel as follows:

Rocky Clay	60 seconds
Hard Clay	40 seconds
Soft Clay	45 seconds
Sandy Clay	90 seconds
Stable Sand	80 seconds
Loose Sand	110 seconds
Wet Sand	110 seconds

These viscosities may be varied to best fit the soil conditions as recommended by the drilling mud and fluid additive manufacturer and as approved by WPC.

2. Where sandy or granular materials are encountered, a cement slurry or polymer supplement shall be considered for added strength and stability of the bore and over ream hole.
3. No chemicals or polymer surfactant shall be used in the drilling fluid without written consent of WPC. Before consideration, documentation must be provided indicated that the chemicals to be added are not harmful or corrosive to the facility and are environmentally safe. Clay must be totally inert and contain no risk to the environment.
4. Material Safety Data Sheets (MSDS) for all drilling compounds and mixtures shall be maintained onsite at all times.

G. Accessories

1. Tracer Wire: Tracer wire shall be installed simultaneously with pullback of the pipe. Wire(s) shall be either wrapped around the pipe or taped to the pipe at 10 foot minimum intervals before installation.
2. Pipe Rollers: If necessary, pipe rollers of sufficient size to fully support the weight of the pipe during pull back operations.

PART 3 - EXECUTION

3.1 GENERAL

- A. Methods of construction shall be such as to ensure the safety of the Work, Contractor's employees, existing utilities, and adjacent property and improvements, whether public or private.
- B. Before beginning Work, adequately protect existing structures, utilities, trees, and other existing facilities.
- C. Notify WPC Staff a minimum of ten (10) working days in advance of starting Work. All necessary permits and approvals must be in place prior to commencement of Work. Do not begin the directional drilling until WPC representatives are present at the job site and agrees that proper

preparations for the operation have been made. The Owner's approval for beginning the installation does not in any way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the Work as authorized under the Contract.

- D. Erosion control measures shall be installed to contain any solids from migrating beyond the project site. All soil erosion and sediment control work shall be done in accordance with the Alabama Handbook for Erosion Control, current edition. Contractor shall maintain sediment barriers until the project is deemed complete. Upon project completion, as determined by the Owner, the Contractor shall remove all barriers and restore site to its original condition.

### 3.2 ALIGNMENT AND GRADE

- A. Determine and physically locate the depth, location, and size of all existing underground utilities/facilities in the vicinity of the proposed crossings and provide the Owner with a comprehensive report of these findings before starting any construction. The Contractor shall notify all companies with underground utilities in the work area via the state or local one-call to obtain utility locates. Once the utilities have been located, the Contractor shall physically identify the exact location of the utilities by hand excavation in order to determine the actual location, path, and depth of any underground utilities which might be within 20 feet of the bore path. Contractor shall not commence boring operations until the location of all underground utilities within the work area have been verified. The Contractor shall be held completely and solely responsible for any damages incurred. The kinds, locations, and sizes of the existing underground utilities which may be shown on the Drawings are intended only as a guide to the Contractor and are not guaranteed to be even approximately correct.
- B. If utilities of unknown depth or other obstructions require grade or alignment deviations from the Drawings, the grade and/or alignment may be adjusted with Owner's approval. All adjustment shall permit gradual bends of the pipe to the original alignment beyond the directional bore section. At unusual site conditions, the Contractor may request a review of site conditions by Owner for additional adjustment, and such determination shall be final.

### 3.3 INSTALLATION

- A. The following is a general outline of steps for the directional bore operation:
  1. Clear the right-of-way and temporary work space as shown on the Drawings and approved Bore Plan. Contractor is responsible to install and maintain all soil erosion and sediment control devices until project is completed and the approved permanent site stabilization is in place.
  2. Lay out the pipe crossing alignment using a qualified professional land survey team to confirm accurate horizontal distances, either physically measured or shot by Electric Distance Measurement. Entry and exit points shall be located and marked with survey hubs or markers.
  3. Pipe shall be provided to the Contractor by the Owner. Owner shall assemble and air test/hydrostatically test the assembled pipeline section prior to installation. The Contractor is required to provide adequate site security. The Contractor shall be responsible for maintaining the integrity of the pipe until after the pullback, final test of the pipeline, and acceptance of the work by the Owner.
  4. All assembled pipe sections shall be securely plugged at the end of each work day. The pipe interior is to be protected at all times against dirt, dust, drilling mud, pipe cuttings, debris, animal access, and other sources of contamination.
  5. Provide adequate support rollers for the pipeline during pullback of the pipe string into the pre-drilled hole. The rollers and cradles shall be of a type that will prevent damage to the pipe and will be of sufficient number, as recommended by pipe manufacturer, to prevent over stressing due to sag bends during the pullback procedure. The pipe shall be supported at all times, including pullback, to maintain a free stress arc which limits pipe bending and internal hoop stresses to within manufacturer's limits.



6. Pipe which is not properly protected and supported and shows indications of excessive stressing, gouges, cuts, abrasions or other damage which may affect the operational performance intended for the pipe, as recommended by pipe manufacturer, shall be removed from the site and replaced at no additional cost as directed the Owner.
7. Mobilize the drilling equipment, erect the rig, and drill the pilot hole on the bore path with no deviations greater than 5% of depth over the length of the bore unless previously agreed to by the Owner. In the event that pilot does deviate from the bore path more than 5% of depth over the length of the bore, the pilot must be pulled back and re-drilled from the location along bore path before the deviation. In the event of a drilling fluid fracture, inadvertent returns, or returns loss during pilot hole drilling operations, stop drilling, wait at least 30 minutes, inject a quantity of drilling fluid with a viscosity exceeding 120 seconds as measured by a Marsh funnel and wait another 30 minutes. If mud fracture or returns loss continues, notify the Owner.
8. Upon completion of pilot hole phase of the operation, submit a report documenting the pilot bore path plan and profile record drawing, as well as directional survey reports as recorded during the drilling operation.
9. Upon approval of the pilot hole location, begin the hole opening or enlarging phase. Increase the bore hole diameter to accommodate the pullback operation of the required size of carrier pipe. The type of hole opener or back reamer to be utilized in this phase is to be determined by the types of subsurface soil conditions that have been encountered during the pilot hole drilling operation. Select the proper reamer type with the final hole opening being a maximum of 1.5 times the largest outside diameter pipe system component to be installed in the bore hole.
10. The Contractor shall be responsible for selecting the reaming process to be utilized, whether forward and/or back reaming will be undertaken, and the number of reaming passes to be made.
11. Supply portable mud tanks or construct temporary mud pits to contain excess drill fluids during construction and slurry material displaced by the pipe during installation. Mud pits are to be protected at all times against unauthorized access and be stabilized at all times against surface water runoff and containment berm failure. Pump, haul and dispose of any drill cuttings and excess drill fluids to a receiving site permitted to accept the spoils, all in a manner consistent with the local and State regulations.
12. Pull back the bore pipe in one continuous section. The Contractor shall use a swivel to minimize the rotation of the product pipe during pullback. Swivel shall utilize lubricated internal bearings which are fully protected from external contamination and over lubrication. Demonstrate the swivel operation to AW prior to pullback operation.
13. During pullback, maintain records for submission to Owner indicating job, date, time, constant pipe footage progress, mud flow rates, pulling forces required and torque readings. Document the pull head location for each length of drill stem pipe for as build records.
14. Unless not permitted by the right-of-way owner, inject a low strength cement slurry into the bore hole for approximately 50 feet at each end of the drilled pipeline. Where cement slurry cannot be used, provide restraint at either end of the pipeline outside the bore to hold the pipe in place. The type of restraint shall be submitted to Owner in advance of the Work and must be approved by Owner prior to the start of construction.
15. In the event that the Contractor must abandon the drill hole before completion of the crossing, the Contractor will seal the borehole with neat cement grout starting at the low point or end of the drill hole and redrill the crossing at no extra cost to Owner.

### 3.4 PRESSURE TESTING AND LEAKAGE

- A. Clean and flush all equipment and the surrounding site after completion.
- B. After pullback, Contractor shall seal both ends of the product pipe and perform a hydrostatic test. The average pressure should be maintained at 150 psi for a period of no less than two hours. Arrange the test pump and water supply to allow accurate measurements of the water required

to maintain the test pressure. Replace any material showing seepage or the slightest leakage as directed by the Owner at no additional expense.

- C. Observe and adhere to the pipe manufacturer's or Owners, whichever is more stringent, recommendations on pipe stretch allowances, bending radius, tensile strength, allowable test leakage allowance, and magnitude and duration of test pressure.

### 3.5 SITE RESTORATION

- A. Following drilling operations and successful testing, demobilize equipment and restore the work site to the original conditions or better.

### 3.6 RECORD KEEPING

- A. Furnish "as-built" plan and profile drawings based on guidance system data collected during the actual crossing operation showing the actual location horizontally and vertically of the installation, and all utilities found during the installation. Certify the guidance data to the capability of the guidance system.

END OF SECTION