



**REQUEST FOR BID  
FOR  
GROUP 3 POINT REPAIR**

**Bid No. 422234.71.0425**

**February 25, 2025**



**City of Memphis, Tennessee**

Black & Veatch and Overland Contracting Inc. (OCI), a subsidiary of Black & Veatch, are the Program Manager and Construction Manager respectively, for the SARP10 Program for the City of Memphis.

Overland Contracting Inc.  
845 Crossover Lane, Suite 120, Memphis, TN 38117

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## 00170 - Request for Bid

### 00170.1 Introduction

Sealed bids will be received at the Office of the City of Memphis Environmental Administration, Room 620, City Hall, 125 N. Main, Memphis, TN 38103, until **2:00 p.m. local time, April 1, 2025** furnishing the City of Memphis with the following:

FOR THE DIVISION OF: PUBLIC WORKS FOR THE CONSTRUCTION OF:  
SARP10 Program **Group 3 Point Repair**

**The Sealed Bid envelope must be labeled with the project name, bidder's name, license bidder number, license expiration date, license classification. The Sealed Bid envelope must contain one (1) hardcopy of the bid and one (1) electronic CD copy of the bid.**

Sealed Bids sent through the mail, or other such delivery service shall be sent in such a manner so as to allow the opening of the "Mailing Container" and still have intact the sealed Bid. On the Mailing Container the sender shall state the words that a **"SEALED RESPONSE IS ENCLOSED"** and the Bid number.

Subcontractors intending to bid on this project must follow the instructions for Registration as stated in the Advertisement Legal Notice Request for Bid No. **422234.71.0425** (dated February 25, 2025). Registration information must be submitted by **March 18, 2025**.

### 00170.2 Program Overview

The Program consists of the management of the capital program needed to bring the City's wastewater and sewer system into compliance with federal and state regulations per the City of Memphis Wastewater Collection and Transmission System (WCTS) Condition Assessment and Rehabilitation Program Consent Decree signed on September 21, 2012, including the procurement of studies, design and construction services associated with the City of Memphis SARP10 Program.

### 00170.3 Scope of Work

The scope of Work for this bid generally consists of performing approximately 200 point repairs on sewer mains. In most cases the work will include, but is not limited to, replacing around 10' of existing sewer pipe with new ductile iron pipe, backfilling the excavation with rock and then resurfacing the disturbed area. Repairs will be made on pipe sizes ranging from 6" to 24" and down to a maximum depth of approximately 20'. Other related work may include repair to service wyes and some lateral lines, sidewalk repair, curb and gutter repair, and repair of disturbed vegetated areas. The project will involve work in both improved and unimproved areas primarily on residential streets.

### 00170.4 Bid Guarantee Requirements

Guarantee Requirements:

- a) Bidder will not withdraw bid for one hundred eighty (180) calendar days after opening of bids without Purchaser's written consent.
- b) If bid is accepted, bidder will enter into formal Subcontract with Purchaser, within five (5) calendar days after receipt of Subcontract documents for execution.
- c) If bid is accepted, bidder will execute required 100% Performance/Payment Bond in accordance with Article 00571.4 and will obtain required insurance coverage in accordance with Article 00572.21 within ten (10) calendar days after receipt of Subcontract.
- d) All bids will require a bidder's bond or certified or cashier check made payable to the Purchaser on a solvent bank in the amount of 5% of the bid. Said instrument to remain in effect and will be returned only after the Subcontract has been fully executed and secured. Additionally, the successful bidder shall execute a performance bond in an amount equal to 100% of the Subcontract sum as security for the faithful performance of the Subcontract and for the payment





of labor and material furnished and incorporated into the Work. The only acceptable form of instrument for this bid bond is bound herein, Article 00672.7.

Bidder shall be liable to the Purchaser for full amount of proposal guarantee as representing damage to the Purchaser on account of default of bidder if:

- a) Bid is withdrawn within one hundred eighty (180) calendar days after receipt of bids without approval by Purchaser.
- b) Bidder fails to enter into contract with Purchaser and execute required Performance Bond and provide required insurance coverage within ten (10) calendar days subsequent to notice of award of the Subcontract.

**Firms desiring to submit a Bid should carefully review these instructions.  
Compliance with all requirements will be solely the responsibility of the Respondent.**

### **00170.5 Request for Bid Definitions**

Terms used in this Request for Bid documents are defined and have the meanings assigned to them as follows. The term "OCI", "Purchaser" or "Program Manager" means Overland Contracting Inc. The term "Respondent", "Firm", "Company", "Subcontractor" or "Bidder" means one who submits a Response for the purpose stated in this Solicitation Request for Bid documents. The terms "BID", "Response" or "Respondent's Response" mean all submittal documents provided by the Respondent as required by this Request for Bid. The terms "Request for Bid" or "Bid Documents" mean the documents included in this Request for Bid.

Every effort has been made to use industry-accepted terminology in this Request for Bid. Any statement in this document, which uses words such as "must", "shall", "should", "provide for" or "have/provide the capability of/for", means that compliance with the intent of the statement is mandatory and that failure by the Respondent to satisfy that intent may be cause for the Response to be rejected.

### **00170.6 Minority / Women Business Enterprise (M/WBE) Requirements**

This section shall set forth the respondent's M/WBE Participation Plan that must be submitted and include: (1) the level and dollar amount of participation your firm anticipates to achieve in the performance of the Subcontract resulting from this RFB; (2) the type of Work to be performed by the M/WBE firms participating; and (3) the names of the M/WBE firms the Respondent plans to utilize in the performance of the Subcontract resulting from this RFB.

SRF Fair Share Goals:

MBE goal – Construction           **2.6%**

WBE goal – Construction           **2.6%**

(Vendors from the TDOT TNUCP DBE list, other State or Federal DBE lists, or the City of Memphis EBO list)

SARP10 DBE Participation Goal:       **15%**

(Vendors from the City of Memphis EBO list only)

### **00170.7 Clarification of Bid**

Purchaser reserves the right to obtain clarification of any point in a Response or to obtain additional information as necessary to properly evaluate a particular Response. Failure to respond to such request for additional information or clarification in a timely manner may result in rejection of the Response.

### **00170.8 Not Used**

### **00170.9 Responsiveness**

Respondents should respond to all requirements of the Bid to the maximum extent possible and are required to clearly identify any limitations.

### 00170.10 Examination of Request for Bid Documents

Before submitting a Response, each Respondent must:

- Study and carefully correlate the Respondent's observations and responses with the Bid Documents.
- Notify Purchaser of all conflicts, errors and discrepancies, if any; in the Bid Document submitted.
- Review the Loss Control Manual and State Revolving Fund (SRF) Documents.

Respondents by and through the submission of their Response, agree that they shall be held responsible for having therefore familiarized themselves with the nature and extent of the requirements in the Bid Documents.

### 00170.11 Interpretations and Addenda

If any prospective Firm is in doubt as to the true meaning of any part of the Requirements for Preparing and Submitting Bid Submittal for the requested services, they may submit a written request (verbal requests will not be accepted) for an interpretation before the Last Date for Bidder Questions as stated in 00170.16. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum transmitted to each party receiving a set of such documents. Purchaser will not be responsible for any other explanations or interpretations of the proposed documents. Any requests not submitted within this time period will be deemed waived.

#### SUBMIT ALL QUESTIONS BY E-MAIL TO:

Attn: Josh Grabowski

[jgrabowski@allworldmail.com](mailto:jgrabowski@allworldmail.com)

Cc: Ginny Dorsey

[DorseyV@bv.com](mailto:DorseyV@bv.com)

Cc: Jerry Caldwell

[CaldwellJ@bv.com](mailto:CaldwellJ@bv.com)

(Reference: SARP10 Program **Group 3 Point Repair**, BID No. **422234.71.0425**)

All requests or questions should be clearly marked and must be received by Last Date for Bidder Questions, as stated in 00170.16. A response will be returned via addendum to all Firms along with the original question(s).

There shall be no communication between the Firm, their employees or subcontractors concerning this Bid to anyone within Black & Veatch, Overland Contracting, Allen & Hoshall, Allworld Project Management, Gresham Smith, Carter-Malone Group, or City of Memphis employee or any such person's spouse, child, parent, brother, sister, dependent or person assuming a relationship being the substantially equivalent of the above except through Bently Green – Program Director or Jerry Caldwell – Project Manager. **Failure to comply with this requirement will be grounds for disqualification.**

### 00170.12 Modification or Withdrawal of Bid Submittals

Responses may be modified or withdrawn by an appropriate document duly executed (in the same manner that a Response must be executed) and delivered to the place where Responses are to be submitted at any time prior to the submission deadline. A request for withdrawal or a modification must be in writing and signed by an authorized person. Evidence of such authority must accompany the request for withdrawal or modification. Withdrawal of a Response will not prejudice the rights of a Responder to submit a new Response prior to the Response deadline. After expiration of the period for receiving Responses, only Purchaser may request clarifications or additional information.

### 00170.13 Rejection of Responses

To the extent permitted by applicable local, state and federal laws and regulations, Purchaser reserves the right to reject any and all Responses, to waive any and all informalities not involving price, time, or changes in the Work with the successful Respondent, and the right to disregard all non-conforming, non-responsive, unbalanced or conditional Responses. Also, Purchaser reserves the right to reject a Response, in its sole discretion, if the City of Memphis believes that it would not be in its best interest to make an award to that Respondent.



Purchaser reserves the right to reject any Response if the evidence submitted by the Responder or if the investigation of such Respondent fails to satisfy Purchaser that such Respondent is properly qualified to carry out the obligations and to complete the Work contemplated therein. All Responses will be rejected if there is reason to believe that collusion exists among Respondents. Responses will be considered irregular and may be rejected if they show serious omissions, alterations in form, additions not called for, conditions or unauthorized alterations, or irregularities of any kind.

**00170.14 Other Items**

This Bid does not commit Purchaser to enter into a Subcontract, nor does it obligate Purchaser to pay for any costs incurred in the preparation and submission of Responses or in anticipation of a Subcontract. Costs of preparing the Bid in response to this request are solely the responsibility of the Respondent.

By responding to this solicitation, the respondent attests that no employee of Black & Veatch, Overland Contracting, Allen & Hoshall, Allworld Project Management, Gresham Smith, Carter-Malone Group, or City of Memphis employee or any such person’s spouse, child, parent, brother, sister, dependent or person assuming a relationship being the substantially equivalent of the above, has an existing or pending, direct or indirect, financial interest in the respondent’s business.

No Respondents to this solicitation shall discriminate against any employee or applicant for employment because of race, religion, color, sex, age, or national origin.

**00170.15 Selection Process**

Purchaser intends to select one Firm based on price and successful completion and approval of the OCI Registration process.

**00170.16 Selection Schedule**

The following schedule will be adhered to during the selection process. It is subject to change at the sole discretion of OCI.

<b>Event</b>	<b>Completed By</b>
Advertising Date	February 25, 2025
Pre-Bid Meeting	March 6, 2025
Registration Information submitted per 422234.71.0425 Advertisement	March 18, 2025
Last Date for Bidder Questions	March 18, 2025
Issue Addendum for answers to questions	March 25, 2025
Receive all Bids	April 1, 2025 by 2:00 pm local time
Public Opening	April 1, 2025 immediately following receipt of bids
Public Notice of Intent to Award	April 15, 2025
Preconstruction Meeting with Subcontractor	April 22, 2025
Tentative Notice to Proceed	April 22, 2025

**00170.17 Mandatory Pre-Bid Meeting**

A mandatory pre-bid meeting will be held at **9:30 A.M** (local time) at the **Environmental Maintenance Office, 2865 Frayser Boulevard, Memphis, TN 38127** on **March 6, 2025**. Bidders are required to attend at their own cost.



## 00270 - Instructions to Bidders

### 00270.1 Bidder's Compliance with Request for Bid

Provide the information requested and any supporting information necessary to permit a complete analysis of your bid. You acknowledge that preparation and submission of a bid will be at your sole cost and that you will treat this RFB and any resulting discussions as confidential. If you do not agree to treat this RFB and associated discussions as confidential, return the complete RFB to Purchaser and delete or destroy any copies you made.

### 00270.2 General Bid Parameters

Provide the information requested in Section 00270 and Section 00370 in the appropriate fields of Section 00370. Complete each line of Section 00370 in its entirety and submit it with your bid in accordance with Section 00170. Do not alter Section 00370 forms in any way or deviate from the terminology used or the unit of measure indicated when completing Section 00370. Submit Section 00370 forms in their original core application software, with no embedded programming and no permissive encoding restricting access to the data provided.

#### 00270.2.1 Bidder's Contact Information

Include contact information for your representative in Article 00370.2.1. Your representative must have the appropriate expertise and authority to negotiate on behalf of your company.

#### 00270.2.2 Addenda to Request for Bid

In Article 00370.2.2, list all addenda received from Purchaser and indicate "Yes" to show your receipt of and incorporation of the listed addenda into the proposal.

### 00270.3 Bid Pricing

You must include numerical values in the applicable fields of Table 00370.3.1. Non-numerical values, such as "included" or "not applicable," are not acceptable. Purchaser will evaluate fields left blank or filled with a zero as scope included in your bid at no cost.

#### 00270.3.1 Unit Pricing

Provide the unit prices to perform the Work in accordance with this RFB in Table 00370.3.1. A unit price is the total amount to be billed to Purchaser for a specific unit of work. Unit pricing includes all costs, overhead, profit and mark-up associated with delivering the complete unit.

### 00270.4 Supplemental Bid Information

#### 00270.4.1 Company Status

In Article 00370.4.1, indicate the type of your organization's legal entity and the state and country in which it is organized.

#### 00270.4.2 Contractor License

If you are not licensed to perform the Work, indicate "No" in Article 00370.4.2.

#### 00270.4.3 Not Used

#### 00270.4.4 Bid Validity Period

Indicate "Yes" in Article 00370.4.4 if your proposal is valid for one hundred eighty calendar days after the Proposal Due Date (the "Proposal Validity Period"). Purchaser may reject your proposal without prior notice if your proposal is not valid for the full Bid Validity Period.

#### 00270.4.5 Firm Non-Escalatable Pricing

Indicate "Yes" in Article 00370.4.5 if the proposal pricing is firm and not subject to escalation.



#### **00270.4.6 Taxes**

Tax requirements are identified in Article 00571.6. Indicate "Included" in Article 00370.4.6 if your proposal includes the tax requirements.

#### **00270.4.7 Work at Jobsite**

Identify the type of craft labor. If you plan to subcontract any of the Work, indicate "Yes" in the appropriate section of Article 00370.4.7 and complete Table 00370.4.7.

#### **00270.5 Schedule Compliance**

Indicate "Yes" in Article 00370.5 if you can meet the schedule dates included in Table 00370.5. If you indicate "No," submit an alternative summary level schedule with your proposal.

#### **00270.6 Compliance with Request for Bid**

##### **00270.6.1 Not Used**

##### **00270.6.2 Not Used**

#### **00270.7 Bid Attachments**

List any supplemental documents included in your bid in Article 00370.7.

#### **00270.8 Declarations**

Indicate "Yes" in Article 00370.8 to confirm you have familiarized yourself with the conditions affecting the Work.

#### **00270.9 Nondiscrimination**

All entities contracting with the Purchaser agree to abide by and to take affirmative action when necessary to ensure compliance with the nondiscrimination clauses set out below and agree to show proof of non-discrimination upon request and to post in conspicuous places available to all associate agents and their employees. In the event of non-compliance with nondiscrimination clauses, or with provisions of Executive Orders 11141 (age), 11246, 11375 (women), 12086 (Vietnam veterans), 11478 (federal employees), 11625 (minority business) 11701 (veterans), Title 41, Chapter 60 (handicapped) and specifically the handicapped affirmative action clause in Section 60-741.6.9 of OFCCP Rules, and any and all other federal laws prohibiting discrimination, contracts may be canceled, terminated, or suspended in whole or in part by the Purchaser.

The Bidder shall execute the specified Nondiscrimination Certificate (see Section 00672.3) agreeing that, if awarded the Subcontract, he/she shall not discriminate against any Sub-subcontractor, employee, or applicant for employment on the grounds of race, color, national origin or sex, in accordance with the citations listed in the above paragraph; and shall require the execution of such a certificate for each Sub-subcontractor prior to award of any subcontract with the further requirement that each subcontractor shall include identical requirements in any lower tier subcontracts which might in turn be made. FAILURE TO EXECUTE AND SUBMIT SUCH CERTIFICATE WITH THE BID MAY CAUSE THE BID TO BE REJECTED AS NON-CONFORMING. The successful Bidder and all Sub-subcontractors under the general contract shall maintain copies of their payrolls and all subcontracts for each weekly payroll period for the life of the construction and for a period of **SEVEN (7) YEARS** after final release and payment is made by the Purchaser to the contractor.

#### **00270.10 Equal Business Opportunity Program (EBO)**

The Bidder must complete and return the Equal Business Opportunity Program Compliance Form included in Section 00672.4 of this RFB.

**00370 – Commercial Bid Form (8 pages)**



**00370 - Commercial Bid Form**

**Bidder should refer to Section 00270, Instructions to Bidders, when completing this Bid Form. Bidder shall complete this form entirely and return it with Bidder's Bid.**

00370.1 Bid Submitted by	Bidder Response Column
Company Name	
Mailing Address/Number, Street	
Mailing Address/State, Zip Code	
Country	
Taxpayer ID Number (or EIN)	
Bidder's Bid Date	
Bidder's Bid No.	

00370.2 General Bid Parameters	Bidder Response Column
<b>Bidder is providing the information defined by the articles comprising Section 00270, INSTRUCTIONS TO BIDDERS, in the corresponding fields of this Section 00370, COMMERCIAL BID FORM.</b>	

00370.2.1 Bidder's Contact Information	
Bidder's Representative Name	
Title	
Mailing Address/Number, Street	
Mailing Address/City	
Mailing Address/State, Zip Code	
Delivery Address/Number, Street	
Delivery Address/State, Zip Code	
Country	
Email Address	
Phone Number ( ) - ( )	
Mobile Phone Number ( ) - ( )	
Fax Number ( ) - ( )	

Business Interruption Plan	
Confirm that Bidder maintains a Business Interruption/Disaster Recovery Plan that documents how Bidder will respond to disaster or pandemic to help minimize impact - <b>Yes/No</b> If Yes, plan should be submitted with RFB.	

00370.2.2 Addenda to Request for Bid			
Bidder acknowledges receipt and inclusion of the following Addenda to the RFB - <b>Yes/No</b>			
	Addenda Number	Date Issued	Received and Incorporated

00370.3 Bid Pricing Information	Bidder Response Column
<b>00370.3.1 Bid Prices</b>	<b>See Attached Pricing Table(s) [Bidder to List Tables Used]</b>

00370.4 Supplemental Bid Information	Bidder Response Column
Bidder provides the following information to supplement the Bidder's bid pricing.	

00370.4.1 Company Status	
Bidder's company status is: (i.e. partnership, individual owned, joint venture, corporation, etc.)	
in State of	
in Country of	

00370.4.2 Contractor License	
Bidder certifies that it is licensed, as required, to engage in the RFB Work scope in the State/Province/Country the RFB Work is to be performed. - <b>Yes/No</b>	
1st License Title	
in State/Province of	
License Number	
2nd License Title	
in State/Province of	
License Number	

<b>00370.4.3 Not Used</b>	
<b>00370.4.4 Bid Validity Duration</b>	
Bidder's bid is valid for acceptance by the Purchaser for a period of 180 days from the bid due date. - <b>Yes/No</b>	
<b>00370.4.5 Firm Non-Escalatable Pricing</b>	
All of Bidder's prices herein bid are firm and are non-escalatable. - <b>Yes/No</b>	
<b>00370.4.6 Taxes</b>	
Bidder's prices included herein are in accordance with Article 00571.6 Taxes. - <b>Yes/No</b>	
<b>00370.4.7 Work at Jobsite</b>	
Bidder's source of craft labor to be utilized in the performance of the Work is - <b>Open-Shop/Merit-shop/Union-shop</b>	
If applicable, identify the local union(s) used for hiring craft labor: 1st Local Union Name	
Address/Number, Street	
Address/City, State, Zip Code	
Phone	
Email	
2nd Local Union Name	
Address/Number, Street	
Address/City, State, Zip Code	
Phone	
Email	
Bidder has accounted for all Jobsite existing and controlling conditions and limitations which may affect the Work performance and the Bidder's Bid. - <b>Yes/No</b>	
Bidder proposes that it will perform all the Work at the Jobsite with its own forces. - <b>Yes/No</b>	
Bidder has indicated proposed sub-subcontracted Work in attached Table 00370.4.7. - <b>Yes/No</b>	
Bidder has provided proposed Small Business/Minority/Disadvantaged Entrepreneur Participation Plan with its bid. - <b>Yes/No</b>	
<b>00370.5 Schedule Compliance</b>	
Bidder agrees to meet the schedule dates indicated in the RFB documents: - <b>Yes/No</b>	<b>Bidder Response Column</b>
If No, Bidder has completed and submitted an attached alternative summary level schedule: - <b>Yes/No</b>	
<b>00370.6 Compliance with Request for Bid</b>	
<b>Bidder Response Column</b>	
NOTE: A bid based on Bidder's standard terms and conditions will not be considered.	
Bidder certifies that its bid complies with all RFB commercial and technical requirements. - <b>Yes/No</b>	
<b>00370.7 Bid Attachments</b>	
<b>Bidder Response Column</b>	
In addition to this Commercial Bid Form and Tables indicated herein, the Bidder's Bid contains supplemental information and details attached to this bid consisting of the following:	
(Attachment 1)	
(Attachment 2)	
(Attachment 3)	
(Attachment 4)	
(Attachment 5) (Add additional lines as needed)	
<b>00370.8 Declarations</b>	
<b>Bidder Response Column</b>	
The Bidder declares that it has familiarized itself with the conditions affecting the Work. The Bidder also declares that only the persons or firms interested in the bid as principal or principals are named herein; that no other persons or firms have any interest in this bid or in the Subcontract to be entered into; that this bid is made without connection with any person, company, or party likewise submitting a bid; and that it is in all respects for and in good faith, without collusion or fraud. - <b>Yes/No</b>	
If written notice of acceptance of this bid is delivered to the Bidder within "Bid Validity" days after the date set for receipt of bid, or any time thereafter before the bid validity expires, the Bidder will, within 5 days after receipt of a formal Subcontract for signature, exercise and deliver to Purchaser a signed Subcontract in the form provided by the Purchaser in accordance with the documents provided herein. - <b>Yes/No</b>	

**Bidder Authorized Signature:**

--

**\*must be signed, not typed**



Table 00370.3.1 - Unit Price Bid Form

<b>Bidder should refer to Section 00270, Instructions to Bidders, when completing this Bid Form. Bidder shall complete this form entirely and return it with Bidder's Bid.</b>					
<b>Bid Submitted by:</b> (Company Name)					
<b>00370.3 Bid Pricing Information</b>					
<b>00370.3.1 Unit Pricing</b>					
Bidder proposes to complete the RFB Work based on firm, fixed, unit prices (US dollars), which prices multiplied by the final Work quantities would represent the full consideration to Bidder for its complete and satisfactory performance of the Work in compliance with all the terms and conditions of the RFB Documents. The Unit Prices in this Table include the cost of all the work which is required or implied by the RFB documents or which may be inferred therefrom, and which is customarily provided in furnishing a complete and finished work item of its kind. Further, any and all alterations, modifications, and adjustments to the work item, which is reasonably foreseeable or customarily encountered in providing and installing equipment, material, and services of the work item kind, will be performed without additional compensation.					
In the event of a Purchaser-approved change in the scope of Work for which a unit price from this Table is not applicable, as determined by the Purchaser, the Subcontractor shall provide a new unit price for review and acceptance by the Purchaser. Subcontractor shall provide all information requested by the Purchaser to substantiate the value of the new unit price.					
<b>00370.3.1.1 Unit Prices Breakdown</b>				<b>Bidder Response Columns</b>	
Item Number	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Extension Price
<b>71.0425 Group 3 Point Repair</b>					
Mainline Point Repair					
02540-4.02.A-1.1	Sewer Point Repair, 6" Through 10" Pipe (<10' Deep)	Each	108		\$ -
02540-4.02.A-1.2	Each Additional Linear Foot Beyond the 10 Feet Minimum, For Sewer Point Repair, 6" Through 10" Pipe (<10' Deep)	Linear Foot	30		\$ -
02540-4.02.A-2.1	Sewer Point Repair, 6" Through 10" Pipe (10.1'-15' Deep)	Each	31		\$ -
02540-4.02.A-2.2	Each Additional Linear Foot Beyond the 10 Feet Minimum, For Sewer Point Repair, 6" Through 10" Pipe (10.1'-15' Deep)	Linear Foot	10		\$ -
02540-4.02.A-3.1	Sewer Point Repair, 6" Through 10" Pipe (15.1'-20' Deep)	Each	4		\$ -
02540-4.02.A-3.2	Each Additional Linear Foot Beyond the 10 Feet Minimum, For Sewer Point Repair, 6" Through 10" Pipe (15.1'-20' Deep)	Linear Foot	5		\$ -
02540-4.02.A-3.1	Sewer Point Repair, 6" Through 10" Pipe (>20' Deep)	Each	2		\$ -
02540-4.02.A-3.2	Each Additional Linear Foot Beyond the 10 Feet Minimum, For Sewer Point Repair, 6" Through 10" Pipe (>20' Deep)	Linear Foot	5		\$ -
02540-4.02.A-4.1	Sewer Point Repair, 12" Through 18" Pipe (<10' Deep)	Each	6		\$ -
02540-4.02.A-4.2	Each Additional Linear Foot Beyond the 10 Feet Minimum, For Sewer Point Repair, 12" Through 18" Pipe (<10' Deep)	Linear Foot	5		\$ -
02540-4.02.A-4.1	Sewer Point Repair, 12" Through 18" Pipe (10.1'-15' Deep)	Each	3		\$ -
02540-4.02.A-4.2	Each Additional Linear Foot Beyond the 10 Feet Minimum, For Sewer Point Repair, 12" Through 18" Pipe (10.1'-15' Deep)	Linear Foot	5		\$ -
02540-4.02.B	Each Service Connection and Associated Lateral Pipe	Each	123		\$ -
02540-4.02.C	Traffic Control per Point Repair	Each	154		\$ -
02540-4.02.D	Pavement Backfill for Point Repair	Cubic Yards	9,240		\$ -
02540-4.02.E	Hydroexcavation/Hand Digging	Each	174		\$ -
Install New Manhole					
02531-4.01.B	Precast Manhole Installation	Vertical Foot	60		\$ -
02531-4.01.C	Pavement Backfill for Manholes	Cubic Yards	222		\$ -
02531-4.01.D	Traffic Control per MH Installation/Replacement	Each	14		\$ -
Post-Rehabilitation MACP Inspection					
02544-4.01.A	GPS Coordinates of Manhole Cover	Each	7		\$ -
02544-4.01.C-1	Post Rehab MACP Level 2 Manhole Inspections	Each	7		\$ -
Post-Rehabilitation PACP Inspection					
02541-4.01.A	Post Rehab CCTV Inspection For All Diameters (<24")	Linear Foot	40,516		\$ -
Site Preparation and Restoration					
02630-4.01.A	Removal and Replacement of Vegetated/Turfed Areas	Square Yard	462		\$ -

Item Number	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Extension Price
Pavement and Incidentals					
02950-4.01.A-1	Asphaltic Concrete Pavement Removal and Replacement	Square Yard	2,772		\$ -
02950-4.01.A-2	Concrete Pavement Removal and Replacement	Square Yard	100		\$ -
02950-4.01.B	Concrete Sidewalk Removal and Replacement	Square Yard	200		\$ -
02950-4.01.C	Concrete Curb and Gutter Removal and Replacement	Linear Foot	800		\$ -
02950-4.01.D	Gravel Driveway and Gravel Area Removal and Replacement With Crushed Stone	Ton	6		\$ -
02950-4.01.E	Temporary Cold Patch	Square Yard	250		\$ -
<b>71.0425 Group 3 Point Repair - Total Estimated Unit Price Value</b>					<b>\$ -</b>



**00370.7 Schedule Compliance**

**00370.7.1 Construction Milestone Completion Dates and Applicable Liquidated Damages**

Item	Milestone Description	Construction Milestone Completion Date	*LDs Apply?	Bidder Complies? (Yes/No)
1	Substantial Completion <sup>1</sup> of Work under this Subcontract	335 calendar days after Notice to Proceed	Yes	
2	Final Completion <sup>2</sup> of all Work under this Subcontract	365 calendar days after Notice to Proceed	Yes	

In accordance with Subcontract Article 00574.4 Work Hours, the Work will be completed by **TBD**.

\*LD indicates that completion of the Work after the "Construction Milestone Completion Date" is subject to liquidated damages per applicable Articles of Section 00571.

\*Note: Subcontractor performance will directly impact future procurements for the SARP10 Program, schedule is critical and must be maintained.

<sup>1</sup> Substantial Completion is defined as the date the project is sufficiently complete, in accordance with the construction contract documents, so that the owner may use the facilities for the intended purpose.

<sup>2</sup> Final Completion is defined as: (a) the Work is complete and complies with the requirements of this Subcontract; and (b) Subcontractor has fulfilled all its obligations under this Subcontract except obligations that survive completion of the Work.

00370.8 Schedule of Submittals							
Effective Date: TBD							
The following are post-award Subcontract submittals. This list is not all-inclusive. The RFB documents contain submittal requirements that are not included in this list. It will, however, remain the successful Bidder's responsibility to comply with submittal requirements whether or not the submittal is included in the following list:							
Item	Reference Section	Submittal Item	Submittal Dates			Bidder Agrees? Yes/No	
			Calendar Days	Event	Due Date		
00370.8.1 Commercial Submittals							
C01	None	Executed Subcontract in the form provided by the Purchaser	5	After	Receipt of Subcontract for Signature		
C02	00571	Payment Estimate Breakdown	10	After	Effective Date and Prior to First Payment with monthly updates		
C03	00571	Security Instruments	10	After	Effective Date		
C04	00572	Lien Waivers and Report of Disadvantaged Business Enterprise Participation Form		With	Each Invoice		
C05	00572	Final Lien Waivers from Subcontractor, Sub-subcontractors, and Sub-subcontractors' subcontractors and Report of Disadvantaged Business Enterprise Participation Form		With	Final Invoice		
C06	00571	Final Payment Invoice and Report of Disadvantaged Business Enterprise Participation Form	45	After	Issuance of the Notice Of Final Completion and Acceptance		
C07	00572	Contractor Licenses	14	Before	Mobilization Onsite		
C08	00572	Written Notice and Supporting Documentation, of all Claims	5	After	Occurrence of Event Giving Rise to the Claim		
C09	00572	Insurance Certificates for Purchaser Approval		Prior to	Mobilization		
C10	00572	Initial Issue Subcontractor's Work Execution Schedule	30	After	Effective Date		
C11	00571	Subcontractor Actual Man-hours Expended and Quantities Installed	Weekly	After	Mobilization Onsite		
C12	00575	Subcontractor's Daily Report	Daily	After	Mobilization Onsite		
C13	00575	Signed Daily Reports		Daily	After Mobilization Onsite		
C14	00575	Weekly Coordination Meeting Agenda Input	Weekly	Prior to	Weekly Coordination Meeting		
C15	00575	Subcontractor's Safety, Health and Accident Prevention Program		Prior to	Mobilization Onsite		
C16	00575	Subcontractor's Hazardous Waste Project Health and Safety Plan		Prior to	Mobilization Onsite		
C17	00575	Safety and Health Representative Resume		Prior to	Assignment and Mobilization		
C18	00575	Verification of meeting Hazardous Waste Requirements of 29CFR1910.120	5	Prior to	Mobilization Onsite		
C19	00575	Hazardous Materials Documentation		With	Each Hazmat Shipment		
C20	00575	Safety and Health Records	Monthly	After	Mobilization Onsite		
C21	00575	Evidence that Jobsite Personnel have Passed Drug Testing	10	Prior to	Mobilization Onsite		

00370.8 Schedule of Submittals							
Effective Date: TBD							
The following are post-award Subcontract submittals. This list is not all-inclusive. The RFB documents contain submittal requirements that are not included in this list. It will, however, remain the successful Bidder's responsibility to comply with submittal requirements whether or not the submittal is included in the following list:							
Item	Reference Section	Submittal Item	Submittal Dates			Bidder Agrees? Yes/No	
			Calendar Days	Event	Due Date		
C22	00575	Fall Protection Plan	5	Prior to	Starting Work Operations		
C23	00575	Chemical Hazard Communication Plan, as applicable	5	Prior to	Mobilization Onsite		
C24	00575	Substance Abuse Program	5	Prior to	Mobilization Onsite		
C25	SRF	W-9 of Subcontractor and Sub-subcontractors, also include contact information for each; including email, phone number, and address		With	Bid		
C26	00672.3	Certificate of Nondiscrimination for Subcontractor and Sub-subcontractors		With	Bid		
C27	00672.4	Equal Business Opportunity Program Compliance Form for Subcontractor and Sub-subcontractors		With	Bid		
C28	00672.6	Certification Regarding Debarment Subcontractor and Sub-subcontractors		With	Bid		
C29	00672.6	Certification Regarding Equal Employment Opportunity for Subcontractor and Sub-subcontractors		With	Bid		
C30	00672.6	M/WBE Certificates for both Subcontractor and Sub-subcontractors as applicable		With	Bid		
C31	00672.7	Bid Bond		With	Bid		
C32	00672.6	Employee Rights under the Davis-Bacon Act Poster (English and Spanish)		Posted	All Sites to be easily accessed/viewed and protected from weather		
C33	00672.6	WH-1321 poster		Posted	All Sites to be easily accessed/viewed and protected from weather		
C34	00672.6	Wage Decision		Posted	All Sites to be easily accessed/viewed and protected from weather		
C35	00672.6	American Iron and Steel (AIS) Certification Letter(s)		Upon	Delivery of any / all iron and steel products, as defined by the EPA		
C36	Technical	Technical Data Submittals	Weekly	After	Mobilization Onsite		Yes
<b>Technical Submittals</b>							
Refer to Technical Specifications for Technical Submittal requirements.							

## 00571 - Supplementary Terms and Conditions

### 00571.1 Notices and Correspondence

The parties agree to send all notices arising out of or related to this Subcontract by one of the following methods: (a) personal delivery; (b) certified mail with return receipt; (c) nationally recognized overnight mail or courier service, with delivery receipt requested; or (d) email. The parties may send routine correspondence by email or first-class mail, each without confirmation of receipt. The parties agree to address notices and correspondence as indicated in this article. Subcontractor agrees that delivery of a notice or of correspondence by Purchaser to Subcontractor's at the jobsite constitutes personal delivery.

#### Electronic Technical Correspondence

**Addressed to Purchaser:**

To: Jerry Caldwell  
[CaldwellJ@bv.com](mailto:CaldwellJ@bv.com)

**Addressed to Subcontractor:**

To:

Cc:

#### Non-Electronic Technical Correspondence

**Addressed to Purchaser:**

Overland Contracting Inc.  
845 Crossover Lane, Suite 120  
Memphis, TN 38117  
Attention: Jerry Caldwell  
422234.71.0425

**Addressed to Subcontractor:**

Attention:

422234.71.0425

#### Electronic Commercial Correspondence (excluding invoices)

**Addressed to Purchaser:**

To: Ginny Dorsey  
[Dorsey@bv.com](mailto:Dorsey@bv.com)

**Addressed to Subcontractor:**

To:

Cc:

#### Non-Electronic Commercial Correspondence (excluding invoices)

**Addressed to Purchaser:**

Overland Contracting Inc.  
8400 Ward Parkway  
Kansas City, MO 64114  
Attention: Ginny Dorsey  
422234.71.0425

**Addressed to Subcontractor:**

Attention:

422234.71.0425

#### Electronic Invoices

Subcontractor will submit invoices via the web-based project management platform, Prolog. Invoices will be reviewed, and either approved or returned to Subcontractor for correction. The OCI Project Manager will forward invoices to Black & Veatch Accounts Payable, once they are approved.

In accordance with section 00572.4 Invoicing and Payment, each invoice must clearly show the invoice number, the complete Subcontract project number, the Purchase Order number, the Work covered by the invoice, taxes, and the billing period (if applicable).



## 00571.2 Not Used

### 00571.3 Payment Terms

The following payment terms shall apply in addition to the corresponding provisions contained in Article 00572.4 Invoicing and Payment.

The Parties will meet each month at an agreed time in order to determine the quantity of materials used and man-hours expended during the invoice period. The Parties will use the field progress measurement system to calculate that month's payment total by adding the Subcontract unit price totals based on actual Work completed.

### 00571.4 Security Instruments

Subcontractor shall give Purchaser separate performance and payment bonds in the format of AIA Document 312 - 2010 Performance Bond and Payment Bond, each in the amount of the Subcontract Price. Subcontractor shall submit the bonds to Purchaser by the due date specified in the Article titled "Schedule of Submittals and Applicable Liquidated Damages". The bonding company must be licensed to bond in the state in which the Project is located and must be rated "A" or better by A.M. Best and included in the Department of the Treasury's Listing of Approved Sureties (Department Circular 570).

## 00571.5 Liquidated Damages

### 00571.5.1 General

Subcontractor's failure to meet the requirements identified in this Article 00571.5 will cause Purchaser to incur harm that will be very difficult to ascertain with certainty. The Parties therefore agree the liquidated damages specified in this Article 00571.5 represent a reasonable estimate of Purchaser's harm and are not intended as a penalty. Subcontractor's obligation to pay liquidated damages for breach of one specified requirement, does not relieve Subcontractor of its obligation to pay liquidated damages for breach of another specified requirement. Subcontractor's payment of liquidated damages for breach of the specified requirement is Purchaser's sole and exclusive remedy with regard to Subcontractor's breach of that requirement, except for any other express remedies stated in the Subcontract. If Purchaser terminates the Subcontract for cause, liquidated damages will cease to accrue after the termination date and Subcontractor's remaining liability will be calculated in accordance with Article 00572.17.

### 00571.5.2 Not Used

### 00571.5.3 Construction Milestone Dates

Each construction milestone subject to liquidated damages for late completion is listed in the article titled "Construction Milestone Completion Dates and Applicable Liquidated Damages". If all portions of the Work comprising the construction milestone do not meet the Subcontract requirements on the construction milestone completion date, liquidated damages will accrue for each failure as shown below.

Beginning on the first calendar day after the specified construction milestone completion date for each construction milestone and continuing until the construction milestone is completed, delay liquidated damages will be assessed at the rate of one thousand (\$1,000) dollars per calendar day.

Beginning on the thirty first calendar day after the specified milestone completion date for each milestone and continuing until the milestone is completed, delay liquidated damages will be assessed at the rate of one thousand dollars (\$1,500.00) per calendar day.

### 00571.6 Taxes

Subcontractor shall pay all payroll and other related employment compensation taxes for Subcontractor's employees, federal, state and other taxes which may be assessed on Subcontractor's income from the Project, engineering and business license costs (collectively, the "Subcontractor Taxes"). Subcontractor shall administer and pay all sales, use, gross receipts and excise taxes (collectively, the "Project Taxes"). Subcontract price includes Subcontractor Taxes and all Project Taxes. Purchaser will not be responsible





for any additional charges related to tax that were not included as part of the Subcontract Price. Where applicable, Purchaser shall furnish to Subcontractor a certificate complying with state and local governmental laws, regulations and ordinances identifying any components of the Work to be considered exempt from the Project Taxes. Subcontractor shall cooperate with Purchaser to establish appropriate procedures and minimize the amount of such taxes to the extent reasonable and practical. Subcontractor is responsible for all property taxes on the construction equipment; Owner is responsible for property taxes on all other items incorporated into the project. Subcontractor shall notify Purchaser, and Purchaser shall have the right to review prior to Subcontractor's response to such document, of any correspondence with a federal or local taxing authority as it relates to sales and use, gross receipts, or excise taxes.

## 00572 - General Terms and Conditions

### 00572.1 Definitions

The terms below have the following definitions when used in this Subcontract:

"Applicable Laws" means all laws, statutes, regulations, codes, rules, treaties, ordinances, judgments, permits, decrees, approvals, interpretations, injunctions, writs, orders, or other legal requirements of a governmental body entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing power and having jurisdiction over the jobsite or performance of the Work.

"Claims" means claims, actions, suits, liabilities, demands, damages, losses, costs, expenses (including reasonable attorneys' fees), impacts to price, impacts to schedule, awards, fines and judgments, of every kind and nature.

"Consent Decree" means the negotiated plan between Owner, Department of Justice, Environmental Protection Agency, Tennessee department of Environment and Conservation, and the Tennessee Clean Water Network that requires Owner to develop and implement plans to improve its wastewater systems.

"Final Completion" means: (a) the Work is complete and complies with the requirements of this Subcontract; and (b) Subcontractor has fulfilled all its obligations under this Subcontract except obligations that survive completion of the Work.

"Indemnified Parties" means Owner and its officials, Purchaser, Purchaser's engineer, and the parent companies, related companies, affiliated companies, subsidiaries, successors, and assigns of each, including the shareholders, officers, directors, partners, employees, and agents of each of the above firms. "Indemnified Parties" does not include Subcontractor or any Sub-subcontractor.

"Notice to Proceed" means to written notice provided by Purchaser to Subcontractor releasing Subcontractor to proceed with all or part of the Work.

"Owner" means the City of Memphis, Tennessee.

"Program Manager" means Black & Veatch Corporation or Overland Contracting Inc. (OCI).

"Purchaser" means the party so identified in the Subcontract Agreement.

"Subcontract" means the agreement between Purchaser and Subcontractor consisting of: (a) the Subcontract Agreement; (b) the documents listed in the Subcontract Agreement; (c) written Subcontract revisions; (d) attachments, appendices and exhibits to the Subcontract documents; (e) documents expressly incorporated by reference into the Subcontract; and (e) any requirements that can be reasonably inferred from any of the foregoing.

"Subcontract Agreement" means the Subcontract form executed by Purchaser and Subcontractor.

"Subcontractor" means the party so identified in the Subcontract Agreement.

"Sub-subcontractor" means any party, at any tier, having an agreement with Subcontractor or with a Sub-subcontractor, to perform a portion of the Work.

"Substantial Completion" means the project is sufficiently complete, in accordance with the construction contract documents, so that the owner may use the facilities for the intended purpose.

"Work" means that which Subcontractor is to perform or provide under this Subcontract.

## 00572.2 Interpretation

00572.2.1 This Subcontract is the complete and final agreement between the parties relating to the Work. All prior or contemporaneous negotiations and agreements relating to the Work are superseded by this Subcontract. Exceptions or terms submitted by Subcontractor in the course of accepting this Subcontract are void.

00572.2.2 Provisions of this Subcontract that contemplate performance or obligations subsequent to completion or termination of the Work or contain waivers or limitations of liability will survive such completion or termination. Termination of the Work will not affect the rights and obligations that arose before termination.

00572.2.3 If any provision of this Subcontract is held to be unenforceable, the remaining provisions of this Subcontract will remain in effect.

## 00572.3 Subcontractor's Status

Subcontractor is an independent contractor in the performance of the Work. Subcontractor is solely responsible for the means, methods, sequences, procedures, and safety precautions used or adopted by Subcontractor and any Sub-subcontractor in the performance of the Work. Except as provided in Article 00574.2 and 00574.3, Subcontractor has sole authority and responsibility to employ, manage, discharge, and otherwise control its employees.

## 00572.4 Invoicing and Payment

00572.4.1 Subcontractor shall submit invoices to Purchaser with all documentation required to be submitted with the invoice. Each invoice must be itemized by the Subcontract line number. Each invoice must also clearly show the complete Subcontract project number, the Purchase Order number, the invoice number, the billing period (if applicable), the invoiced amount, retention (if applicable), and the net amount due. The final invoice must contain a copy of Purchaser's notice of Final Completion.

00572.4.2 Subcontractor agrees to provide additional itemization of the Subcontract price as Purchaser reasonably requests. If payment to Subcontractor will be on a time and material basis or a unit price basis, or if Subcontractor files a Claim under Article 00572.13, Subcontractor shall furnish Purchaser complete breakdowns and supporting information in the detail required by Purchaser to verify the accuracy of the invoiced or claimed amounts. Purchaser or Purchaser's designee may audit the aforementioned records at Purchaser's expense.

00572.4.3 Payment by Purchaser does not: (a) constitute approval or acceptance of any portion of the Work; (b) waive any of Purchaser's rights; or (c) relieve Subcontractor from responsibility or liability arising out of or related to this Subcontract. Acceptance by Subcontractor of final payment constitutes a release and waiver of all Claims by Subcontractor against Indemnified Parties.

00572.4.4 Purchaser may withhold or set-off amounts due under this Subcontract on account of Claims arising out of or related to Subcontractor's breach or reasonably anticipated breach of this Subcontract.

00572.4.5 Once Work that has undergone specified QA/QC is submitted, reviewed and approved by the Program Manager, the Subcontractor's invoice will be submitted along with the Program Manager's next invoice to the Owner. The Program Manager's invoice is typically submitted during the second week of each month for work performed during the previous month. Typical payment from the Owner to the Program Manager is anticipated to be forty-five (45) calendar days upon Owner's acceptance of invoice, and the Program Manager will cause the Purchaser to pay the Subcontractor within two weeks of Program Manager's receipt of payment from the Owner.

00572.4.6 Subcontractor agrees that all payments received by Subcontractor under this Subcontract will first be used for, and constitute trust funds for, the payment of all labor and materials used in the Work. Purchaser may, but is not obligated to, issue joint checks to Subcontractor and a Sub-subcontractor or make payment directly to a Sub-subcontractor. Purchaser will deduct amounts paid by joint check to Subcontractor and a Sub-subcontractor or paid directly to a Sub-subcontractor from payment due Subcontractor under this Subcontract. Purchaser may also deduct a reasonable fee to cover administrative costs for such payments. Subcontractor agrees to accept the issuance of joint checks and agrees with Purchaser that neither the right to issue nor the issuance of any joint check is intended to create any contractual relationship with a third party, or any third-party beneficiary rights to payment by Purchaser.

#### **00572.5 Schedule**

Performance of the Work as scheduled under this Subcontract is of the essence. Subcontractor shall give Purchaser written notice of any delay or anticipated delay within three calendar days after the occurrence of the event giving rise to the delay. Subcontractor's notice must identify the cause of the delay or the anticipated delay and the actions Subcontractor is undertaking to recover from or avoid the delay.

#### **00572.6 Waivers of Lien**

As a condition precedent to payment, Subcontractor shall furnish a lien waiver in the form of Article 00672.1 with each invoice except the final invoice. As a condition precedent to payment of the final invoice, Subcontractor shall furnish a lien waiver in the form of Article 00672.2 with the final invoice. If a lien is filed and Subcontractor does not remove or bond around the lien within seven calendar days after receipt of written notice from Purchaser or Owner, Purchaser or Owner may remove the lien. Subcontractor shall reimburse Purchaser or Owner, as applicable, for all costs and expenses incurred by Purchaser or Owner in removing the lien, including reasonable attorneys' fees and court costs.

#### **00572.7 Assignment and Subcontracting**

00572.7.1 Subcontractor may not assign all or part of this Subcontract voluntarily, by operation of law, or otherwise, nor may Subcontractor assign any of the money payable under this Subcontract, without obtaining Purchaser's prior written consent.

00572.7.2 Except for the supply of expendable materials and minor components or the supply of a portion of the Work for which a Sub-subcontractor is named in this Subcontract, Subcontractor may not subcontract the Work without first obtaining Purchaser's written consent. In addition, Subcontractor must obtain a safety prequalification for any Sub-subcontractor that will be performing any portion of the Work at the Jobsite, as outlined in Article 00575.9. If Subcontractor subcontracts any portion of the Work, Subcontractor remains responsible for complying with the Subcontract requirements and is liable to Purchaser for the acts and omissions of Sub-subcontractors, including their failure to comply with the requirements of this Subcontract or fulfill the obligations imposed on Subcontractor by this Subcontract, as if the acts and omissions were those of Subcontractor. Purchaser has the right to contact Sub-subcontractors to discuss their progress of the Work.

#### **00572.8 Passage of Title, Risk of Loss, and Delivery**

Subcontractor warrants that the Work (excluding Subcontractor-furnished items that are not intended to become a permanent part of the project) will be free of all liens, claims, charges, security interests, encumbrances or defects in title. Title to the Work (excluding Subcontractor-furnished items that are not intended to become a permanent part of the project) will pass to Purchaser upon the earlier of Subcontractor's receipt of payment or delivery of the Work to the jobsite. Subcontractor retains the risk of loss of the Work until Purchaser issues the notice of Final Completion. The terms of delivery have the meanings assigned them in the 2020 edition of the Incoterms published by the International Chamber of Commerce, except as modified in this Subcontract.

### 00572.9 Final Completion

Subcontractor shall notify Purchaser in writing when Subcontractor believes the Work meets the requirements for Final Completion. Purchaser will inspect the Work within ten calendar days after Purchaser's receipt of Subcontractor's notice. If Purchaser identifies any defective or non-conforming Work, Subcontractor shall correct that Work in accordance with Article 00572.10. Purchaser will issue a notice that Final Completion has been achieved when the Work meets the requirements for Final Completion. Purchaser's issuance of the notice of Final Completion does not relieve Subcontractor of its obligations under this Subcontract.

### 00572.10 Warranty

00572.10.1 Subcontractor warrants to Purchaser and Owner that the Work: (a) will be new when delivered to the jobsite; (b) will be free from defects in design, material, and workmanship; (c) will comply with Applicable Laws; (d) will comply with the requirements of this Subcontract; and (e) will be fit for the purposes specified. Subcontractor also warrants to Purchaser and Owner that elements of the Work for which this Subcontract does not establish express standards of quality and fitness will comply with good industry practices for the specific application. Subcontractor agrees that Owner may directly enforce the warranties of this Article 00572.10.1.

00572.10.2 Subcontractor shall correct any breach of this warranty within five calendar days after Purchaser gives Subcontractor written notice of the breach. The cost of warranty work and removal or replacement of other work will be at Subcontractor's expense. Subcontractor shall work diligently and without interruption to correct the breach. In the case of emergency where, in the reasonable judgment of Purchaser, delay could result in serious loss or damage to persons or property, Purchaser may correct the defect or nonconformity at Subcontractor's expense.

00572.10.3 The warranty for the Work extends until one year after Final Completion. The warranty applies to all repairs and replacements to the same extent the warranty applies to the original Work. The warranty period for repaired Work or replacements will be extended for a period of one year after the repair or replacement is complete or until the original warranty period expires, whichever occurs later.

00572.10.4 This project is being implemented to provide services to the City of Memphis, through the City's Program Manager, for implementation of the Consent Decree executed on September 20, 2012, civil action number 2:10-cv-02083-SHM-dkv (CD). The City negotiated the Consent Decree with the United States Environmental Protection Agency and the Tennessee Department of Environment and Conservation to implement an assessment and rehabilitation program of the City's wastewater collection and transmission system. Per section II, paragraph 5 of the Consent Decree all contractors performing work required by the Consent Decree must be notified by the City that a copy of the Consent Decree is posted on the City's webpage. This article provides the required notification. The Consent Decree may be reviewed by accessing the City's webpage at:

<http://www.memphistn.gov/Government/PublicWorks/ConsentDecree.aspx>

This page provides a link to the Consent Decree and associated documents. An explanation of each document is also provided. Click on any link to access. Alternatively, the Consent Decree is available at:

<http://www.sarp10.com/consent-decree/>

00572.10.5 Subcontractor acknowledges that Owner's failure to achieve 100 percent compliance with the Consent Decree requirements may result in the imposition of penalties, costs, and other damages imposed against the Owner and Purchaser. To the extent caused by Subcontractor's failure to perform the Work in accordance with this Subcontract or to the extent caused by the negligence of Subcontractor or any Sub-subcontractor, Subcontractor agrees to pay penalties and costs incurred by Owner and Purchaser under the Consent Decree.

## 00572.11 Compliance with Laws

00572.11.1 Subcontractor shall comply with all Applicable Laws in effect during its performance of Work, including but not limited to the City of Memphis Prevailing Wage Ordinance, Davis Bacon, the Fair Labor Standards Act, Occupational Safety and Health Administration (OSHA), and the Americans with Disabilities Act (ADA). Subcontractor shall obtain all licenses, permits, and inspections applicable to the Work except for licenses, permits, and inspections identified in this Subcontract as Purchaser's or Owner's responsibility. Subcontractor shall also comply with the USA's Foreign Corrupt Practices Act.

00572.11.2 Purchaser and Subcontractor shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-4.3(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

00572.11.3 Neither party shall engage in any conduct or activity in the performance of this Subcontract that constitutes a conflict of interest under Applicable Laws.

00572.11.4 The Subcontractor acknowledges to and for the benefit of the City of Memphis ("Purchaser") and the State of Tennessee that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel," that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Subcontractor pursuant to this Agreement. The Subcontractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Subcontractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Subcontractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Subcontractor shall permit the Purchaser or State to recover as damages against the Subcontractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Subcontractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Subcontractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

## 00572.12 Business Practices

00572.12.1 Subcontractor shall uphold the good name and reputation of Purchaser and shall not take any action which is intended to, or which causes damage to or discredits Purchaser. Subcontractor shall not:

- (a) Offer to give or agree to give any director, officer, employee or agent of any potential client a gift or consideration of any kind as an inducement or reward for: (i) doing or declining to do, or for having done or declined to do, any action in relation to obtaining or executing any contract or (ii) for showing or declining to show any favor or disfavor to any person in relation to any possible project; or



- (b) Induce or attempt to induce any officer, servant, or agent of any private or public body to depart from his or her duties to his or her client or, in the case of any officer, servant or agent of a public body, his or her duties to the applicable public body, the applicable body politic, or both.

00572.12.2 Subcontractor shall not engage or employ, on a full, part-time or any other basis during the term of the Prime Agreement and for a period of one year after the termination or expiration, any professional or technical personnel who are or have been at any time during the term of the Prime Agreement in the employ of Owner without the explicit written consent of Owner.

00572.12.3 Nondiscrimination:

(a) Subcontractor certifies and agrees that all persons employed by it, its affiliates, subsidiaries, or holding companies are and will be treated equally without regard to or because of race, creed, color, religion, ancestry, national origin, sexual orientation, sex, age, condition of physical or mental handicap, marital status, or political affiliation, in compliance with all Applicable Laws. Subcontractor shall certify, at Purchaser's request that it is in full compliance with all applicable EEO rules and laws.

(b) Purchaser and Owner reserve the right to investigate any claims of illegal discrimination by Subcontractor and in the event a finding of discrimination is made and upon written notification thereof, Subcontractor shall take all necessary steps to cure and rectify such action to the reasonable satisfaction of Purchaser and Owner. Subcontractor's failure or refusal to do so shall be cause for termination of this Subcontract in accordance with the terms of this Subcontract.

00572.12.4 Purchaser is an affirmative action employer. Accordingly, the parties hereby incorporate by reference the requirements of Executive Order 11246, as amended, and the applicable regulations contained in 41 C.F.R. Parts 60-1 through 60-60; 29 U.S.C. Section 793 and the applicable regulations contained in 41 C.F.R. Part 60-741; 38 U.S.C. Section 4212 and the applicable regulations contained in 41 C.F.R. Part 60-250 and/or 60-300; and 29 C.F.R. Part 471, Appendix A to Subpart A.

00572.12.5 Subcontractor represents and warrants that it has a code of conduct or other set of compliance requirements that is at least as broad as Purchaser's Code of Conduct for Global Business Relationships (hereinafter "Code of Conduct"), or that it will comply with Purchaser's Code of Conduct in all dealings that affect Purchaser. The Code of Conduct and its amendments are expressly incorporated herein by reference and full text of the same can be found at:

<https://www.bv.com/sites/default/files/reports-studies/Code-of-Conduct-for-Global-Business-Relationships>

### **00572.13 Claims**

Subcontractor must give written notice, with appropriate supporting documentation, of all Claims for extra compensation or additional time for performance of the Work within three calendar days after occurrence of the event giving rise to the Claim. Subcontractor acknowledges that failure of Subcontractor to give Purchaser notice and appropriate supporting documentation within the required time frame constitutes a waiver of all Claims arising out of or related to the event.

### **00572.14 Subcontract Revisions and Work Authorizations**

00572.14.1 Purchaser may make additions, deletions, reductions in scope, or other changes to the Work. If a proposed change will cause a material increase or decrease in Subcontractor's cost or time for performance, Subcontractor shall so notify Purchaser in writing, accompanied by supporting documentation, within three calendar days after Subcontractor's receipt of Purchaser's notice of change. If Purchaser agrees with Subcontractor's notice, the parties will negotiate an equitable adjustment to the Subcontract price, to the schedule, or both, in accordance with the Subcontractor's fee for overhead and profit as listed in Article 00572.14.2 below. These adjustments will be reflected in a written Subcontract revision.

00572.14.2 The Subcontractor's fee for overhead and profit shall be determined as follows:

For costs incurred for labor the maximum fee shall be fifteen percent to the Subcontractor or the Sub-subcontractor performing the Work.

For costs incurred for materials and equipment the maximum fee shall be five percent to the Subcontractor or the Sub-subcontractor providing the materials and equipment.

If applicable, the Subcontractor may receive an additional fee of five percent on labor or materials and equipment performed or provided by a Sub-subcontractor, as long as the total combined fee does not exceed fifteen percent.

00572.14.3 A written Subcontract revision is required before Subcontractor is entitled to payment for the Work performed under the Work authorization. Subcontractor will bear the expense of performing any change not supported by a written Work authorization or written Subcontract revision. Purchaser will not be liable to Subcontractor for Claims arising from a decrease in the Work. No change is effective without a written Work authorization or a written Subcontract revision issued by Purchaser.

#### **00572.15 Non-Disclosure**

Subcontractor shall not make any news releases, authorize or participate in any interview concerning this Subcontract, or issue other advertising pertaining to the project or this Subcontract without the prior written approval of Purchaser. Subcontractor shall treat all information provided by Purchaser as confidential and only disclose such information as necessary to perform the Work, and will require the employees, agents, and Subcontractors who need to know to adhere to the terms of this provision.

#### **00572.16 Suspension of Work**

Purchaser may, at any time and in its sole discretion, suspend performance of all or part of the Work by written notice to Subcontractor. If the suspension is unrelated to Subcontractor's failure to comply with this Subcontract, Purchaser will adjust the schedule to reflect the reasonable delay due to the suspension and will reimburse Subcontractor for the reasonable and direct additional costs incurred by Subcontractor due solely to the suspension. Subcontractor shall promptly resume performance of all or part of the suspended Work in accordance with Purchaser's written authorization to resume the Work.

#### **00572.17 Termination for Cause**

If Subcontractor defaults in any obligation under this Subcontract and does not cure the default within ten calendar days after receipt of Purchaser's written notice identifying the default, Purchaser may terminate all or part of the Work.

#### **00572.18 Termination Without Cause**

Purchaser may, at any time and in its sole discretion, terminate all or part of the Work. Subject to Subcontractor's compliance with this Subcontract, Subcontractor will recover from Purchaser, as the complete and final settlement for the terminated Work and all related Claims, a sum equal to Subcontractor's direct cost for the terminated Work satisfactorily performed as of the effective date of termination, plus an allowance for reasonable overhead and profit on such direct cost.

#### **00572.19 Purchaser's Remedies**

00572.19.1 Purchaser may reject defective or nonconforming Work and return the rejected Work to Subcontractor, at Subcontractor's risk and expense, for repair, replacement or credit, at Purchaser's option. If Purchaser chooses to accept defective or nonconforming Work, Subcontractor shall correct the defect or nonconformity in accordance with Article 00572.19.2. However, if Purchaser chooses to accept defective or nonconforming Work without correcting it, Subcontractor and Purchaser will negotiate an equitable reduction in the Subcontract Price to account for the defect or nonconformity.

00572.19.2 If Purchaser discovers a defect or nonconformity in the Work before the Warranty Period begins, Subcontractor shall correct the defect or nonconformity within ten calendar days after Purchaser



gives Subcontractor notice of the defect or nonconformity. In the case of emergency, where in the reasonable judgment of Purchaser, delay could result in serious loss or damage to persons or property or if Purchaser at its sole discretion determines that the Project schedule would be adversely affected if the correction of such defect or nonconformity is not performed before the ten day period expires, Purchaser may correct the defect or nonconformity at Subcontractor's expense.

00572.19.3 If Subcontractor by its action or inaction indicates that it is unable or unwilling to proceed with the Work in a reasonable time or if Purchaser intends to perform any corrective work under Article 00572.10 or 00572.19.3, Purchaser may, upon written notice to Subcontractor, accomplish the Work in question by the most expeditious means available and backcharge Subcontractor for the costs incurred. Subcontractor shall sign and return the notice of backcharge within one calendar day after receipt.

00572.19.4 Subcontractor shall pay all direct costs incurred by Purchaser under Articles 00572.19.2 and 00572.19.3, including engineering, labor, material, transportation, insurance, subcontracts, tools, and equipment. Subcontractor shall also pay twenty-five percent of the direct costs incurred by Purchaser under Articles 00572.19.2 and 00572.19.3 for Purchaser's overhead and general and administrative costs. The performance of Work under this Article 00572.19 does not relieve Subcontractor of its obligations under this Subcontract including, but not limited to, warranty, liquidated damages, and indemnity.

00572.19.5 Purchaser's remedies under this Subcontract and existing at law or in equity are cumulative and may be exercised concurrently.

## **00572.20 Indemnity**

00572.20.1 SUBCONTRACTOR AGREES TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE INDEMNIFIED PARTIES AGAINST ANY CLAIM, LOSS, DAMAGE, EXPENSE, OR LIABILITY (INCLUDING ATTORNEYS' FEES AND COSTS OF ANY SUCCESSFUL ENFORCEMENT OF THIS INDEMNITY ARTICLE) ARISING OUT OF THE PERFORMANCE OR NON-PERFORMANCE BY SUBCONTRACTOR OR ITS SUB-SUBCONTRACTORS, OR THEIR OFFICERS, EMPLOYEES, OR AGENTS.

00572.20.2 Providing that Purchaser is not in breach of its obligation to make payments to Subcontractor for the Work, Subcontractor shall indemnify, defend and hold harmless the Indemnified Parties from any claims or mechanic's liens brought against the Indemnified Parties or against the Project as a result of the failure of Subcontractor, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from Purchaser that such a claim or mechanic's lien has been filed, Subcontractor shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond. If Subcontractor fails to do so, Purchaser will have the right to discharge the claim or lien and hold Subcontractor liable for costs and expenses incurred, including attorneys' fees.

00572.20.3 Subcontractor will immediately notify Purchaser of any claim or suit made or filed against Subcontractor or its Sub-subcontractors in which Purchaser or Owner is named as a co-defendant.

00572.20.4 Subcontractor expressly understands and agree that any insurance coverage required by this Purchase Order or otherwise provided by Subcontractor shall in no way limit Subcontractors responsibility to indemnify, defend, save and hold harmless the Indemnified Parties.

## **00572.21 Insurance Requirements**

00572.21.1 Subcontractor shall, at its sole cost, maintain insurance as required by this Subcontract and shall impose the obligations of this Article 00572.21.1 on all Sub-subcontractors. Subcontractor shall give Purchaser ACORD insurance certificates evidencing the required coverage by the due date identified in article titled "Schedule of Submittals" and as Purchaser may request from time to time. Insurance



certificates shall specifically note "City of Memphis SARP10 Program" in the notes or description area. Subcontractor shall ensure the policies:

- (a) Contain a provision or endorsement that the coverage will not be cancelled, materially changed, or renewal refused unless the insurer gives at least thirty calendar days prior written notice to Purchaser.
- (b) Remain in effect through the warranty period if coverage is occurrence-based and remain in effect at least one year after expiration of the warranty period if coverage is claims-based.
- (c) Are primary with respect to insurance covering Indemnified Parties as additional insureds. All insurance carried by Indemnified Parties will be excess insurance.
- (d) Contain a waiver of all rights of subrogation by the insurance carriers in favor of Indemnified Parties.
- (e) Comply with all Applicable Laws of the jurisdiction in which any part of the Work is to be performed including, but not limited to, admitted and compulsory coverage.
- (f) Are rated "A-" or better by A.M. Best's "Insurance Guide and Ratings."

00572.21.2 Subcontractor shall maintain broad form commercial general liability insurance protecting Subcontractor, and Indemnified Parties as additional insureds (using endorsements CG 20 10 and CG 20 37 or their equivalent), against claims arising out of bodily injury or property damage arising from the Work. The policy must include a cross-liability or severability of interest clause, a per project aggregate endorsement, and coverage for personal injury liability, contractual liability, products and completed operations (covering lawsuits brought in the USA and the country of the jobsite), explosion, building collapse, and damage to underground property. The policy also must not exclude coverage for wildfire and Consultant shall provide a certificate of insurance verifying no such exclusions exist. The policy must include coverage for riggers liability if applicable to the Work. Subcontractor shall maintain policy limits of at least one million dollars for each occurrence.

00572.21.3 Subcontractor shall maintain worker's compensation insurance protecting Subcontractor against all claims under applicable worker's compensation laws, including, but not limited to, the United States Longshoremen's and Harbor Worker's Act and the Jones Act. If Subcontractor is required to maintain worker's compensation insurance in the USA, the worker's compensation insurance must contain an "all states" or "other states" endorsement. For Work performed in the USA, Subcontractor shall also maintain employer's liability insurance protecting Subcontractor against claims for injury, disease or death of employees which are not covered by the worker's compensation insurance. Subcontractor shall maintain worker's compensation policy limits as required by statute and, if applicable to this Subcontract, employer's liability policy limits of at least one million dollars for each occurrence.

00572.21.4 Subcontractor shall maintain comprehensive automobile liability insurance protecting Subcontractor, and Indemnified Parties as additional insureds, against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, whether owned, non-owned, or hired. Subcontractor shall maintain policy limits of at least one million dollars for each occurrence.

00572.21.5 Subcontractor shall maintain umbrella liability insurance that follows the form of the commercial general liability insurance, the employer's liability insurance and the automobile liability insurance. The umbrella liability insurance must protect Subcontractor, and Indemnified Parties as additional insureds, against claims in excess of the limits of the commercial general liability insurance, the employer's liability insurance, and the automobile liability insurance. Subcontractor shall maintain policy limits of at least four million dollars for each occurrence.

00572.21.6 Subcontractor is responsible for maintaining any and all property insurance on their own equipment and shall require all Sub-subcontractors to do likewise.

### 00572.22 Audit

Purchaser reserves the right to audit the records of Subcontractor. Accordingly, Subcontractor shall make and keep as the same accrue, full and complete records and books of accounts of revenue and income, and costs and expenses that specifically relate to performance under this Subcontract. Records and books of account, together with any or all memoranda pertaining thereto that may be kept, maintained, or possessed by Subcontractor, shall be opened to examination during regular business hours by Purchaser or its representatives for the purposes of inspecting, auditing, verifying, or copying the same or making extracts therefrom. Subcontractor shall make and keep said records and books of account for a period of seven (7) years after the completion of the contract obligations of the final payment under the Subcontract, whichever is later.

### 00572.23 Governing Law and Disputes

00572.23.1 Except as detailed in Article 00572.23.2, claims and disputes arising out of or related to this Subcontract will be governed by the law of the State of Tennessee, USA, excluding provisions that would apply the law of another jurisdiction. The Parties hereby elect to exclude application of the United Nations Convention on Contracts for the International Sale of Goods pursuant to Article 6 of the Convention.

00572.23.2 Subcontractor agrees to be bound by all decisions arising out of the claims and dispute resolution process set forth in the Prime Agreement to the extent: (a) the decisions relate to the Work; (b) a claim by Owner against Purchaser involves the performance of Subcontractor or the Work; or (c) a Claim of Subcontractor gives rise to a claim by Purchaser against Owner. The initiation of claim and dispute resolution under the Prime Agreement will stay claim and dispute resolution under this Subcontract on any claim related to the claim under the Prime Agreement. The Parties shall first use their best efforts in an attempt to settle the dispute through negotiations involving themselves and their representatives.

00572.23.3 To the extent Subcontractor will be bound as set forth in Article 00572.23.2, Purchaser consents to Subcontractor's participation in such claim and dispute resolution process. Subcontractor and Purchaser will each bear their own costs associated with their participation in the claim and dispute resolution process. A Party will follow the other Party's directions regarding that other Party's Claims, unless such directions adversely affect the Party's own Claims. In that event, the Parties will agree on how to proceed. Each Party will give the other Party reasonable assistance.

00572.23.4 Disputes between Subcontractor and Purchaser not addressed in Articles 00562.27.2 and 00572.23.3, will be resolved exclusively by the courts of the State of Tennessee located in Shelby County as their jurisdiction permits. To the extent Purchaser or Subcontractor prevails against the other Party on such dispute, reasonable dispute resolution costs including attorney fees are recoverable from the losing Party.

00572.23.5 Pending resolution of any claim or dispute, and without prejudice to Subcontractor's rights, Subcontractor shall continue to perform as directed by Purchaser.

### 00572.24 Hazardous Conditions

00572.24.1 Subcontractor is not responsible for any Hazardous Conditions encountered in the performance of the Work at the Jobsite. Upon encountering any Hazardous Conditions, Subcontractor will stop services immediately in the affected area and duly notify Purchaser. For purposes of this Subcontract, Hazardous Conditions is defined as any materials, wastes, substances and chemicals deemed to be hazardous under any Applicable Law or the handling, storage, remediation, or disposal of which are regulated by Applicable Laws and applies to any hazardous or toxic substance, material, or condition present at the locations in which the Work is performed which was not brought onto such site or sites by Subcontractor for the exclusive benefit of Subcontractor.

00572.24.2 Subcontractor shall be obligated to resume the Work at the affected areas only after Owner's expert provides it with written certification that (i) the Hazardous Conditions have been removed or rendered harmless and (ii) all necessary approvals have been obtained from all Governmental Authority having jurisdiction over the location.

00572.24.3 Subcontractor will be entitled, to an adjustment in its compensation and all times for performance of the Work to the extent Subcontractor cost or time of performance have been adversely impacted by the presence of Hazardous Conditions, subject to submission of appropriate documentation by Subcontractor and Subcontractor's duty to mitigate.

### **00572.25 Force Majeure**

00572.25.1 If Subcontractor is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control, the times for performance shall be reasonably extended by on a not less than day for day basis. By way of example and not of limitation, events that will entitle Subcontractor to an extension of the times for performance include without limitation acts or omissions of Owner or Purchaser, or anyone under Owner's control (including separate contractors), Hazardous Conditions, wars, terrorism, civil unrest, actions and inactions of delay of Governmental Authorities, floods, labor disputes and unrest, unusual delay in transportation, epidemics, earthquakes, tsunamis, adverse weather conditions, and acts of God.

00572.25.2 In addition to Subcontractor's right to a time extension for those events set forth above, Subcontractor shall also be entitled to an appropriate increase in the compensation due to the impacts or delays arising from such events. Subcontractor will file all claims in accordance with Article 00572.13.

## 00574 – Jobsite Operations Terms and Conditions

### 00574.1 Subcontractor Scope of Work

Except as expressly provided in this Subcontract, Subcontractor shall furnish all materials, tools, equipment, vehicles, supplies, services, labor and supervision required to perform the Work. Unless otherwise stated in this Subcontract, the Work includes unloading, off transport, hauling, receiving, storing, maintaining, protecting, erecting, installing, cleaning, adjusting, and all other work required to make the Work ready for use.

### 00574.2 Safety Requirements

00574.2.1 Subcontractor shall conduct all operations under this Subcontract in a manner that avoids the risk of bodily harm and damage to property. At a minimum, Subcontractor shall comply with the requirements of this Article 00574.2, Section 00575, the Loss Control Manual, and Owner's safety requirements. Subcontractor's failure to comply with the requirements of this Article 00574.2, Section 00575, the Loss Control Manual, or Owner's safety requirements constitutes a material breach of this Subcontract.

00574.2.2 When at the jobsite, Subcontractor shall continuously inspect all Work and conduct surveys of all Work areas to identify any unsafe condition and shall immediately take adequate precautions against any unsafe condition identified. Subcontractor is solely and exclusively responsible for the discovery and correction of such conditions. Subcontractor agrees that nothing contained in this Article 00574.2, Section 00575, the Loss Control Manual, or Owner's safety requirements shifts responsibility for bodily harm or damage to property sustained resulting from violation of those provisions from Subcontractor to Owner or Purchaser. Subcontractor remains solely and exclusively responsible for compliance with all safety requirements.

00574.2.3 Subcontractor shall immediately correct any unsafe condition identified by Purchaser. If, in Purchaser's sole discretion, Subcontractor has not taken sufficient precautions for the avoidance of bodily harm and damage to property, or in response to Purchaser's identification of an unsafe condition, Purchaser may stop the Work at Subcontractor's expense or implement suitable precautions at Subcontractor's expense, or both. Purchaser's right to stop the Work and to implement suitable precautions does not impose on Purchaser a duty to exercise those rights and does not relieve Subcontractor of responsibility for damage resulting from violation of this Article 00574.2, Section 00575, the Loss Control Manual, or Owner's safety requirements.

00574.2.4 Compliance with this Article 00574.2, Section 00575, the Loss Control Manual, and Owner's safety requirements is the minimum standard required of Subcontractor. Subcontractor is responsible for examining all Work-related requirements and determining whether additional or more stringent health and safety provisions are required or appropriate for the Work. Subcontractor shall notify Purchaser promptly in writing if a charge of noncompliance with this Article 00574.2, Section 00575, the Loss Control Manual or Owner's safety requirements has been filed against Subcontractor or a Sub-subcontractor in connection with the performance of the Work.

### 00574.3 Labor

Subcontractor shall designate a supervisor at the jobsite who has the authority to act on behalf of and to bind Subcontractor in all matters relating to or arising out of this Subcontract. The supervisor must be fluent in English. Subcontractor agrees to replace, at no cost to Purchaser, any Sub-subcontractor or any personnel of Subcontractor or Sub-subcontractor who Purchaser reasonably requests be replaced.

### 00574.4 Work Hours

Typical Work days consist of a Monday through Friday schedule with a 7am start at the earliest, and a 6pm finish at the latest. Saturday Work may be permitted as necessary. Sunday Work will not be permitted, unless deemed by the Program Manager to be of a critical or emergency nature. No Work is



permitted on Martin Luther King Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Thursday and Friday, Christmas Eve, Christmas and New Year's Day, during the Subcontract duration.

For weekend operations, requests must be submitted in writing by Wednesdays at 5pm.

In cases where the Program Manager does not have the resources available to observe Saturday, Sunday, and/or night work, the request will be denied, and no time extension or impact will be considered.

Night Work, when deemed necessary by the Program Manager; will be permitted as requested (48-hour advanced notice required). Noise attenuated equipment for night work is required when working in residential neighborhoods.

### **00574.5 Protection and Restoration of Property**

00574.5.1 Subcontractor shall, at its expense, protect the Work, the environment, and all other property from hazards arising out of or relating to the Work and from natural elements. Subcontractor shall, at its expense, promptly repair or remove and replace any damage or loss and, to the extent practicable, restore property affected by the Work to its original condition, as determined by Purchaser. Subcontractor is solely responsible for protection of the Work until Final Completion.

00574.5.2 At the completion of the Work, Subcontractor shall remove all Subcontractor-furnished items that are not intended to become a permanent part of the project from the jobsite and shall remove and deposit in Subcontractor-furnished waste facilities all scrap, trash, waste materials, and debris resulting from the Work. Subcontractor shall thoroughly remove all accumulations of dust, scraps, waste, oil, grease, weld spatter, insulation, paint, and other foreign substances resulting from performance of the Work and shall restore all surfaces affected by those substances.



## 00575 - Safety, Health and Accident Prevention

### 00575.1 Project Safety and Health Program

Purchaser will implement and coordinate the overall Project Safety and Health Program as defined in the Loss Control Manual which is available for inspection at <http://www.sarp10.com/safety/>.

### 00575.2 Safety, Health, and Accident Prevention Program

00575.2.1 Subcontractor shall implement and maintain a written Safety, Health and Accident Prevention Program specifically applicable to the Work. Subcontractor's Safety, Health and Accident Prevention Program must meet the requirements of Applicable Laws and adhere to the Project Safety and Health Program, if implemented by Purchaser. Subcontractor shall submit Subcontractor's Safety, Health and Accident Prevention Program for Purchaser's review at least thirty calendar days before starting Work at the jobsite. Purchaser's review does not relieve Subcontractor of Subcontractor's sole responsibility for safety and health in relation to the Work, nor does Purchaser's review limit Subcontractor's obligation to undertake any action necessary to establish and maintain safe working conditions relating to the Work at the jobsite.

00575.2.2 Purchaser may monitor Subcontractor's safety and health performance and may require changes to Subcontractor's Safety, Health and Accident Prevention Program during the performance of the Work. Purchaser's monitoring and requirement of changes does not relieve Subcontractor of Subcontractor's sole responsibility for safety and health in relation to the Work, nor does Purchaser's monitoring and requirement of changes limit Subcontractor's obligation to undertake any action necessary to establish and maintain safe working conditions relating to the Work at the jobsite.

### 00575.3 Hazardous Waste Project Health and Safety Plan

00575.3.1 Subcontractor understands that the Work involves hazardous substances or hazardous wastes. Subcontractor shall comply with all Applicable Laws, Owner's facility rules and regulations, and applicable guidance documents. Subcontractor shall prepare and implement a jobsite-specific Hazardous Waste Project Health and Safety Plan, based on Subcontractor's Safety, Health and Accident Prevention Program and all written programs required by Applicable Laws. Subcontractor is responsible for the completeness and accuracy of Subcontractor's Hazardous Waste Project Health and Safety Plan. Subcontractor shall submit Subcontractor's Hazardous Waste Project Health and Safety Plan to Purchaser at least thirty calendar days before starting Work at the jobsite and shall maintain a copy at the jobsite for review by Purchaser, Owner, and regulatory personnel.

00575.3.2 Before starting Work at the jobsite, Subcontractor shall submit written verification that:

- (a) personnel assigned to the Work have received forty-hour health and safety training that meets the requirements of 29 CFR 1910.120(e) or 1926.65(e);
- (b) the assigned field supervisor has completed eight hours of supervisor training that meets the requirements of 29 CFR 1910.120(e)(4) or 1926.65(e)(4); and
- (c) personnel assigned to the Work are participating in a medical surveillance program that meets the requirements of 29 CFR 1910.120(f) or 1926.65(f).

### 00575.4 Protective Clothing, Equipment and Instrumentation

Subcontractor agrees to furnish special protective clothing, respiratory protective equipment, and monitoring instrumentation as required by Applicable Laws, the project's safety-related plans and programs, and Purchaser's and Owner's rules and regulations. Subcontractor shall ensure that personnel performing Work at the jobsite properly use the clothing, equipment, and instrumentation. Subcontractor shall furnish and maintain all safety equipment, including but not limited to, barriers, signs, warning lights, and guards necessary for adequate protection of persons and property.

### 00575.5 Safety and Health Representative

The Subcontractor shall identify a qualified person to be its representative for Environmental, Safety, Health & Security matter and make this person available as needed and requested by the Purchaser. The representative must have authority to correct unsafe conditions and to stop Work in the area of an unsafe condition. In addition, the representative shall routinely visit the jobsite.

### 00575.6 Safety and Health Goal

Subcontractor shall endeavor to attain the project's safety goal of zero injuries. Subcontractor shall maintain accurate accident and injury reports and shall furnish Purchaser a monthly summary of injuries and man-hours lost due to injuries by the third of each month. Subcontractor accident rates must be calculated monthly in accordance with the Bureau of Labor Statistics incident rate, frequency rate, and days away from work rate methods. If Subcontractor or Sub-subcontractor accident rates exceed the project's safety goal, Subcontractor shall take immediate corrective action, which may include, but is not limited to:

- (a) Submittal of a written corrective action plan to Purchaser by Subcontractor;
- (b) Additions or modifications to Subcontractor's Safety, Health and Accident Prevention Program;
- (c) Removal from the jobsite of any Subcontractor or Subcontractor personnel not implementing or following the necessary safety and health measures; and
- (d) Increasing the amount of Subcontractor safety and health training.

### 00575.7 Drug Prevention Program

As part of the Work, Subcontractor shall assist Purchaser in administering the project requirements for a drug detection and prevention program. Subcontractor agrees that all costs for drug testing and alcohol testing are included in the Subcontract price. Subcontractor must provide evidence to Purchaser that all personnel assigned to the Work at the jobsite have passed the drug test within three calendar days of completion of the test. The drug detection and prevention program will include, but will not be limited to, the following: (a) a pre-jobsite assignment test; and (b) post-jobsite assignment tests, such as reasonable suspicion tests, post-accident tests, and unannounced random drug tests of ten percent of the workforce on a monthly basis.

### 00575.8 Fall Protection

The OSHA Fall Protection Standard 29 CFR 1926 Subpart M shall be strictly adhered to by the Subcontractor. Fall protection is required for all of Subcontractor's Work operations one hundred percent of the time, whether climbing, traveling, or working. NO WORK OPERATION is exempt from the six (6) foot fall protection requirement.

Prior to starting work operations requiring fall protection, Subcontractor shall submit to Purchaser a fall protection plan. The fall protection plan shall include, but not be limited to, the following:

- Name of qualified person in charge of operation.
- Description of work operation.
- List of fall exposures.
- Description of fall protection methods used to eliminate fall exposures.
- Training and enforcement methods used to ensure employee compliance with the plan.

Fall protection body harnesses, lanyards, and lifelines shall be used in accordance with OSHA Standard 1926 Subpart 502D, with the following exceptions:



- Full body harnesses shall be used in lieu of safety belts.
- Only lanyards with shock absorbers and locking type snap hooks shall be used.
- At least two lanyards shall be used to provide one hundred percent fall protection when moving around obstructions, connection points, or other similar items.

Fall protection guardrail systems shall comply with OSHA Standard 1926 Subpart 502(b) except manila, plastic, or synthetic rope shall not be used as guardrails.

#### **00575.9 Sub-subcontractor Safety Prequalification**

Prior to any Sub-subcontractor performing Work on the Jobsite the Sub-subcontractor must obtain a Sub-subcontractor safety prequalification from Purchaser. In order to obtain the safety prequalification, Subcontractor or its Sub-subcontractor shall submit to Purchaser evidence that the Sub-subcontract has an Experience Modification Rating or equivalent rating of 1.0 or less and that incident rates (Recordable Incident Rate, Loss Time Incident Rate, and Days Away/Restricted or Job Transfer rate) are below the national average during the last three years. In addition, Subcontractor or Sub-subcontractor must submit sufficient information to allow Purchaser to evaluate any Occupational Safety and Health Administration (OSHA) violations received by Sub-subcontractor within the last three years and any other documentation Purchaser may reasonably require. Purchaser's safety manager will review the submission and provide a safety prequalification if Purchaser, in its sole discretion, determines the Sub-subcontractor meets Purchaser's safety requirements. Subcontractor or its Sub-subcontractor must submit the requirements prior to Sub-subcontractor first mobilizing to the Jobsite.

#### **00575.10 Confined Spaces**

All employees entering confined spaces and all attendants for such entries including supervisors shall receive confined space entry training and emergency rescue training at a minimum of once per year.

#### **00575.11 Third Party Medical Triage**

Subcontractor shall retain the services of a third-party medical triage company that meets the following criteria:

- Must employ medical doctors that understand occupational medicine and the rules set forth by OSHA for first aid treatment of work-related injuries and illnesses
- Ability to provide virtual real-time consultation with medical doctors for injury triage, with injured worker
- Available 24 hours a day, 7 days per week, and 365 days per year

Subcontractor shall require retention of identical services for each subcontractor, with the further requirement that each lower tier subcontractor shall include identical requirements in any lower tier subcontracts, which might in turn be made.

**00672 - General Conditions Attachments**

**00672.1 Partial Waiver and Release of Lien Rights**

**AFFIDAVIT AND PARTIAL WAIVER OF CLAIMS AND LIENS  
AND RELEASE OF RIGHTS FOR SUBCONTRACTORS**

The undersigned, who is the \_\_\_\_\_ (designate title) of \_\_\_\_\_ which is the Subcontractor (designate whether subcontractor, supplier or otherwise) for the Group 3 Point Repair (designate the type of work, supplies or services rendered) on the improvements constructed on the premises hereafter identified, declares that his or her contract with **Overland Contracting, Inc. (Purchaser)** is in the total amount of \$\_\_\_\_\_, which includes extras and all change orders to the date hereof.

The undersigned further states that as of \_\_\_\_\_ (date) the total value of work completed, and material stored is \$\_\_\_\_\_. Of this amount \$\_\_\_\_\_ has been received (the receipt and sufficiency of which is hereby acknowledged by the undersigned including \$\_\_\_\_\_ in payment of Payment Application or Invoice Number \_\_\_\_\_).

In consideration of the amounts and sums received, the undersigned does hereby waive and release to the **City of Memphis (Owner)** and to **Overland Contracting, Inc. (Purchaser)** any and all claims and liens and rights to liens upon the premises described below and upon improvements now thereon, and upon the monies or other considerations (due as of the date of the aforesaid payment application or invoices from the **City of Memphis (Owner)** or **Overland Contracting, Inc. (Purchaser)** or from any other person, firm or corporation), said claims and liens and rights to liens being on account of labor, services, materials, fixtures or apparatus heretofore furnished by or at the request of the undersigned. The premises as to which said claims and liens and rights to liens are hereby released are identified as follows:

**Project Name: Group 3 Point Repair**

**Address of Project:**

**City: Memphis** County: **Shelby** State: **TN** Zip Code: \_\_\_\_\_

The undersigned further represents and warrants that he or she is duly authorized and empowered to sign and execute this waiver on his or her own behalf and on behalf of the company or business for which he or she is signing; that he or she has properly performed all work and furnished all the materials of the specified quality per plans and specifications and in a good and workmanlike manner through the date of said payment application or invoice; that he or she has paid for all the labor, materials, equipment, and services that he or she has used or supplied to the above premises through the date of said payment application or invoice; that he or she has no other outstanding and unpaid payment applications, invoices, retentions, holdbacks, chargebacks or unbilled work or materials against **Overland Contracting, Inc. (Purchaser)** as of the date of the aforementioned payment application; and that any materials which have been supplied or incorporated into the above premises were either taken from his or her fully-paid or open stock or were fully paid for and supplied as stated on the payment application or invoice.

The undersigned further agrees to reimburse and does hold harmless and fully indemnify the **City of Memphis (Owner)** and **Overland Contracting, Inc. (Purchaser)** for any losses or expenses should any such claims, lien or right to a lien be asserted (by the undersigned or by any laborer, materialman or subcontractor of the undersigned), including, without implied limitation, attorneys' fees incurred in the defense thereof.



The undersigned further accepts and acknowledges the receipt of the aforesaid sums in full accord and satisfaction for the aforementioned claims with full knowledge that the contractors, **City of Memphis (Owner)** and **Overland Contracting, Inc. (Purchaser)**, their successors and assigns, are relying thereon; and furthermore, the undersigned agrees to perform, now and in the future, each and every covenant and provision of this written contract or supplier's agreement (as the case may be) as modified or changed in writing with **Overland Contracting, Inc. (Purchaser)** or any subcontractor of **Overland Contracting, Inc. (Purchaser)** hereby acknowledging that said contract or supplier's agreement is now in full force and effect.

In addition, for and in consideration of the amounts and sums received, the undersigned hereby waives, releases and relinquishes any and all claims, rights or causes of action whatsoever arising out of or in the course of the work performed on the above-mentioned project, contract or event transpiring prior to the date hereof, excepting the right to receive payment for work performed and properly completed and retainage, if any, after the date of the above-mentioned payment application or invoices.

Signed and delivered the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Company \_\_\_\_\_

By: \_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

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

Before me, the undersigned Notary Public in and for the said County and State, personally appeared \_\_\_\_\_, and acknowledged execution of the foregoing affidavit as his or her voluntary act and deed and further stated that the facts recited are true of his or her personal knowledge.

My Commission Expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Public

Residence County/State: \_\_\_\_\_

**00672.2 Final Waiver and Release of Lien Rights**

**AFFIDAVIT AND FINAL WAIVER OF CLAIMS AND LIENS  
AND RELEASE OF RIGHTS FOR SUBCONTRACTORS**

The undersigned, who is the \_\_\_\_\_ (designate title) of \_\_\_\_\_ which is the \_\_\_\_\_ Subcontractor (designate whether subcontractor, supplier or otherwise) for the \_\_\_\_\_ Group 3 Point Repair (designate the type of work, supplies or services rendered) on the improvements constructed on the premises hereafter identified, declares that his or her contract with **Overland Contracting, Inc. (Purchaser)** is in the total amount of \$ \_\_\_\_\_, which includes extras and all change orders to the date hereof.

The undersigned further states that as of \_\_\_\_\_ (date) all work on said project has been performed and completed in accordance with the plans and specifications for the project, and said work has been accomplished in accordance with the terms and conditions of his or her subcontract and those documents which, by reference, are a part of said subcontract. The total value of work completed and material stored is \$ \_\_\_\_\_. Of this amount \$ \_\_\_\_\_ has been received (the receipt and sufficiency of which is hereby acknowledged by the undersigned including \$ \_\_\_\_\_ in payment of Payment Application or Invoice Number \_\_\_\_\_).

In consideration of the amounts and sums received, the undersigned does hereby waive and release to the **City of Memphis (Owner)** and to **Overland Contracting, Inc. (Purchaser)** any and all claims and liens and rights to liens upon the premises described below and upon improvements now thereon, and upon the monies or other considerations (due as of the date of the aforesaid payment application or invoices from the **City of Memphis (Owner)** or **Overland Contracting, Inc. (Purchaser)** or from any other person, firm or corporation), said claims and liens and rights to liens being on account of labor, services, materials, fixtures or apparatus heretofore furnished by or at the request of the undersigned. The premises as to which said claims and liens and rights to liens are hereby released are identified as follows:

**Project Name: Group 3 Point Repair**

**Address of Project:**

**City: Memphis County: Shelby State: TN Zip Code: \_\_\_\_\_**

The undersigned further represents and warrants that he or she is duly authorized and empowered to sign and execute this waiver on his or her own behalf and on behalf of the company or business for which he or she is signing; that he or she has properly performed all work and furnished all the materials of the specified quality per plans and specifications and in a good and workmanlike manner as required by the contract; that he or she has paid for all the labor, materials, equipment, and services that he or she has used or supplied to the above premises as required by the contract; that he or she has no other outstanding and unpaid payment applications, invoices, retentions, holdbacks, chargebacks or unbilled work or materials against **Overland Contracting, Inc. (Purchaser)**; and that any materials which have been supplied or incorporated into the above premises were either taken from his or her fully-paid or open stock or were fully paid for and supplied as stated on the payment application or invoice.

The undersigned further agrees to reimburse and does hold harmless and fully indemnify the **City of Memphis (Owner)** and **Overland Contracting, Inc. (Purchaser)** for any losses or expenses should any such claims, lien or right to a lien be asserted (by the undersigned or by any laborer, materialman or subcontractor of the undersigned), including, without implied limitation, attorneys' fees incurred in the defense thereof.



The undersigned further accepts and acknowledges the receipt of the aforesaid sums in full accord and satisfaction for the aforementioned claims with full knowledge that the contractors, **City of Memphis (Owner)** and **Overland Contracting, Inc. (Purchaser)**, their successors and assigns, are relying thereon; and furthermore, the undersigned agrees to perform, now and in the future, each and every covenant and provision of this written contract or supplier's agreement (as the case may be) as modified or changed in writing with **Overland Contracting, Inc. (Purchaser)** or any subcontractor of **Overland Contracting, Inc. (Purchaser)** hereby acknowledging that said contract or supplier's agreement is now in full force and effect.

In addition, for and in consideration of the amounts and sums received, the undersigned hereby waives, releases and relinquishes any and all claims, rights or causes of action whatsoever arising out of or in the course of the work performed on the above-mentioned project, contract or event transpiring prior to the date hereof, except retainage, if any, after the date of the above-mentioned payment application or invoices.

Signed and delivered the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Company \_\_\_\_\_

By: \_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

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

Before me, the undersigned Notary Public in and for the said County and State, personally appeared \_\_\_\_\_, and acknowledged execution of the foregoing affidavit as his or her voluntary act and deed and further stated that the facts recited are true of his or her personal knowledge.

My Commission Expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Public

Residence County/State: \_\_\_\_\_

**00672.3 Certificate of Nondiscrimination**

As Bidder, Contractor, or Subcontractor on Purchaser's Contract, **Group 3 Point Repair**

The undersigned states that it does not discriminate against any subcontractor, employee, or applicant for employment on the grounds of race, color, national origin or sex and, if awarded a contract for this project, agrees in performance of work:

1. Not to discriminate against any subcontractor, employee, or applicant for employment on the grounds of race, color, national origin or sex;
2. To maintain payrolls of laborers and mechanics employed on this contract until seven (7) years after final release and final payment by the City;
3. To require a similar certificate to be executed by each subcontractor at the time a subcontract is executed under the contract with the requirement that such subcontractor agrees to require a similar certificate of requirement on any lower tiers of subcontracts.
4. To conform to federal law, state statutes, executive orders, and local ordinances identified and listed under Non-discrimination.

\_\_\_\_\_  
Subcontractor's Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed or Typed Name and Title

**THIS FORM MUST BE SUBMITTED WITH THE BID OR  
THE BID MAY BE CONSIDERED NON-CONFORMING.**



#### 00672.4 Equal Business Opportunity Program

*This form must be submitted with Bidder's bid. Failure to execute and submit this document with Bidder's bid may cause the Bid to be rejected as non-conforming. In addition, each Sub-Subcontractor must execute the form.*

This Subcontract will be subject to the requirements of the City of Memphis Ordinance #5384 which establishes the Equal Business Opportunity ("EBO") Program. It is up to the Respondent to ensure that all requirements of this ordinance are met. The Ordinance may be accessed on the City's website at [www.memphistn.gov](http://www.memphistn.gov) under "Business – Contract Compliance". The intent of the EBO Program is to increase the participation of locally owned minority and women owned business enterprises ("M/WBE"). Toward achieving this objective, the overall M/WBE participation goal for this solicitation is 15%. The percentage of overall M/WBE participation is defined as the dollar value of subcontracts awarded to certified (as identified by the City of Memphis EBO list) minority and/or women business enterprises divided by the total proposed base bid amount.

Additionally, in accordance with federal executive Order 11625 and 12138, the local government must make a good faith effort to include participation from Disadvantage Business enterprises (DBE) in sub-agreement awards. The SRF Fair Share DBE goal for this project is a minimum of **2.6%** WBE and minimum of **2.6%** MBE (as identified by the Tennessee Uniform Certification Program list, other State or Federal DBE lists, or the City of Memphis EBO list). **Please note Subcontractor must meet both percentages independently to satisfy the requirements.**

SRF Fair Share Goals:

MBE goal – Construction **2.6%**

WBE goal – Construction **2.6%**

(Vendors from the TDOT TNUCP DBE list, other State or Federal DBE lists, or the City of Memphis EBO list)

SARP10 DBE Participation Goal:

MBE minimum **15%**

(Vendors from the City of Memphis EBO list only)

#### Participation Plan

The Participation Plan must include: (1) level and dollar amount of participation your firm anticipates achieving in the performance of contract resulting from this RFB; (2) the type of work to be performed by the M/WBE participation; and (3) the names of the M/WBE and/or DBE firm(s) the Respondent plans to utilize in the performance of the contract resulting from this RFB.

#### Eligible M/WBE and/or DBE Firms

To qualify as a M/WBE firm, per the requirements of City of Memphis Ordinance #5384, a firm must be included on the City of Memphis EBO list of certified M/WBE firms. All contractors identified as an SRF Fair Share M/WBE firm must be on the Tennessee Uniform Certification Program (TNUCP) list, other State or Federal DBE lists, or the City of Memphis EBO list at the time of the bid opening.

A list of the City's eligible M/WBE firms may be requested from Purchaser as a guide only. If a Bidder desires to utilize an M/WBE firm not included on the list, it is the Bidder's responsibility to confirm that the desired firm is certified by the City of Memphis. Such confirmation must be obtained from the City's Contract Compliance Office, in writing, before the bid/response due date. Requests for verification must be submitted to the City's Contract Compliance Office listed below:

Ken Moody  
City of Memphis, Contract Compliance Office  
125 North Main Street, Suite 546  
Memphis, TN 38103  
Phone: (901) 576-6210  
Fax: (901) 576-6560  
Email: [ken.moody@memphistn.gov](mailto:ken.moody@memphistn.gov)





**MINORITY/WOMEN BUSINESS ENTERPRISE COMPLIANCE FORM**

**SUBCONTRACT TITLE: Group 3 Point Repair**

Project Participation Goal: MBE minimum **2.6%**  
WBE minimum **2.6%**  
DBE minimum **15%**

The following sections must be completed by Bidder. A certified subcontractor or supplier is defined as a firm from the list of certified firms provided with this specification.

\_\_\_\_\_  
Bidder's Name

Section A - If the Bidder is a certified firm, so indicate here with a check mark.

\_\_\_\_\_ MBE      \_\_\_\_\_ WBE      \_\_\_\_\_ DBE

Section B - Identify below those certified firms that will be employed as subcontractors or suppliers on this Project. By submitting this Proposal, the Bidder commits to the use of the firms listed below.

- \$                =        Show the dollar value of the subcontract to be awarded to this firm
- %                =        Show the percentage this subcontract is of your base Proposal
- M/WBE         =        Show by inserting an M or W whether the subcontractor is an MBE or WBE

\$	%	<u>M/WBE</u>	<u>DBE</u>	<u>CERTIFIED SUBCONTRACTOR NAME, ADDRESS, TEL #</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

\$ \_\_\_\_\_ % \_\_\_\_\_ = **Total M/WBE and/or DBE**

**THIS FORM MUST BE SUBMITTED WITH THE PROPOSAL OR THE PROPOSAL MAY BE CONSIDERED NON-CONFORMING**



**00672.5 Report of Disadvantaged Business Enterprise Participation Form (1 page)**



PROJECT NUMBER: 422234.71.0425

## SUBCONTRACTOR'S REPORT OF DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

Project Name: Group 3 Point Repair Month of \_\_\_\_\_, 2025

General Contractor: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Telephone: \_\_\_\_\_

Address: \_\_\_\_\_ Email: \_\_\_\_\_

Amount of Subcontract: \$ \_\_\_\_\_ MBE %: \_\_\_\_\_ WBE %: \_\_\_\_\_

**DBE Information: Circle Either MBE or WBE and Complete Form.**

MBE / WBE Firm Name: \_\_\_\_\_ Contact Person: \_\_\_\_\_

Date of Award: \_\_\_\_\_ Contract Value: \$ \_\_\_\_\_

Completed to Date: \$ \_\_\_\_\_ Paid to Date: \$ \_\_\_\_\_

Work Description: \_\_\_\_\_ Telephone: \_\_\_\_\_

Amount Invoiced This Period: \$ \_\_\_\_\_ Email: \_\_\_\_\_

---

MBE / WBE Firm Name: \_\_\_\_\_ Contact Person: \_\_\_\_\_

Date of Award: \_\_\_\_\_ Contract Value: \$ \_\_\_\_\_

Completed to Date: \$ \_\_\_\_\_ Paid to Date: \$ \_\_\_\_\_

Work Description: \_\_\_\_\_ Telephone: \_\_\_\_\_

Amount Invoiced This Period: \$ \_\_\_\_\_ Email: \_\_\_\_\_

---

MBE / WBE Firm Name: \_\_\_\_\_ Contact Person: \_\_\_\_\_

Date of Award: \_\_\_\_\_ Contract Value: \$ \_\_\_\_\_

Completed to Date: \$ \_\_\_\_\_ Paid to Date: \$ \_\_\_\_\_

Work Description: \_\_\_\_\_ Telephone: \_\_\_\_\_

Amount Invoiced This Period: \$ \_\_\_\_\_ Email: \_\_\_\_\_

---

MBE / WBE Firm Name: \_\_\_\_\_ Contact Person: \_\_\_\_\_

Date of Award: \_\_\_\_\_ Contract Value: \$ \_\_\_\_\_

Completed to Date: \$ \_\_\_\_\_ Paid to Date: \$ \_\_\_\_\_

Work Description: \_\_\_\_\_ Telephone: \_\_\_\_\_

Amount Invoiced This Period: \$ \_\_\_\_\_ Email: \_\_\_\_\_

---

**Attach additional pages as required.**

General Contractor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### **00672.6 State Revolving Fund (SRF) Front-Ends (124 pages)**

This Project 422234.71.0425 must maintain SRF compliance for the SARP10 Program, the SRF "Front-Ends" consisting of various forms and documents are attached herein. Furthermore, Davis Bacon is referenced within these SRF Front-Ends and applies to the scope of Work. As a special note, the Bidder's Requirements on page 37 of 124 of the SRF Front-Ends, outlines Pre-Bid Requirements where all bidders must send certified mail and return receipts to a minimum of 10 certified DBE subcontractors, soliciting their service.

The following SRF Forms are to be submitted with your Bid and will be attached to the Subcontract:  
*(Please also include a signed form from each Sub-subcontractor as applicable refer to Table 00370.8 Schedule of Submittals)*

1. Certification Regarding Debarment (page 2 of 124)
2. Certification Regarding Equal Employment Opportunity (page 3 of 124)
3. EPA Form 6100-3 (page 29-30 of 124)
4. EPA Form 6100-4 (page 31-32 of 124)

# STATE REVOLVING FUND LOAN PROGRAM

## Inserts for Specifications

### Clean Water – Unsubsidized

#### Projects Funded with FY 2010 and After Funds

Subject	File Name
Certification Regarding Debarment	02_CertificationRegardingDebarment.pdf
Certification Regarding Equal Employment Opportunity	03_CertificationRegardingEqualEmploymentOps.pdf
Retainage – TCAs 66-34-104, 203,103	04_RetainageTCAs.pdf
Advertisement for Bids Example – DBE	05_AdvertisementForBidsExample_DBE.pdf
DBE-Guidance Document	06_DBE01_GuidanceDocument.pdf
DBE-Loan Recipient's Requirements	06_DBE02_LoanRecip_Requirements.pdf
DBE-Loan Recipient's Good Faith Effort Letter	06_DBE03_LoanRecip_GoodFaithEffortLtr.pdf
DBE-Loan Recipient's Certification Summary Form	06_DBE04_LoanRecip_CertificationSummaryForm.pdf
DBE-Bidder's Requirements	06_DBE05_BidderRequirements.pdf
DBE Form 6100-2 Contractor Receipt Letter	06_DBE06_Form6100_2_ContractorReceiptLtr.pdf
DBE Form 6100-2 Subcontractor Participation	06_DBE07_Form6100_2_SubcontractorParticipation.pdf
DBE Form 6100-3 Subcontractor Performance	06_DBE08_Form6100_3_SubcontractorPerformance.pdf
DBE Form 6100-4 Subcontractor Utilization	06_DBE09_Form6100_4_SubcontractorUtilization.pdf
DBE-Certified List	06_DBE10_CertifiedList.pdf
Davis Bacon Poster - English	08_DavisBacon_Poster_English.pdf
Davis Bacon Poster - Spanish	08_DavisBaconsigninSpanish.pdf
Project Wage Sheet - HUD-4720	08_ProjectWageSheet_HUD-4720.pdf
Wage Rate - Bidder's Guidance to Davis Bacon	08_WageRates_BidderGuidanceToDavisBacon_20110215.pdf
Wage Rate – Loan Recipient's Guidance to DavisBacon	08_WageRates_LoanRecipGuidanceToDavisBacon_20110215.pdf
Tracking and Reporting – Loan Recipient's and Contractor's Guidance	09_TrackingAndReporting_LoanRecipAndBidderGuidance_FY2010andAfter.pdf
Storm Water General Permit NOI	11_StormWater_NOI.pdf
Storm Water General Permit NOT	11_StormWater_NOT.pdf
Project Sign Detail - Clean Water – Unsubsidized	14_CWSRF_ProjectSign_Color_Unsubsidized.pdf
Project Sign Detail - Clean Water – Unsubsidized	14_CWSRF_ProjectSign_NoColor_Unsubsidized.pdf
Bid Package Submittal Requirements	15_BidPackageSubmittalRequirements.pdf
Letter In Lieu of a Site Certificate	16_LetterInLieuofaSiteCertificate.pdf
Site Certificate	16_SiteCertificate.pdf

# U.S. Environmental Protection Agency

## CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

---

Typed Name & Title of Authorized Representative

---

Signature of Authorized Representative

---

Date

I am unable to certify to the above statements. My explanation is attached.

**CERTIFICATION BY PROPOSED PRIME OR SUBCONTRACTOR REGARDING  
EQUAL EMPLOYMENT OPPORTUNITY**

---

**Name of Prime Contractor**

**Project Number**

**INSTRUCTIONS**

This certification is required pursuant to Executive Order 11246, Part II, Section 203 (b), 30 F.R. 12319-25). Any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the prime or subcontractor has not filed a compliance report due under applicable instruction, such contractor shall be required to submit a compliance report.

---

**CONTRACTOR'S CERTIFICATION**

**Contractor's Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause. Yes  No
2. Compliance Reports were required to be filed in connection with such contract or subcontract. Yes  No

If yes, state what reports were filed and with what agency.

\_\_\_\_\_

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100. Yes  No
4. If answer to Item 3 is NO, please explain in detail on reverse side of this certification.

---

Certification - The information above is true and complete to the best of my knowledge and belief. (A willfully false statement is punishable by law-U.S. Code, Title 18, Section 1001.)

---

**Name and title of signer (Please type)**

---

**Signature**

---

**Date**



## Tenn. Code Ann. § 66-34-103

Copy Citation

Current through the 2022 Regular Session.

[TN - Tennessee Code Annotated](#)   [Title 66 Property](#)   [Chapter 34 Prompt Pay Act](#)   [Part 1](#)  
[General Provisions](#)

### 66-34-103. Withholding of retainage — Violations — Penalties.

- (a)** All construction contracts on any project in this state, both public and private, may provide for the withholding of retainage; provided, however, that the retainage amount may not exceed five percent (5%) of the amount of the contract.
- (b)** The owner, whether public or private, shall release and pay all retainages for work completed pursuant to the terms of any contract to the prime contractor within ninety (90) days after completion of the work or within ninety (90) days after substantial completion of the project for work completed, whichever occurs first. As used in this subsection (b), “work completed” means the completion of the scope of the work and all terms and conditions covered by the contract under which the retainage is being held. The prime contractor shall pay all retainages due any remote contractor within ten (10) days after receipt of the retainages from the owner. Any remote contractor receiving the retainage from the prime contractor shall pay to any lower-tier remote contractor all retainages due the lower-tier remote contractor within ten (10) days after receipt of the retainages.
- (c)** Any default in the making of the payments is subject to those remedies provided in this part.
- (d)** If an owner or prime contractor withholds retainage that is for the use and benefit of the prime contractor or its remote contractors pursuant to § 66-34-104(a) and (b), then neither the prime contractor nor any of its remote contractors are required to deposit additional retained funds into an escrow account in accordance with § 66-34-104(a) and (b).
- (e)**
- (1)** It is an offense for a person, firm, or corporation to fail to comply with subsection (a) or (b) or § 66-34-104(a).

**(2)**

**(A)** A violation of this subsection (e) is a Class A misdemeanor, subject to a fine only of three thousand dollars (\$3,000).

**(B)** Each day a person, firm, or corporation fails to comply with subsection (a) or (b) or § 66-34-104(a) is a separate violation of this subsection (e).

**(C)** Until the violation of this subsection (e) is remediated by compliance, the punishment for each violation is consecutive to all other violations.

**(3)** In addition to the fine imposed pursuant to subdivisions (e)(2)(A) and (B), the court shall order restitution be made to the owner of the retained funds. In determining the appropriate amount of restitution, the formula stated in § 40-35-304 must be used.

**(4)** This subsection (e) does not apply to the state, any department, board, or agency thereof, including the University of Tennessee, all counties and municipalities, and all departments, boards, or agencies thereof, including all school and education boards, and any other subdivision of the state.

## History

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Acts 2007, ch. 201, § 3; 2008, ch. 804, § 3; 2012, ch. 609, § 1; 2020, ch. 749, § 16.

TENNESSEE CODE ANNOTATED

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## Tenn. Code Ann. § 66-34-104

Copy Citation

Current through the 2022 Regular Session.

[TN - Tennessee Code Annotated](#)   [Title 66 Property](#)   [Chapter 34 Prompt Pay Act](#)   [Part 1](#)  
[General Provisions](#)

### 66-34-104. Retention of portion of contract price in escrow — Applicability — Mandatory compliance.

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- (a)** Whenever, in any contract for the improvement of real property, a certain amount or percentage of the contract price is retained, that retained amount must be deposited in a separate, interest-bearing, escrow account with a third party which must be established upon the withholding of any retainage.
- (b)** As of the time of the withholding of the retained funds, the funds become the sole and separate property of the prime contractor or remote contractor to whom they are owed, subject to the rights of the person withholding the retainage in the event the prime contractor or remote contractor otherwise entitled to the funds defaults on or does not complete its contract.
- (c)** If the party withholding the retained funds fails to deposit the funds into an escrow account as provided in this section, then the party shall pay the owner of the retained funds an additional three hundred dollars (\$300) per day as damages, not as a penalty, for each and every day that the retained funds are not deposited into an escrow account. Damages accrue from the date retained funds were first withheld and continue to accrue until placed into a separate, interest-bearing escrow account or otherwise paid.
- (d)** The party with the responsibility for depositing the retained amount in a separate, interest-bearing escrow account with a third party has the affirmative duty to provide written notice that the party has complied with this section to any prime contractor upon withholding the amount of retained funds from each and every application for payment, including:
- (1)** Identification of the name of the financial institution with which the escrow account has been established;
  - (2)** Account number; and

- (3)** Amount of retained funds that are deposited in the escrow account with the third party.
- (e)** Upon satisfactory completion of the contract, to be evidenced by a written release by the owner, prime contractor, or remote contractor owing the retainage, all funds accumulated in the escrow account together with all interest on the account must be paid immediately to the prime contractor or remote contractor to whom the funds and interest are owed.
- (f)** If the owner, prime contractor, or remote contractor, as applicable, fails or refuses to execute the release provided for in subsection (e), then the prime contractor or remote contractor, as applicable, may seek equitable relief, including injunctive relief, as provided in § 66-34-602, against the owner, prime contractor, or remote contractor. Relief may not be sought against the person holding the retainage as an escrow agent, and that person bears no liability for the nonpayment of the retainage; however, a court may issue an order to the person holding retainage to pay any sums held in trust pursuant to § 66-34-205. The person paying the sums pursuant to a court order bears no liability to the owner, prime contractor, or remote contractor for the payment. All other claims, demands, disputes, controversies, and differences that may arise between the owner, prime contractor, or prime contractors, and remote contractors may be, upon written agreement of all parties concerned, settled by arbitration conducted pursuant to the Uniform Arbitration Act, compiled in title 29, chapter 5, part 3, or the Federal Arbitration Act (9 U.S.C. § 1 et seq.), as may be applicable.
- (g)** Subsections (c), (d), and (j) do not apply to the state and any department, board, or agency thereof, including the University of Tennessee; counties and municipalities, and all departments, boards, or agencies thereof, including all school and education boards; and any other subdivision of the state.
- (h)** This section applies to all prime contracts and all subcontracts thereunder for the improvement of real property when the contract amount of the prime contract is five hundred thousand dollars (\$500,000) or greater, notwithstanding the amount of the subcontracts.
- (i)** Compliance with this section is mandatory, and shall not be waived by contract.
- (j)** Failure to deposit the retained funds into an escrow account as provided in this section, within seven (7) days of receipt of written notice regarding the failure, is a Class A misdemeanor.

## History

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Acts 1975, ch. 345, §§ 1-4; T.C.A., §§ 64-1148 — 64-1151; Acts 1985, ch. 340, §§ 1, 2; 1986, ch. 551, § 9; 2007, ch. 189, § 43; 2007, ch. 201, §§ 1, 2; T.C.A. § 66-11-144; Acts 2008, ch. 804, §§ 1, 2; 2010, ch. 875, §§ 1, 2; 2012, ch. 609, §§ 2-5; 2020, ch. 749, § 17.

**Content Type:**

**Terms:**

**Narrow By:** -None-

**Date and Time:** May 08, 2023 02:50:21 p.m. EDT



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## Tenn. Code Ann. § 66-34-203

### Copy Citation

Current through the 2022 Regular Session.

[TN - Tennessee Code Annotated](#) [Title 66 Property](#) [Chapter 34 Prompt Pay Act](#) [Part 2](#)  
[Owner/Prime Contractor Payment](#)

### 66-34-203. Withholding of payment or retainage by owner.

This chapter does not prevent the owner from reasonably withholding payment or a portion of a payment to the prime contractor, as long as the withholding is in accordance with the written contract between the owner and the prime contractor. The owner may also withhold a reasonable amount of retainage as specified in the written contract between the owner and the prime contractor, as long as the retainage amount does not exceed five percent (5%) of the amount of the contract.

### History

Acts 1991, ch. 45, § 1; 2007, ch. 201, § 4; 2020, ch. 749, § 20.

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## ADVERTISEMENT FOR BIDS EXAMPLE – DBE

The {City/Town/County/Utility District/Authority} will receive separate sealed BIDS for the construction of a {water or wastewater} project at {location to deliver bid proposal} until {closing time}, local time, on {date}, and, then, at said time, publicly open and read the BIDS aloud.

The work to be bid on is as follows: {Description of work to be performed here.}

The allotted time for construction is {# of days for work to be performed} calendar days.

The information for Bidders; Bid Form; Form of Agreement; Drawings; Specifications information; Bid Bond, Performance Bond, and Payment Bond information; and other contract documents may be examined at the addresses below:

{Please type address of consulting engineer's office}

{Please type address of City/Town/Utility District/Authority}

Builder's Exchange of Tennessee

Nashville Office

2322 Winford Ave

Nashville, TN 37211

Knoxville Office

300 Clark street

Knoxville, TN 37921

Ms. Marilyn Robinson, Executive Director

Nashville Minority Business Office

1919 Charlotte Avenue, Suite 310

Nashville, TN 37203

(615) 255-0432

Copies of the CONTRACT DOCUMENTS may be obtained at the {name of office to pick up contract documents} Office, located at {address of office}, upon payment of \$ {Amount} for each set.

Any BIDDER, upon returning the CONTRACT DOCUMENTS within {number of days} days after BID opening and in good condition, will be refunded {his/her payment or \$ amount} and any non-bidder will be refunded \$ {Amount}.

No bid may be withdrawn within (#) days after the scheduled time for receipt of bids.

### **DAVIS-BACON ACT and AMERICAN IRON AND STEEL REQUIREMENTS**

This project is being funded by a State Revolving Fund loan on or after 2014 EPA Fiscal Year. The loan recipient must be in compliance with all applicable Davis-Bacon Act and American Iron and Steel requirements.

### **DISADVANTAGED BUSINESS ENTERPRISES (DBE) REQUIREMENTS**

Any contract or contracts awarded by the Owner through this invitation for bids will be funded by a State Revolving Fund (SRF) loan from the State of Tennessee. State and Federal funds will be involved in this project, and, as a result, Bidders must comply with the SRF Loan Program's Disadvantaged Business Enterprises (DBE) requirements including contacting a minimum of 10 qualified DBE sub-contractors, professional service providers, vendors, and/or suppliers by certified mail to solicit bids. The apparent successful Bidder must submit to the Owner copies of the certified letters and return receipts prior to contract award. Neither the State of Tennessee nor any of its departments, agencies, or employees is or will be a party to this Invitation for Bids or any resulting contract(s) awarded by the Owner.

### **SPECIAL NOTICE TO DISADVANTAGED BUSINESS ENTERPRISES (DBE) FIRMS**

All qualified Disadvantaged Business Enterprises (DBE) firms desiring to bid as a General Contractor, sub-contractor, professional service provider, supplier, or equipment vendor are encouraged to contact Ms. Marilyn Robinson at the Nashville Minority Business Center office listed above to review bidding/contract documents. Qualified Disadvantaged Business Enterprises (DBE) firms may also contact {Name of the Engineer, office address, and phone number}, in order to obtain a list of prospective bidding General Contractors or to obtain copies of bidding/contract documents.

**Disadvantaged Business Enterprise (DBE) Requirements**  
for  
State Revolving Fund Loans Awarded after May 27, 2008

**GUIDANCE DOCUMENT**

**Items included in the Guidance Document:**

- **General Contract Administration Provisions Table**
- **Six Good Faith Efforts, Purpose and Definitions Table**
- **List of DBE Forms for Loans Awarded After May 27, 2008**

<b>GENERAL CONTRACT ADMINISTRATION PROVISIONS—www.epa.gov</b>			
<b>Requirement</b>	<b>Circumstance</b>	<b>Responsible Party:</b>	<b>Submitted To:</b>
A <b>Loan Recipient</b> must be notified in writing by its <b>Prime Contractor</b> prior to any termination of a <b>DBE Subcontractor</b> for convenience by the <b>Prime Contractor</b> .	Termination of a <b>DBE Subcontractor</b> for convenience by the <b>Prime Contractor</b>	<b>Prime Contractor</b>	<b>Loan Recipient</b>
A <b>Loan Recipient</b> must require its <b>Prime Contractor</b> to pay its <b>Subcontractor</b> for satisfactory performance no more than 30 days from the <b>Prime Contractor's</b> receipt of payment from the <b>Loan Recipient</b> .	<b>DBE Subcontractor's</b> satisfactory performance	<b>Loan Recipient</b> <b>Prime Contractor</b>	<b>DBE Subcontractor</b>
If a <b>DBE Subcontractor</b> fails to complete work under the subcontract for any reason, the <b>Loan Recipient</b> must require the <b>Prime Contractor</b> to employ the <b>Six Good Faith Efforts</b> (see Table below) if soliciting a replacement <b>Subcontractor</b> .	<b>DBE Subcontractor</b> fails to complete work under the subcontract for any reason and will be replaced	<b>Loan Recipient</b> <b>Prime Contractor</b>	<b>SRF Loan Program</b>
A <b>Loan Recipient</b> must require its <b>Prime Contractor</b> to employ the <b>Six Good Faith Efforts</b> (see Table below) even if the <b>Prime Contractor</b> has achieved its fair share objectives.	Employment of the <b>Six Good Faith Efforts</b>	<b>Loan Recipient</b> <b>Prime Contractor</b>	<b>SRF Loan Program</b>
Inclusion, completion, and/or transmittal of required <b>DBE Forms</b> as instructed below: <b>Loan Recipient Requirements</b> <b>Bidder Requirements</b> <b>DBE Participation/Certification Summary</b> <b>Advertisement for Bids and Publisher's Affidavit</b> 10 Certified Letters and Return Receipts to certified <b>DBEs</b> <b>Good Faith Letter</b> <b>Prime Contractor's Notice Letter</b> for EPA Form 6100-2 <b>EPA Form 6100-2</b> <b>EPA Form 6100-3</b> <b>EPA Form 6100-4</b>	---	<b>Loan Recipient</b> <b>Prime Contractor</b> <b>DBE Subcontractor</b>	See instructions below and on Forms

**Disadvantaged Business Enterprise (DBE) Requirements**  
**for**  
**State Revolving Fund Loans Awarded after May 27, 2008**

**GUIDANCE DOCUMENT**

<b>SIX GOOD FAITH EFFORTS—www.epa.gov</b>	
<b>PURPOSE</b>	The Good Faith Efforts are required methods employed by all EPA financial assistance agreement recipients to ensure that all disadvantaged business enterprises (DBEs) have the opportunity to compete for procurements funded by EPA financial assistance dollars.
<b>Definitions</b>	
<b>EFFORT 1</b>	Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
<b>EFFORT 2</b>	Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
<b>EFFORT 3</b>	Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
<b>EFFORT 4</b>	Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
<b>EFFORT 5</b>	Use the services and assistance of the Small Business Administration (SBA) and the Minority Business Development Agency of the Department of Commerce.
<b>EFFORT 6</b>	If the <b>Prime Contractor</b> awards subcontracts, require the <b>Prime Contractor</b> to take the steps in the Good Faith Efforts 1 through 5 (above) and in the <u>General Contract Administration Provisions</u> (above).

**Disadvantaged Business Enterprise (DBE) Requirements**  
for  
**State Revolving Fund Loans Awarded after May 27, 2008**

**GUIDANCE DOCUMENT**

<b>DBE FORMS FOR SRF LOANS AWARDED AFTER MAY 27, 2008—www.epa.gov</b>				
<b>Form</b>	<b>Requirement</b>	<b>Provided By:</b>	<b>Completed By:</b>	<b>Submitted To:</b>
List of certified <b>DBE</b> contractors, subcontractors, supplies vendors, equipment vendors, and service providers	Keep list with project files/information for duration of project	<b>SRF Loan Program</b>	---	---
<b>Loan Recipient's Requirements</b> regarding DBEs	Include this information sheet in the Information for Bidders section of bid documents	<b>SRF Loan Program</b>	---	To be included in the contract specifications book
<b>Bidder's Requirements</b> regarding DBEs	Include this information sheet in the Information for Bidders section of bid documents	<b>SRF Loan Program</b>	---	To be included in the contract specifications book
<b>Loan Recipient's Certification and Summary of DBE Participation</b>	To be completed and submitted with the Authority-to-Award/ Bid Package.  The SRF Loan Program must be notified of any changes, additions, or deletions to the contract during construction.	<b>SRF Loan Program</b>	<b>Loan Recipient</b>	<b>SRF Loan Program</b>
<b>Advertisement for Bids and Publisher's Affidavit</b>	<b>DBE</b> solicitation information must be included in the actual advertisement for bids.  A Publisher's Affidavit (signed, original, notarized certification of publication) denoting the actual published date of the advertisement will be submitted to the SRF Loan Program as part of the Authority-to-Award/Bid Package documents.	An example advertisement with appropriate <b>DBE</b> language is supplied to the Loan Recipient by the <b>SRF Loan Program</b>	<b>Loan Recipient</b>	A copy of the actual advertisement and a Publisher's Affidavit will be submitted to the <b>SRF Loan Program</b> as part of the Authority-to-Award/Bid Package documents
<b>10 Certified Letters and Return Receipts</b> to potential certified DBE subcontractors, supplies vendors, service providers, and/or equipment vendors	These certified letters and copies of the corresponding return mail receipts are submitted with the completed <b>Loan Recipient's DBE Participation and Certification Summary Form.</b>	<b>Prime Contractor and/or Loan Recipient</b>	<b>Loan Recipient</b>	SRF Loan Program as part of the Authority-to-Award/Bid Package documents
<b>Good Faith Letter</b>	If <b>no</b> <b>DBE</b> participation is obtained for the contract, the "Good Faith" letter must be written.	Form letter provided by the <b>SRF Loan Program</b>	<b>Loan Recipient</b>	<b>SRF Loan Program</b>

**Disadvantaged Business Enterprise (DBE) Requirements**  
for  
State Revolving Fund Loans Awarded after May 27, 2008

**GUIDANCE DOCUMENT**

<b>DBE FORMS FOR SRF LOANS AWARDED AFTER MAY 27, 2008—www.epa.gov</b>				
<b>Form</b>	<b>Requirement</b>	<b>Provided By:</b>	<b>Completed By:</b>	<b>Submitted To:</b>
<b>Prime Contractor's Notice Letter</b> for EPA Form 6100-2	The <b>Prime Contractor</b> must submit the Notice Letter to verify that Form 6100-2 was supplied to all <b>DBE Subcontractors</b> participating in the contract.	<b>SRF Loan Program</b>	<b>Prime Contractor</b>	<b>Loan Recipient</b> for inclusion in the Authority-to-Award / Bid / Proposal package
EPA Form <b>6100-2</b>	<b>Loan Recipient</b> required to have <b>Prime Contractors</b> provide form to <b>DBE Subcontractors</b>  This form gives a <b>DBE Subcontractor</b> the opportunity to describe the work the <b>DBE Subcontractor</b> received from the <b>Prime Contractor</b> , how much the <b>DBE Subcontractor</b> was paid, and any other concerns the <b>DBE Subcontractor</b> might have.	<b>Loan Recipient</b>  <b>Prime Contractors</b>	<b>DBE Subcontractors</b>	<b>EPA DBE Coordinator</b> at the conclusion of <b>DBE Subcontractor</b> participation in the project  (Address on Form)
EPA Form <b>6100-3</b>	<b>Loan Recipient</b> required to have <b>Prime Contractors</b> provide form to <b>DBE Subcontractors</b>  This form captures an intended <b>Subcontractor's</b> description of work to be performed for the <b>Prime Contractor</b> and the price of the work submitted to the <b>Prime Contractor</b> .	<b>Loan Recipient</b>	<b>Prime Contractors</b>  <b>DBE Subcontractors</b>	<b>Loan Recipient</b> for inclusion in the Authority-to-Award / Bid / Proposal package
EPA Form <b>6100-4</b>	<b>Loan Recipient</b> required to have <b>Prime Contractors</b> complete the form  This form captures the <b>Prime Contractor's</b> intended use of an identified <b>DBE Subcontractor</b> and the estimated dollar amount of the subcontract.	<b>Loan Recipient</b>	<b>Prime Contractors</b>	<b>Loan Recipient</b> for inclusion in the Authority-to-Award / Bid / Proposal package

# STATE REVOLVING FUND LOAN PROGRAM

## **Loan Recipient's Requirements for Solicitation and Documentation** of **Disadvantaged Business Enterprises (DBE) Participation** on State Revolving Fund (SRF) Projects

A goal-oriented system has been established to promote **Disadvantaged Business Enterprises (DBE)** participation by providing construction services, professional services, supplies, and/or equipment on SRF Loan-funded water and wastewater projects. It is the Loan Recipient's responsibility to ensure that Bidders make a good faith effort during the bidding phase to solicit for subcontractor participation by **DBE** subcontractors, service professionals, suppliers, and/or equipment vendors on all SRF-funded projects.

### DEFINITIONS

**DBE - Minority Business Enterprise (MBE):** A qualified socially and economically disadvantaged minority-owned business certified by any State or Federal agency, such as the Tennessee Department of Transportation, U.S. EPA's Office of Small and Disadvantaged Business Utilization, or the U.S. Small Business Administration.

**DBE - Women's Business Enterprise (WBE):** A qualified independent business at least 51% owned by a woman or women and certified by any State or Federal agency such as the Tennessee Department of Transportation, U.S. EPA's Office of Small and Disadvantaged Business Utilization, or the U.S. Small Business Administration.

**Fair-Share Goals:** The MBE fair-share goal is 2.6% for construction and 5.2% for supplies, services, and equipment. The WBE fair share goal is 2.6% for construction and 5.2% for supplies, services, and equipment.

### INSTRUCTIONS TO LOAN RECIPIENTS

#### **Pre-Bid Requirements**

Loan Recipients must include the SRF Loan Program's "Bidder's Requirements for Solicitation and Documentation of **DBE** Participation on SRF-Funded Projects" information sheet in the Information for Bidders section of bid documents. Loan Recipients must also ensure that Bidders take the following affirmative steps that constitute a good-faith effort to secure **DBE** participation:

- Include certified **DBEs** on solicitation lists whenever they are potential sources,
- Divide construction contracts into subcontracts, when economically feasible, to encourage maximum participation by **DBEs**,
- Establish delivery schedules, where requirements of the work permit, that encourage participation by **DBEs**,
- Use the services and assistance of the Office of Minority Business Enterprises of the U.S. Department of Commerce, or the U.S. EPA's Office of Small and Disadvantaged Business Utilization. For assistance or information, Bidders may be referred to:

Tennessee Department of Transportation  
Small Business Development  
505 Deaderick Street, Suite 1800  
Nashville, TN 37243-0347  
(615) 741-3681

[http://www.tdot.state.tn.us/construction/DBE%20list/dbe\\_list.pdf](http://www.tdot.state.tn.us/construction/DBE%20list/dbe_list.pdf)

Mr. W. Clinton Smith, District Director  
U.S. Small Business Administration  
50 Vantage Way, Suite 201  
Nashville, TN 37228  
(615) 736-5881

<http://pro-net.sba.gov/>

Ms. Jeanette L. Brown, Director  
U.S. Environmental Protection Agency  
Office of Small and Disadvantaged Business Utilization  
1200 Pennsylvania Avenue, N.W. (1230A)  
Washington, D.C. 20460  
(202) 564-4100

<http://www.epa.gov/osdbu/>

### POST-BID REQUIREMENTS

**Whether or not DBE participation was obtained**, the Loan Recipient must complete the "**Loan Recipient's Certification and Summary**" form for every contract detailing whether or not **DBE** participation of subcontractors, professional service providers, suppliers, and/or equipment vendors was obtained. The "**Loan Recipient's Certification and Summary**" form must be submitted to the Administrative Section of the SRF Loan Program prior to the award of any construction contract(s) along with the newspaper **advertisement**, a **Publisher's Affidavit**, and **return receipts** and copies of the **certified letters** that were mailed to a minimum of 10 qualified DBEs.

## STATE REVOLVING FUND LOAN PROGRAM

### **Loan Recipient's Requirements for Solicitation and Documentation** **of** **Disadvantaged Business Enterprises (DBE) Participation** on State Revolving Fund (SRF) Projects

**If DBE participation was obtained**, the “**Loan Recipient's Certification and Summary**” form must clearly indicate whether **DBE** participation was obtained from either a subcontractor, professional service provider, supplier, and/or equipment vendor participation; identify the **DBE** firm(s) to be used; and certify that the **DBE** firm(s) is a certified **DBE**. In addition to the “**Loan Recipient's Certification and Summary**” form, the Loan Recipient must include in the submittal to the SRF Loan Program, copies of the **Prime Contractor's Notice Letter for EPA Form 6100-2, EPA Form 6100-3, and EPA Form 6100-4**.

**If no DBE participation was obtained**, the Loan Recipient must submit a separate letter documenting that a “**good-faith effort**” was made to secure **DBE** participation. This letter is submitted along with the above-mentioned “**Loan Recipient's Certification and Summary**” form, newspaper **advertisement**, **Publisher's Affidavit**, **return receipts**, and copies of the **certified letters**. The SRF Loan Program provides a template to the Loan Recipient for this letter.

*This documentation is the only form of documentation that will be accepted by the SRF Loan Program. Failure to provide the required documentation may result in a delay of the SRF Loan Program's approval of the Authority-to-Award/Bid Package, thereby delaying the award of the construction contract(s).*

The Loan Recipient should direct all inquiries regarding the SRF Loan Program's requirements for **DBE** solicitation and documentation to [ask.SRF@tn.gov](mailto:ask.SRF@tn.gov).

"General Decision Number: TN20240134 01/05/2024

Superseded General Decision Number: TN20230134

State: Tennessee

Construction Type: Heavy  
Including Water and Sewer Line Construction

County: Shelby County in Tennessee.

HEAVY CONSTRUCTION PROJECTS (including sewer/water construction).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<ul style="list-style-type: none"> <li>. Executive Order 14026 generally applies to the contract.</li> <li>. The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.</li> </ul>
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<ul style="list-style-type: none"> <li>. Executive Order 13658 generally applies to the contract.</li> <li>. The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.</li> </ul>

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number      Publication Date  
0                              01/05/2024



ELEC0474-015 07/31/2023

	Rates	Fringes
ELECTRICIAN.....	\$ 31.75	15.54

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ENGI0369-012 05/01/2013

	Rates	Fringes
Operating Engineers: Bulldozer, Crane, and Forklift.....	\$ 24.47	10.85

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LAB00386-001 05/01/2017

	Rates	Fringes
LABORER: Common or General.....	\$ 18.47	6.65

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SUTN2009-133 12/02/2009

	Rates	Fringes
LABORER: Flagger.....	\$ 8.73 **	0.00
LABORER: Pipelayer.....	\$ 11.68 **	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 16.82 **	0.00
OPERATOR: Loader.....	\$ 13.50 **	0.00
TRUCK DRIVER: Dump Truck.....	\$ 10.76 **	0.00

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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\*\* Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic

violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION"

**STATE REVOLVING FUND LOAN PROGRAM**

**Loan Recipient's Good Faith Effort Letter for DBE Participation**

**(Insert on Loan Recipient's Letterhead)**

**(Date)**

Mr. Adeniyi Bakare, Director  
State Revolving Fund Loan Program  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 12<sup>th</sup> Floor  
Nashville, TN 37243

RE: Good Faith Effort – Disadvantaged Business Enterprises (DBE) Participation  
City/County/UD/Authority (??? County), Tennessee  
Loan No. SRF/CWA/CGA/DWF/DWA/DGA 20??-??  
Contract No. ????, Contract Description

Dear Mr. Bakare:

This letter is to inform you that the City/County/UD/Authority did, in good faith, encourage Disadvantaged Business Enterprises (DBE) to participate in the above referenced project by placing a special notice to Disadvantaged Business Enterprises (DBE) firms in both the invitation to bid and the public advertisement for bids. The City/County/UD/Authority, through the consulting engineer, (A/E Consulting Firm), sent a copy of the invitation to bid and a set of contract documents to the Office of Minority Business Enterprises. The City/County/UD/Authority also sent certified letters, return receipts requested, to a minimum of ten (10) DBE potential subcontractors, professional service providers, suppliers, and equipment vendors requesting DBE participation through their office, A/E, or their contractor. The consulting engineer on this project is (Name), (Firm).

We have not received any DBE participation; we believe we have done a good faith effort.

If you have any questions, please don't hesitate to contact us.

Sincerely,

(Authorized Representative Name)

(Authorized Representative Title)

cc: (A/E Consultant Name and Firm)

# STATE REVOLVING FUND LOAN PROGRAM

## Loan Recipient's Certification and Summary

of

### **Disadvantaged Business Enterprises (DBE) Participation**

SRF Loan Recipient: \_\_\_\_\_ SRF Loan No. \_\_\_\_\_

#### INSTRUCTIONS TO SRF LOAN RECIPIENTS

The SRF Loan Recipient's Authorized Representative must clearly indicate the Contractor's **Disadvantaged Business Enterprises (DBE)** participation results by placing a check in the appropriate box below. The remainder of the form must be completed if **DBE (Minority Business Enterprise-MBE or Women's Business Enterprise -WBE)** participation was obtained. The form must be signed and dated and returned to Adeniyi Bakare, SRF Director.

The **completed Form** must be accompanied by **copies of the certified letters** sent from the selected Bidder to a minimum of 10 qualified **DBE** potential subcontractors, supplies vendor, services provider, and/or equipment vendors, and **copies of the corresponding return mail receipts**.

The SRF Loan Program must be notified of any changes, additions, or deletions to the contract during construction.

**No, Disadvantaged Business Enterprises (DBE) participation was not obtained for this SRF-funded project.** I certify that a good-faith effort was made to solicit **DBE** participation in accordance with the four affirmative steps outlined in the SRF Loan Program's Requirements for Solicitation and Documentation of **DBE** Participation on SRF-Funded Projects. A letter documenting that a good-faith effort was made to secure **DBE** participation has been provided to the SRF Loan Program.

OR

**Yes, Disadvantaged Business Enterprises (DBE) participation was obtained for this SRF-funded project.** I certify that the **DBE** firms participating in this SRF-funded project are qualified in accordance with the SRF Loan Program's Requirements for Solicitation and Documentation of **DBE** Participation on SRF-Funded Projects. Below is a listing of firms to be utilized and the amounts of their respective participation.

- DBE type (circle one):**    Subcontractor,    Supplies Vendor,    Service Provider,    Equipment Vendor  
**DBE Name:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Subcontract Amount:**    \$ \_\_\_\_\_    MBE    \_\_\_    WBE    \_\_\_    % of Contract \$:    \_\_\_\_\_    %
- DBE type (circle one):**    Subcontractor,    Supplies Vendor,    Service Provider,    Equipment Vendor  
**DBE Name:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Subcontract Amount:**    \$ \_\_\_\_\_    MBE    \_\_\_    WBE    \_\_\_    % of Contract \$:    \_\_\_\_\_    %
- DBE type (circle one):**    Subcontractor,    Supplies Vendor,    Service Provider,    Equipment Vendor  
**DBE Name:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Subcontract Amount:**    \$ \_\_\_\_\_    MBE    \_\_\_    WBE    \_\_\_    % of Contract \$:    \_\_\_\_\_    %
- DBE type (circle one):**    Subcontractor,    Supplies Vendor,    Service Provider,    Equipment Vendor  
**DBE Name:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Subcontract Amount:**    \$ \_\_\_\_\_    MBE    \_\_\_    WBE    \_\_\_    % of Contract \$:    \_\_\_\_\_    %

#### PARTICIPATION SUMMARY

**Total SRF Loan Amount:**    \$ \_\_\_\_\_    **Total Construction Contract Amount:**    \$ \_\_\_\_\_  
**Total MBE Participation:**    \$ \_\_\_\_\_    **Total WBE Participation:**    \$ \_\_\_\_\_

\_\_\_\_\_  
Signature and Title of SRF Loan Recipient's Authorized Representative

\_\_\_\_\_  
Date

# STATE REVOLVING FUND LOAN PROGRAM

## **Bidder's Requirements for Solicitation and Documentation** of **Disadvantaged Business Enterprises (DBE) Participation**

A goal-oriented system has been established to promote **Disadvantaged Business Enterprises (DBE)** participation by providing construction services, professional services, supplies, and/or equipment on SRF Loan-funded water and wastewater projects. It is the Bidder's responsibility to make a good faith effort to secure participation by **DBE** subcontractors, professional service providers, suppliers, and/or equipment vendors.

### **DEFINITIONS**

**DBE - Minority Business Enterprise (MBE):** A qualified socially and economically disadvantaged minority-owned business certified by any State or Federal agency, such as the Tennessee Department of Transportation, U.S. EPA's Office of Small and Disadvantaged Business Utilization, or the U.S. Small Business Administration.

**DBE - Women's Business Enterprise (WBE):** A qualified independent business at least 51% owned by a woman or women and certified by any State or Federal agency such as the Tennessee Department of Transportation, U.S. EPA's Office of Small and Disadvantaged Business Utilization, or the U.S. Small Business Administration.

**Fair-Share Goals:** The MBE fair-share goal is 2.6% for construction and 5.2% for supplies, services, and equipment. The WBE fair share goal is 2.6% for construction and 5.2% for supplies, services, and equipment.

### **INSTRUCTIONS TO BIDDERS**

#### **Pre-Bid Requirements**

All Bidders must send letters by certified mail with return receipt requested to a minimum of 10 certified **DBE** subcontractors, professional service providers, suppliers, and/or equipment vendors to solicit their subcontract participation in the work. Lists of certified **DBE** firms may be obtained from various State and Federal agencies, including the following:

Tennessee Department of Transportation  
Small Business Development  
505 Deaderick Street, Suite 1800  
Nashville, TN 37243-0347  
(615) 741-3681  
<http://www.tdot.state.tn.us/dbedirectinternet/Vendor.aspx>

Mr. W. Clinton Smith, District Director  
U.S. Small Business Administration  
50 Vantage Way, Suite 201  
Nashville, TN 37228  
(615) 736-5881  
<http://pro-net.sba.gov/>

U.S. Environmental Protection Agency  
Office of Small and Disadvantaged Business Utilization  
1200 Pennsylvania Avenue, N.W. (1230A)  
Washington, D.C. 20460  
(202) 564-4100  
<http://www.epa.gov/osdbu/>

#### **Post-Bid Requirements**

**Whether or not DBE participation was obtained**, the successful Bidder (Prime Contractor) must maintain supporting documents such as certification lists, solicitation documents, letters of intent, contracts, etc., for the duration of the project.

**If DBE participation was obtained**, the apparent successful Bidder must identify to the Loan Recipient all **DBE** firms to be utilized on the contract and the respective **DBE** type--subcontractors, supplies vendors, service providers, and/or equipment vendors (see "Loan Recipient's Certification and Summary" form). Copies of the State's or Federal agency's **DBE** certification list(s) identifying that the **DBE** firms are certified minority or women's business enterprises must be provided to the Loan Recipient. In addition, copies of the **Prime Contractor's Notice Letter for EPA Form 6100-2, EPA Form 6100-3** (to be co-completed by the Prime Contractor and each DBE subcontractor), and **EPA Form 6100-4** must also be provided to the Loan Recipient prior to tentative loan award. The Prime Contractor must provide **EPA Form 6100-2** to each **DBE** utilized on the contract.

**If no DBE participation was obtained** by the apparent successful Bidder, it remains the responsibility of the Prime Contractor to provide documentation to the Loan Recipient, prior to contract award, that a good faith effort was made to obtain **DBE** participation. Copies of the **certified letters** sent to a minimum of 10 qualified **DBE** potential subcontractors, supplies vendors, service providers, and/or equipment vendors and the corresponding **return mail receipts** are the only documentation of a good-faith effort that will be acceptable to the Loan Recipient.

*Failure to provide the required certified letters, return receipts, State or Federal agency **DBE** certification list(s), **Prime Contractor's Notice Letter for EPA Form 6100-2, EPA Form 6100-3, and EPA Form 6100-4** to the Loan Recipient may delay the contract award until the required documentation has been provided to and accepted by the Loan Recipient.*

# STATE REVOLVING FUND LOAN PROGRAM

## Contractor Receipt Letter – Form 6100-2

**(Please Insert on Contractor Letterhead)**

**(Date)**

Mr. Adeniyi Bakare, Director  
State Revolving Fund Loan Program  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 12<sup>th</sup> Floor  
Nashville, TN 37243

RE: Receipt and Distribution of EPA Form 6100-2  
Disadvantaged Business Enterprise (DBE) Participation  
**(City/County/UD/Authority) (???) County, Tennessee**  
Loan No. SRF/CWA/CGA/DWF/DWA/DGA 20??-??  
**(Contract Name and/or Number)**

Dear Mr. Bakare:

This letter is to inform you the EPA Form 6100-2 was received from the **(City/County/UD/Authority)** and was then given to all DBE Subcontractors as required who are going to provide either construction, services, supplies, or equipment for this project.

If you have any questions concerning this notification, please contact us at **(Phone No., e-mail, etc.)**.

Sincerely,

**(Contractors Authorized Representative)**

**(Title)**

cc: **(Consulting Engineer for the contract)**  
**(City/County/UD/Authority's Authorized Representative)**



### Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE<sup>1</sup> subcontractor<sup>2</sup> the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

<sup>1</sup> A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

<sup>2</sup> Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



**Disadvantaged Business Enterprise (DBE) Program  
DBE Subcontractor Performance Form**

This form is intended to capture the DBE<sup>1</sup> subcontractor's<sup>2</sup> description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractor's bid or proposal package.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
DBE Certified By: ___ DOT ___ SBA ___ Other: _____		Meets/ exceeds EPA certification standards? ___ YES ___ NO ___ Unknown

<sup>1</sup> A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

<sup>2</sup> Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

**Disadvantaged Business Enterprise (DBE) Program  
DBE Subcontractor Performance Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

<b>Prime Contractor Signature</b>	<b>Print Name</b>
<b>Title</b>	<b>Date</b>

<b>Subcontractor Signature</b>	<b>Print Name</b>
<b>Title</b>	<b>Date</b>

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

### Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE<sup>1</sup> subcontractors<sup>2</sup> and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	__ YES	__ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?

Continue on back if needed

<sup>1</sup> A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

<sup>2</sup> Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

**Disadvantaged Business Enterprise (DBE) Program  
DBE Subcontractor Utilization Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

<b>Prime Contractor Signature</b>	<b>Print Name</b>
<b>Title</b>	<b>Date</b>

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

## Certified Disadvantaged Business Enterprises (DBE) List

Using Governor's Diversity Business Office and State DOT and CCR DBE Directories to Find Certified WBEs and MBEs

Here are the links:

<https://tn.diversitysoftware.com/FrontEnd/VendorSearchPublic.asp?TN=tn&XID=1215>

[www.osdbu.dot.gov/DBEProgram/StateDOTDBESites.cfm](http://www.osdbu.dot.gov/DBEProgram/StateDOTDBESites.cfm)

CCR can be used to search for SBA SDBs. Since the SBA SDB certification is considered acceptable under the EPA DBE Program, firms found using the following search criteria can count toward EPA MBE/WBE fair share objectives.

Access the CCR search page at [www.bpn.gov/CCRSearch/Search.aspx](http://www.bpn.gov/CCRSearch/Search.aspx)

[http://www.epa.gov/osbp/dbe\\_team.htm](http://www.epa.gov/osbp/dbe_team.htm)

# EMPLOYEE RIGHTS UNDER THE DAVIS-BACON ACT

## FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

### PREVAILING WAGES

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

### OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

### ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

### APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

### PROPER PAY

If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

or contact the U.S. Department of Labor's Wage and Hour Division.



For additional information:

**1-866-4-USWAGE**  
(1-866-487-9243) TTY: 1-877-889-5627



**WWW.WAGEHOUR.DOL.GOV**



# DERECHOS DEL EMPLEADO BAJO LA LEY DAVIS-BACON

## PARA OBREROS Y MECÁNICOS EMPLEADOS EN PROYECTOS DE CONSTRUCCIÓN FEDERAL O CON ASISTENCIA FEDERAL

LA SECCIÓN DE HORAS Y SUELDOS DEL DEPARTAMENTO DE TRABAJO DE EEUU

### **SALARIOS PREVALECIENTES**

No se le puede pagar menos de la tasa de pago indicada en la Decisión de Salarios Davis-Bacon fijada con este Aviso para el trabajo que Ud. desempeña.

### **SOBRETIEMPO**

Se le ha de pagar no menos de tiempo y medio de su tasa básica de pago por todas las horas trabajadas en exceso de 40 en una semana laboral. Existen pocas excepciones.

### **CUMPLIMIENTO**

Se pueden retener pagos por contratos para asegurarse que los obreros reciban los salarios y el pago de sobretiempo debidos, y se podría aplicar daños y perjuicios si no se cumple con las exigencias del pago de sobretiempo. Las cláusulas contractuales de Davis-Bacon permiten la terminación y exclusión de contratistas para efectuar futuros contratos federales hasta tres años. El contratista que falsifique los registros certificados de las nóminas de pago o induzca devoluciones de salarios puede ser sujeto a procesamiento civil o criminal, multas y/o encarcelamiento.

### **APRENDICES**

Las tasas de aprendices sólo se aplican a aprendices correctamente inscritos bajo programas federales o estatales aprobados.

### **PAGO APROPIADO**

Si Ud. no recibe el pago apropiado, o precisa de información adicional sobre los salarios aplicables, póngase en contacto con el Contratista Oficial que aparece abajo:

o póngase en contacto con la Sección de Horas y Sueldos del Departamento de Trabajo de EEUU.



Para obtener información adicional:

**1-866-4-USWAGE**

(1-866-487-9243) TTY: 1-877-889-5627



**WWW.WAGEHOUR.DOL.GOV**

# Project Wage Rate Sheet

U.S. Department of Housing and Urban Development  
Office of Labor Relations

PROJECT NAME:			WAGE DECISION NUMBER/MODIFICATION NUMBER:			
PROJECT NUMBER:			PROJECT COUNTY:			
WORK CLASSIFICATION	BASIC HOURLY RATE (BHR)	FRINGE BENEFITS	TOTAL HOURLY WAGE RATE	LABORERS FRINGE BENEFITS:		\$ TOTAL WAGE
				GROUP #	BHR	
Bricklayers			\$			\$
Carpenters			\$			\$
Cement Masons			\$			\$
Drywall Hangers			\$			\$
Electricians			\$			\$
Iron Workers			\$			\$
Painters			\$	OPERATORS FRINGE BENEFITS:		\$ TOTAL WAGE
				GROUP #	BHR	
Plumbers			\$			\$
Roofers			\$			\$
Sheet Metal Workers			\$			\$
Soft Floor Layers			\$			\$
Tapers			\$			\$
Tile Setters			\$	TRUCK DRIVERS FRINGE BENEFITS:		\$ TOTAL WAGE
				GROUP #	BHR	
OTHER CLASSIFICATIONS						
			\$			\$
			\$			\$
			\$			\$
ADDITIONAL CLASSIFICATIONS (HUD Form 4230-A)						
WORK CLASSIFICATION	BASIC HOURLY RATE	FRINGE BENEFITS	TOTAL HOURLY WAGE RATE	DATE OF HUD SUBMISSION TO DOL	DATE OF DOL APPROVAL	
			\$			
			\$			
			\$			
			\$			

# STATE REVOLVING FUND LOAN PROGRAM

## Bidder's Requirements

### Davis-Bacon Act Wage Determination

**The Loan Recipient must ensure the bidder is in compliance with the Davis-Bacon Act as outlined below. Additionally, ten (10) days prior to the scheduled bid opening date, the wage rates need to be checked to ensure they have not changed.**

The Davis-Bacon Act as amended, requires that each contract over \$2,000 to which the United States or the District of Columbia is a party for the construction, alteration, or repair of public buildings or public works shall contain a clause setting forth the minimum wages to be paid to various classes of laborers and mechanics employed under the contract. Under the provisions of the Act, contractors or their subcontractors are to pay workers employed directly upon the site of the work no less than the locally prevailing wages and fringe benefits paid on projects of a similar character. The Davis-Bacon Act directs the Secretary of Labor to determine such local prevailing wage rates.

The **wage determination** (including any additional **classifications** and **wage rates** conformed) **and** a Davis-Bacon poster (WH-1321) **must be posted on the work site at all times** by the contractor and its subcontractors in a prominent and accessible place where it can be easily seen. The WH-1321 poster **may be obtained at no charge** from offices of the Wage and Hour Division.

With each **pay estimate** submitted, the contractors **must submit** a certification stating that workers have been paid the current prevailing wage rates for each classification according to the Davis-Bacon wage rate schedule currently in effect for this project.

### Wage Determinations

A "wage determination" is the listing of wage rates and fringe benefit rates for each classification of laborers and mechanics which the Administrator of the Wage and Hour Division of the U.S. Department of Labor has determined to be prevailing in a given area for a particular type of construction (e.g., building, heavy, highway, or residential).

### Extensions of Wage Determinations

When a general wage determination has not been awarded within 90 days after bid opening, the head of the contracting/assisting agency may request an extension of the 90 day period from the Wage and Hour Administrator. When, due to unavoidable circumstances, a project wage determination expires before award but after bid opening, the head of the contracting/assisting agency may request an extension of the expiration date of the project wage determination in the bid specifications instead of issuing a new wage determination.

Extension requests should be supported by a written finding including a brief statement of the factual support, that extension of the expiration date of the determination is necessary and proper in the public interest to prevent injustice or undue hardship or to avoid serious impairment in the conduct of Government business.

The Administrator of the Wage and Hour Division of the U.S. Department of Labor will either grant or deny the request for an extension after consideration of all the circumstances, including an examination to determine if the previously issued rates remain prevailing. If a request for the extension of a project wage determination is denied, a new wage determination will be issued to replace an expired project wage determination.

Additional information concerning the Davis-Bacon Act and current wage rate determinations can be obtained at the following sites: [www.gpo.gov/davisbacon/referencemat.html](http://www.gpo.gov/davisbacon/referencemat.html) and [www.wdol.gov/](http://www.wdol.gov/).

# STATE REVOLVING FUND LOAN PROGRAM

## Wage Rate Requirements Under FY 2010 Appropriations

### 3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2010 appropriation, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, [www.dol.gov](http://www.dol.gov).

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

## STATE REVOLVING FUND LOAN PROGRAM

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

## STATE REVOLVING FUND LOAN PROGRAM

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or

## STATE REVOLVING FUND LOAN PROGRAM

indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency

## STATE REVOLVING FUND LOAN PROGRAM

recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for

the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.



## STATE REVOLVING FUND LOAN PROGRAM

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

### **4. Contract Provision for Contracts in Excess of \$100,000.**

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such

laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

## STATE REVOLVING FUND LOAN PROGRAM

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

# STATE REVOLVING FUND LOAN PROGRAM

## Loan Recipient's Requirements

### Davis-Bacon Act Wage Determination

**The Loan Recipient must ensure the bidder is in compliance with the Davis-Bacon Act as outlined below. Additionally, ten (10) days prior to the scheduled bid opening date, the wage rates need to be checked to ensure they have not changed.**

The Davis-Bacon Act as amended, requires that each contract over \$2,000 to which the United States or the District of Columbia is a party for the construction, alteration, or repair of public buildings or public works shall contain a clause setting forth the minimum wages to be paid to various classes of laborers and mechanics employed under the contract. Under the provisions of the Act, contractors or their subcontractors are to pay workers employed directly upon the site of the work no less than the locally prevailing wages and fringe benefits paid on projects of a similar character. The Davis-Bacon Act directs the Secretary of Labor to determine such local prevailing wage rates.

**The specifications must** incorporate a clause stating that the current Davis-Bacon wage rate is required (with the Davis-Bacon links and information).

The Bid Advertisement **must include** a clause that the **Davis-Bacon wage rates** are a requirement. (Refer to the ADVERTISEMENT FOR BIDS EXAMPLE – DBE, ARRA)

If modifications to the existing **wage rates** occur **ten (10) days** prior to the Bid Opening Date, the Loan Recipient **must** incorporate the proper **wage rates** into the plans and specifications by Addendum. All Bidders **must** be informed that this addendum **must** be incorporated into the plans and specifications that they have received.

However, if these modifications occur **less than ten (10) days** prior to the Bid Opening Date, these modifications **shall be effective unless** the agency **finds** that there is not a reasonable time still available before the Bid Opening to notify bidders of the modifications. (A report of this **finding** shall be inserted in the contract file.)

The **wage determination** (including any additional **classifications** and **wage rates** conformed) **and** a Davis-Bacon poster (WH-1321) **must be posted on the work site at all times** by the contractor and its subcontractors in a prominent and accessible place where it can be easily seen. The WH-1321 poster **may be obtained at no charge** from offices of the Wage and Hour Division.

With each **pay estimate** submitted, the contractors **must** certify that workers have been paid the current prevailing wage rates for each classification according to the Davis-Bacon wage rate schedule currently in effect for this project.

The loan recipients **must keep a file** in which all documentation **must be filed** for the current classifications and wage rates (under the Davis-Bacon Act) for the construction of their projects. This file must be kept for three (3) years after the project is completed and **will** be subject to audit by the State of Tennessee and the Environmental Protection Agency (EPA).

### Wage Determinations

A "wage determination" is the listing of wage rates and fringe benefit rates for each classification of laborers and mechanics which the Administrator of the Wage and Hour Division of the U.S. Department of Labor has determined to be prevailing in a given area for a particular type of construction (e.g., building, heavy, highway, or residential).

# STATE REVOLVING FUND LOAN PROGRAM

## Extensions of Wage Determinations

When a general wage determination has not been awarded within 90 days after bid opening, the head of the contracting/assisting agency may request an extension of the 90 day period from the Wage and Hour Administrator. When, due to unavoidable circumstances, a project wage determination expires before award but after bid opening, the head of the contracting/assisting agency may request an extension of the expiration date of the project wage determination in the bid specifications instead of issuing a new wage determination.

Extension requests should be supported by a written finding including a brief statement of the factual support, that extension of the expiration date of the determination is necessary and proper in the public interest to prevent injustice or undue hardship or to avoid serious impairment in the conduct of Government business.

The Administrator of the Wage and Hour Division of the U.S. Department of Labor will either grant or deny the request for an extension after consideration of all the circumstances, including an examination to determine if the previously issued rates remain prevailing. If a request for the extension of a project wage determination is denied, a new wage determination will be issued to replace an expired project wage determination.

Additional information concerning the Davis-Bacon Act and current wage rate determinations can be obtained at the following sites: [www.gpo.gov/davisbacon/referencemat.html](http://www.gpo.gov/davisbacon/referencemat.html) and [www.wdol.gov/](http://www.wdol.gov/).

## **Wage Rate Requirements Under FY 2010 Appropriations**

### **3. Contract and Subcontract provisions.**

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2010 appropriation, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in §

## STATE REVOLVING FUND LOAN PROGRAM

5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, [www.dol.gov](http://www.dol.gov).

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the

## STATE REVOLVING FUND LOAN PROGRAM

contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g.,

## STATE REVOLVING FUND LOAN PROGRAM

the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or

## STATE REVOLVING FUND LOAN PROGRAM

with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.



## STATE REVOLVING FUND LOAN PROGRAM

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **4. Contract Provision for Contracts in Excess of \$100,000.**

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such

laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

## STATE REVOLVING FUND LOAN PROGRAM

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

# STATE REVOLVING FUND LOAN PROGRAM

## Loan Recipient's and Contractor's Guidance

**FY2010 and After**

### Tracking and Reporting

For tracking and reporting purposes, the **Loan Recipient** is responsible for the following:

- Ensuring that the Contractor is in compliance with the Davis Bacon provisions of ARRA
- The loan recipients **must keep a file** in which all documentation **must be stored** for the current classifications and wage rates (under the Davis-Bacon Act) for the construction of their projects. This file must be kept for three (3) years after the project is completed and **will** be subject to audit by the State of Tennessee and the Environmental Protection Agency (EPA).
- Any additional tracking and reporting requirements from EPA

For tracking and reporting purposes, the **Contractor** is responsible for the following:

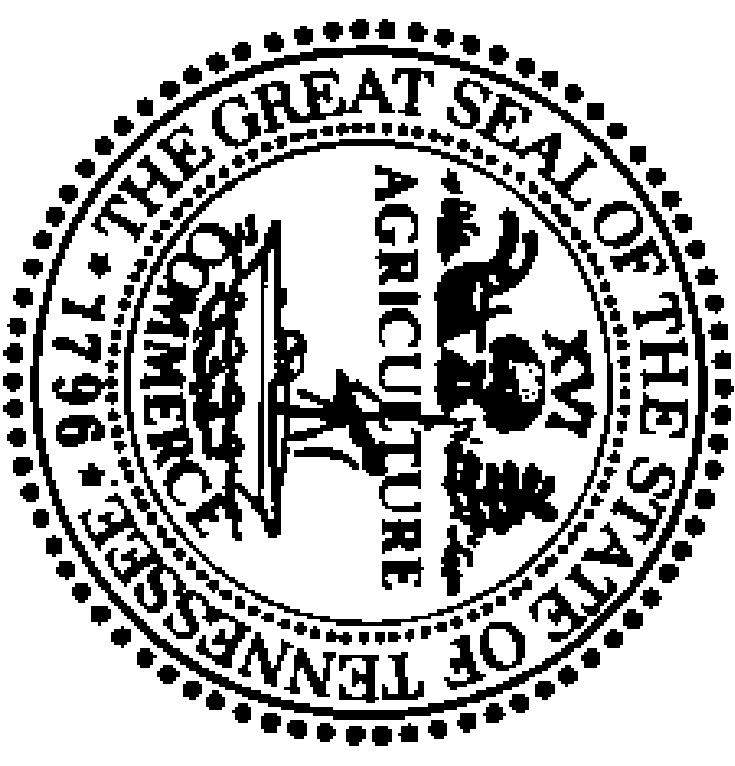
- Achieving and maintaining compliance with the Davis Bacon provisions of ARRA
- Submitting with each **pay estimate** a certification stating that workers have been paid the current prevailing wage rates for each classification according to the Davis-Bacon wage rate schedule currently in effect for this project
- Any additional tracking and reporting requirements from EPA

Please contact [ask.SRF@tn.gov](mailto:ask.SRF@tn.gov) to obtain details.

# NOTICE

THIS ENTITY IS A RECIPIENT OF **STATE AND FEDERAL FUNDS**. IF YOU HAVE KNOWLEDGE OF ANY ACTIVITY WHICH YOU CONSIDER TO BE ILLEGAL, IMPROPER, OR WASTEFUL, PLEASE CALL THE STATE COMPTROLLER'S TOLL-FREE HOTLINE:

**1-800-232-5454**





**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
**DIVISION OF WATER RESOURCES**  
 William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11<sup>th</sup> Floor  
 Nashville, TN 37243  
 Toll Free Number: 1-888-891-8332 (TDEC)

**NOTICE OF INTENT (NOI) FOR GENERAL NPDES PERMIT FOR  
 STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (TNR100000)**

<b>Site or Project Name:</b>		<b>NPDES Tracking Number: TNR</b>	
Street Address including city or zip code or Location:		Construction Start Date:	
Site Description:		Estimated End Date:	
County(ies):		MS4 Jurisdiction (if applicable):	Latitude (dd.dddd):
			Longitude (-dd.dddd):
			Acres Disturbed:
			Total Acres:
Are there any streams <input type="checkbox"/> and/or wetlands <input type="checkbox"/> on or adjacent to the construction site? If wetlands are located on-site and may be impacted, attach wetlands delineation report. If an Aquatic Resource Alteration Permit has been obtained for this site, what is the permit number? <span style="float: right;">ARAP Number:</span>			
Receiving waters:			
Include the SWPPP with the NOI <input type="checkbox"/> SWPPP Included		Include a site location map <input type="checkbox"/> Map Included	

<b>Name of Site Owner or Developer (Site-Wide Permittee):</b> (correct legal name of person, company, or entity that has operational or design control over construction plans and specifications)			
For corporate entities only, provide the Tennessee Secretary of State (SOS) Control Number:			
Site Owner or Developer Contact Name: (individual responsible for site)		Title or Position: (the party who signs the certification below):	
Mailing Address:	City:	State:	Zip:
Phone:	E-mail:		

Optional Contact Name:		Title or Position:	
Mailing Address:	City:	State:	Zip:
Phone:	E-mail:		

**Owner or Developer Certification:** (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Owner or Developer Name: (print or type):	Signature:	Date:
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**Contractor(s) Certification:** (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Primary contractor name, address, and SOS control number (if applicable): (print or type)	Signature:	Date:
Primary contractor name, address, and SOS control number (if applicable): (print or type)	Signature:	Date:
Primary contractor name, address, and SOS control number (if applicable): (print or type)	Signature:	Date:

**NOTICE OF INTENT (NOI) FOR GENERAL NPDES PERMIT FOR  
STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (TNR100000)**

Purpose of this form - A completed notice of intent (NOI) must be submitted to obtain coverage under the Tennessee General NPDES Permit for Discharges of Stormwater Associated with Construction Activity (permit). **Requesting coverage under this permit means that an applicant has obtained and examined a copy of this permit, and thereby acknowledges applicant's claim of ability to be in compliance with permit terms and conditions.** This permit is required for stormwater discharge(s) from construction activities including clearing, grading, filling, and excavating (including borrow pits) of one or more acres of land. This form should be submitted at least 30 days prior to the commencement of land disturbing activities, or no later than 48 hours prior to when a new operator assumes operational control over site specifications or commences work at the site.

The appropriate permit application fee must accompany the NOI and is based on total acreage to be disturbed by an entire project, including any associated construction support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow or waste sites):

(i) Projects equal to or greater than 150 acres	\$10,000
(ii) Projects equal to or greater than 50 acres and less than 150 acres	\$6,000
(iii) Projects equal to or greater than 20 acres and less than 50 acres	\$3,000
(iv) Projects equal to or greater than 5 acres and less than 20 acres	\$1,000
(v) Projects equal to or greater than 1 acre and less than 5 acres	\$250
(vi) Projects seeking subsequent coverage under an actively covered larger common plan of development or sale	\$100

There is no fee for sites less than 1 acre. A separate annual maintenance fee is also required for construction activities that exceed 1 year under general permit coverage. Tennessee Rules, Chapter 0400-40-11-.02(b)(12)).

Who must submit the NOI form? Per Section 2 of the permit, all site operators must submit an NOI form. "Operator" for the purpose of this permit and in the context of stormwater associated with construction activity means any person associated with a construction project who meets either or both of the following two criteria: (1) The person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person is typically the owner or developer of the project or a portion of the project (e.g. subsequent builder), or the person that is the current landowner of the construction site. This person is considered the primary permittee; or (2) The person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions. This person is typically a contractor or a commercial builder who is hired by the primary permittee and is considered a secondary permittee.

Owners, developers, and all contractors that meet the definition of the operator in subsection 2.2 of the permit shall apply for permit coverage on the same NOI, insofar as possible. After permit coverage has been granted to the primary permittee, any separate or subsequent NOI submittals must include the site's previously assigned permit tracking number and the project name. The site-wide site-specific SWPPP shall be prepared in accordance with the requirements of part 5 of the permit and must be submitted with the NOI unless the NOI being submitted is to only add a contractor (secondary permittee) to an existing coverage. Artificial entities (e.g., corporations or partnerships excluding entities not required to register) must submit the TN Secretary of State, Division of Business Services, control number. The Division reserves the right to deny coverage to artificial entities that are not properly registered and in good standing with the TN Secretary of State.

Notice of Coverage - The division will review the NOI for completeness and accuracy and prepare a notice of coverage (NOC). Stormwater discharge from the construction site is authorized as of the effective date of the NOC.

Complete the form - Type or print clearly, using ink and not markers or pencil. Answer each item or enter "NA," for not applicable, if a particular item does not fit the circumstances or characteristics of your construction site or activity. If you need additional space, attach a separate piece of paper to the NOI form. **The NOI will be considered incomplete without a permit fee, a map, and the SWPPP.**

Describe and locate the project - Use the legal or official name of the construction site. If a construction site lacks street name or route number, give the most accurate geographic information available to describe the location (reference to adjacent highways, roads, and structures, e.g., intersection of state highways 70 and 100). Latitude and longitude (expressed in decimal degrees) of the center of the site can be located on USGS quadrangle maps. The maps can be obtained at the USGS World Wide Web site: <http://www.usgs.gov/>; latitude and longitude information can be found at numerous other web sites. Attach a copy of a portion of a 7.5-minute topographic map, a city map, or a county map showing location of site, with boundaries at least one mile outside the site boundaries. Provide estimated starting date of clearing activities and completion date of the project, and an estimate of the number of acres of the site on which soil will be disturbed, including borrow areas, fill areas, stockpiles and the total acres. For linear projects, give location at each end of the construction area.

Give name of the receiving waters - Trace the route of stormwater runoff from the construction site and determine the name of the river(s), stream(s), creek(s), wetland(s), lake(s) or any other water course(s) into which the stormwater runoff drains. Note that the receiving water course may or may not be located on the construction site. If the first water body receiving construction site runoff is unnamed ("unnamed tributary"), determine the name of the water body that the unnamed tributary enters.

**An ARAP may be required - If your work will disturb or cause alterations of a stream or wetland, you must obtain an appropriate Aquatic Resource Alteration Permit (ARAP).** If you have a question about the ARAP program, contact your local Environmental Field Office (EFO).

Submitting the form and obtaining more information - Note that this form must be signed by the company President, Vice-President, or a ranking elected official in the case of a municipality, for details see subpart 2.5. For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC). Submit the completed NOI form (keep a copy for your records) to the appropriate EFO for the county(ies) where the construction activity is located, addressed to **Attention: Stormwater NOI Processing** or use MyTDEC Forms for electronic submittal.

EFO	Street Address	Zip Code	EFO	Street Address	Zip Code
Memphis	8383 Wolf Lake Drive, Bartlett	38133-4119	Cookeville	1221 South Willow Ave.	38506
Jackson	1625 Hollywood Drive	38305-4316	Chattanooga	1301 Riverfront Parkway, Suite 206	37402-2013
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601





**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)**  
 DIVISION OF WATER RESOURCES  
 William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11<sup>th</sup> Floor  
 Nashville, Tennessee 37243  
 1-888-891-8332 (TDEC)

**General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)**  
**Construction Stormwater Inspection Certification (Inspection Form)**

<b>Site or Project Name:</b>		<b>NPDES Tracking Number: TNR</b>
Primary Permittee Name:		Date of Inspection:
Current approximate disturbed acreage:	Has rainfall been checked/documented daily? <input type="checkbox"/> Yes <input type="checkbox"/> No	Name of Inspector:
Current weather/ground conditions:	Rainfall total since last inspection:	Inspector's TNEPSC Certification Number:
Site Assessment <input type="checkbox"/> Yes <input type="checkbox"/> No	Assessor's TN PE registration number:	Assessor's TNEPSC Level II/CPESC number:

<b>Check the box if the following items are on-site:</b>	
<input type="checkbox"/>	Notice of Coverage (NOC)
<input type="checkbox"/>	Stormwater Pollution Prevention Plan (SWPPP)
<input type="checkbox"/>	Weekly inspection documentation
<input type="checkbox"/>	Site contact information
<input type="checkbox"/>	Rain Gage
Off-site Reference Rain Gage Location	

**Best Management Practices (BMPs):**

<b>Are the Erosion Prevention and Sediment Controls (EPSCs) functioning correctly?</b>			
If "No," describe below in Comment Section			
1.	Are all applicable EPSCs installed and maintained per the SWPPP per the current phase?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.	Are EPSCs functioning correctly at all disturbed areas/material storage areas? (permit section 5.5.3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3.	Are EPSCs functioning correctly at outfall/discharge points such that there is no objectionable color contrast in the receiving stream, and no other water quality impacts? (permit section 5.5.3.5 and 6.3.2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4.	Are EPSCs functioning correctly at ingress/egress points such that there is no evidence of track-out? (permit section 5.5.3.1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5.	If applicable, have discharges from dewatering activities been managed by appropriate controls? (permit section 4.1.3) If "No," describe below the measure to be implemented to address deficiencies.	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.	If construction activity at any location on-site has temporarily/permanently ceased, was the area stabilized within 14 days? (permit section 5.5.3.4) If "No," describe below each location and measures taken to stabilize the area(s).	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.	Have pollution prevention measures been installed, implemented, and maintained to minimize the discharge of pollutants from wash waters, exposure of materials and discharges from spills and leaks per section 4.1.4? If "No," describe below the measure to be implemented to address deficiencies.	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No



## Construction Stormwater Inspection Certification Form (Inspection Form)

### Purpose of this form / Instructions

An inspection, as described in subsection 5.5.3.9. of the General Permit for Stormwater Discharges from Construction Activities ("Permit"), shall be performed at the specified frequency and documented on this form. Inspections shall be performed at least 72 hours apart. Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g., site covered with snow or ice), such inspection only has to be conducted once per month until thawing results in runoff or construction activity resumes.

Inspections can be performed by:

- a) a person with a valid certification from the "Fundamentals of Erosion Prevention and Sediment Control Level I" course,
- b) a licensed professional engineer or landscape architect,
- c) a Certified Professional in Erosion and Sediment Control (CPESC), or
- d) a person who has successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course.

Qualified personnel, as defined in subsection 5.5.3.10 of the Permit (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been permanently stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, locations where vehicles enter or exit the site, and each outfall.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the site's drainage system. Erosion prevention and sediment control measures shall be observed to ensure that they are operating correctly.

Outfall points (where discharges leave the site and/or enter waters of the state) shall be inspected to determine whether erosion prevention and sediment control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

Based on the results of the inspection, any inadequate control measures or control measures in disrepair shall be replaced or modified, or repaired as necessary, before the next rain event if possible, but in no case more than 7 days after the need is identified.

Based on the results of the inspection, the site description identified in the SWPPP in accordance with section 5.5.1 of the Permit and pollution prevention measures identified in the SWPPP in accordance with section 5.5.2 of the Permit, shall be revised as appropriate, but in no case later than 7 days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP, but in no case later than 14 days following the inspection.

All inspections shall be documented on this Construction Stormwater Inspection Certification form. Alternative inspection forms may be used as long as the form contents and the inspection certification language are, at a minimum, equivalent to the Division's form and the permittee has obtained a written approval from the Division to use the alternative form. Inspection documentation will be maintained on site and made available to the Division upon request. Inspection reports must be submitted to the Division within 10 days of the request.

Trained certified inspectors shall complete inspection documentation to the best of their ability. Falsifying inspection records or other documentation or failure to complete inspection documentation shall result in a violation of this permit and any other applicable acts or rules.

**STATE REVOLVING FUND LOAN PROGRAM**  
**BID PACKAGE SUBMITTAL REQUIREMENTS**

**PRIOR TO FINAL CONTRACT AWARD** by the State Revolving Fund (SRF) Loan Program, the Loan Recipient must prepare and submit a completed Bid Package to the SRF Loan Program for review and **written approval**. An **Authority-to-Award (ATA)** letter from the SRF Loan Program must be obtained prior to the final contract award and the initiation of construction activities.

A completed Bid Package submittal consists of the following:

1. A copy of the **Advertisement for Bids** appearing in a local or major regional newspaper or the Dodge Report (40 CFR 31.36 (d)(2)(ii)(A)). *The project must be advertised for a minimum of 14 days prior to the bid opening.*
2. An original copy of either the **Award Resolution or the minutes** from the meeting of the governing body (or a certified copy of either) that tentatively awards the contract(s) to the lowest, responsible, responsive bidder(s)
3. A **certified bid tabulation** stamped and signed by the consulting engineer reviewing the bids
4. A copy of the **signed Bid Proposal** of the apparent successful bidder
5. **Equal Employment Opportunity (EEO) documentation** signed by the apparent successful bidder
6. **Bid Bond with Power of Attorney** (40 CFR 31.36(h))
7. Signed and dated U.S. EPA (or other agency) **Contractor Debarment Form**, such as the U.S. Environmental Protection Agency Certification Regarding Debarment, Suspension and Other Responsibility Matters
8. An original, notarized certification of publication (**Publisher's Affidavit**) signed by the editor of the newspaper
9. Copies of a minimum of 10 **certified letters** and "**Return Receipt Requested**" forms sent to potential **Disadvantaged Business Enterprises (DBE)** subcontractors, supplies vendors, service providers, and/or equipment vendors
10. A copy of the current **Davis-Bacon** wage rates used on this project (Davis-Bacon Act)
11. A completed **Loan Recipient's Certification and Summary** of **DBE** Participation on SRF Projects (40 CFR 31.36 (e)(2)(i through vi))
12. If **DBE** participation was obtained,
  - **Prime Contractor's Notice Letter** for EPA Form 6100-2
  - **EPA Form 6100-3** completed by Prime Contractor and **DBE Subcontractor(s)**
  - **EPA Form 6100-4** completed by the Prime Contractor
13. If no **DBE** participation was obtained, a "**Good Faith Effort**" letter (See Good Faith Effort Steps at 40 CFR 31.36 (e)(2)(i through vi))
14. Reference documents:
  - **Loan Recipient's Requirements** for Solicitation and Documentation of **DBE** Participation on SRF Projects
  - **Bidder's Requirements** for Solicitation and Documentation of **DBE** Participation on SRF Projects
  - **Loan Recipient's Certification and Summary** of **DBE** Participation on SRF Loan-Funded Projects
  - **Guidance Document** for **DBE** Requirements for SRF loans
15. If applicable, documentation of the justification for not awarding the contract to the lowest bidder if the award is to be made to a bidder other than the low bidder. The justification must indicate why the low bidder is not responsive or responsible and include documentation of any negotiations leading to the determination.
16. Resume of the resident inspector(s)
17. Documentation of the extension of the bid proposal and bid bond expiration dates, if necessary

**If the lowest bid received exceeds the amount budgeted** for construction in the SRF-approved SRF Loan Budget, the loan recipient must choose only from the following options:

- **Re-allocate** SRF funds through a budget revision. A revised Budget/Re-budget Form must be submitted to the SRF for review and approval if the re-budgeting option is chosen.
- **Provide** additional funds needed to pay the contract from **local funds** or funding source(s) other than the SRF loan
- **Apply** for an **SRF loan increase**. Application for a loan increase will require re-evaluation of the loan recipient's user rates to determine if the anticipated revenues will be sufficient to repay the requested loan increase and fund the additional depreciation. **Principal forgiveness does not apply to loan increases.**
- **Reject** all bids and **re-bid the project**

Please contact Dr. Bagher Sami by telephone at (615) 532-0501 or by e-mail at [bagher.sami@tn.gov](mailto:bagher.sami@tn.gov) if you have any questions concerning the contents of the Bid Package submittal for State Revolving Fund projects.

**City Letter Head**

Dr. Bagher Sami,  
Administrative and Financial Section Manager  
State Revolving Fund Loan Program  
William R. Snodgrass - Tennessee Tower  
312 Rosa L. Parks Avenue, 12<sup>th</sup> Floor  
Nashville, Tennessee 37243-1102

RE: Property, Easements, Rights-of-Way Certification  
City/County/UD/Authority (xxxx County or xxx and xxxx Counties), Tennessee  
Loan No. SRF CWA CGA DWF DWA DGA 200x-xxx  
Loan Description: xxxxxxxxxx  
Contract No. / Name 1 of 2—Contract Description  
Contract No. / Name 2 of 2—Contract Description

Dear Dr. Sami:

This letter is to certify that all property, easements, and rights-of-way necessary to construct the projects included in the above-referenced contract are owned (or in the case of right-of-way permitted for the use) by the City/County/UD/Authority. And/or The plant improvements are to be constructed on the same site as our existing facility. Based upon this, no “Site Certificate” is required.

Sincerely,

**Authorized Representative, Title**

## SITE CERTIFICATION

I certify that the applicant, the City of ???, ??? County, the ??? Utility District, the ??? Water/Wastewater/Energy Authority has acquired or has entered into condemnation proceedings for all real property including easements and rights-of-way that are or will be required for the construction (erection, extension, modification, addition), operation, and maintenance of the entire wastewater treatment works funded under loan number SRF/CWA/CGA/DWF/DWA/DGA 200?-???

I certify that any deeds or documents required to be recorded in order to protect the title of the owner and the interest of the City of ???, ??? County, the ??? Utility District, the ??? Water/Wastewater/Energy Authority have been duly recorded and filed for record wherever necessary.

I further certify that real property including easements required for the entire wastewater treatment works project was acquired in accordance with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and EPA's regulation 40 CFR Part 4.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Applicants' Authorized Representative

\_\_\_\_\_  
Title (Mayor, City Manager, Commissioner, etc.)

\_\_\_\_\_  
Attorney (Typed and Signed)



§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.



**§ 7** If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

**§ 8** If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

**§ 9** The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

**§ 10** The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

**§ 11** Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

**§ 12** Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

**§ 13** When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

#### **§ 14 Definitions**

**§ 14.1 Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

**§ 14.2 Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

**§ 14.3 Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

**§ 14.4 Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

**§ 14.5 Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

**§ 15** If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_  
*(Corporate Seal)*

**SURETY**

Company: \_\_\_\_\_  
*(Corporate Seal)*

Signature: \_\_\_\_\_  
Name and Title:  
Address

Signature: \_\_\_\_\_  
Name and Title:  
Address

Bond No.

Conforms with The American Institute of Architects AIA Document 312

# Payment Bond

**CONTRACTOR:**  
*(Name, legal status and address)*

**SURETY:**  
*(Name, legal status and principal place of bu*

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

**OWNER:**  
*(Name, legal status and address)*

## CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:  
*(Name and location)*

## BOND

Date:

*(Not earlier than Construction Contract Date)*

Amount: \$

Modifications to this Bond:  None  See Section 18

### CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

### SURETY

Company: *(Corporate Seal)*

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

Name  
and Title:

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

Name  
and Title: Attorney-in-Fact  
Surety Phone No.

*(Any additional signatures appear on the last page of this Payment Bond.)*

*(FOR INFORMATION ONLY — Name, address and telephone)*

**AGENT or BROKER:**

**OWNER'S REPRESENTATIVE:**  
*(Architect, Engineer or other party:)*

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

**§ 10** The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

**§ 11** The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

**§ 12** No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

**§ 13** Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

**§ 14** When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

**§ 15** Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

#### **§ 16 Definitions**

**§ 16.1 Claim.** A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

**§ 16.2 Claimant.** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

**§ 16.3 Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

**§ 16.4 Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

**§ 16.5 Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

**§ 17** If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

**§ 18** Modifications to this bond are as follows:

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_ *(Corporate Seal)*

**SURETY**

Company: \_\_\_\_\_ *(Corporate Seal)*

Signature: \_\_\_\_\_  
Name and Title:  
Address

Signature: \_\_\_\_\_  
Name and Title:  
Address

## APPENDIX 1

### **Example Build America, Buy America (BABA) Act Construction Contract Language**

ALL CONSTRUCTION CONTRACTS MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE BABA REQUIREMENTS. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN A PROJECT'S CONSTRUCTION CONTRACT. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE OR LOCAL LAW:

The Contractor acknowledges to and for the benefit of the \_\_\_\_\_ (“Owner”) and the \_\_\_\_\_ (the “Funding Authority”) that it understands the goods and services under this Agreement are being funded with federal monies and have statutory requirements commonly known as “Build America, Buy America;” that requires all of the iron and steel, manufactured products, and construction materials used in the project to be produced in the United States (“Build America, Buy America Requirements”) including iron and steel, manufactured products, and construction materials provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Owner and Funding Authority (a) the Contractor has reviewed and understands the Build America, Buy America Requirements, (b) all of the iron and steel, manufactured products, and construction materials used in the project will be and/or have been produced in the United States in a manner that complies with the Build America, Buy America Requirements, unless a waiver of the requirements is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the Build America, Buy America Requirements, as may be requested by the Owner or the Funding Authority. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Owner or Funding Authority to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Owner or Funding Authority resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the Funding Authority or any damages owed to the Funding Authority by the Owner). If the Contractor has no direct contractual privity with the Funding Authority, as a lender or awardee to the Owner for the funding of its project, the Owner and the Contractor agree that the Funding Authority is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the Funding Authority.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF WATER

November 3, 2022

**MEMORANDUM**

**SUBJECT:** Build America, Buy America Act Implementation Procedures for EPA Office of Water  
Federal Financial Assistance Programs

**FROM:** Radhika Fox  
Assistant Administrator

A handwritten signature in black ink, appearing to be "R. Fox", is written over the name "Radhika Fox".

**TO:** EPA Regional Water Division Directors, Regions I – X  
EPA Office of Water Office Directors

**OVERVIEW**

The Biden-Harris Administration recognized the Nation's critical need for infrastructure investment, championing the Bipartisan Infrastructure Law (BIL), which Congress passed on November 15, 2021 (also known as the Infrastructure Investment and Jobs Act (IIJA)). The BIL will provide an unprecedented level of federal investment in water and wastewater infrastructure in communities across America.

In Title IX of the IIJA, Congress passed the Build America, Buy America (BABA) Act, which establishes strong and permanent domestic sourcing requirements across all Federal financial assistance programs for infrastructure. The U.S. Environmental Protection Agency (EPA) Office of Water is honored to help lead the implementation of these provisions and is proud of its near decade of successful implementation of the American Iron and Steel (AIS) provisions for its flagship water infrastructure programs.

This is a transformational opportunity to build a resilient supply chain and manufacturing base for critical products here in the United States that will spur investment in good-paying American manufacturing jobs and businesses. EPA's efforts to implement BABA will help cultivate the domestic manufacturing base for a wide range of products commonly used across the water sector but not currently made domestically. This will take time, and flexibility will be important to ensure that EPA can leverage critical water investments on time and on budget to protect public health and improve water quality.



## IMPLEMENTATION

Recognizing the opportunity and need for BABA implementation guidance, the Made in America Office (MIAO) of the Office of Management and Budget (OMB) published Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure (OMB Guidance M-22-11) on April 18, 2022. The guidance provides government-wide implementation direction for all Federal financial assistance programs for infrastructure. Despite the extensive guidance developed by MIAO, EPA's Office of Water infrastructure investment programs have received many questions that were not addressed in OMB Guidance M-22-11 or that require further clarification for EPA water infrastructure programs. The following questions and answers serve to supplement OMB Guidance M-22-11 with implementation procedures specific to EPA's relevant water infrastructure programs.

Section 70914(a) of the IIJA states when a Buy America preference under BABA applies: "Not later than... [May 14, 2022], the head of each Federal agency shall ensure that none of the funds made available for a Federal financial assistance program for infrastructure... may be obligated for a project unless all of the iron, steel, manufactured products, and construction materials used in the project are produced in the United States." Therefore, Federal financial infrastructure investments obligated on or after May 14, 2022, must comply with the BABA requirements. Absent a waiver, all iron, steel, manufactured products, and construction materials permanently incorporated into an infrastructure project subject to the BABA requirements must be produced in the United States. For many of EPA's Office of Water infrastructure investment programs, the vast majority of products permanently incorporated into construction, maintenance, or repair projects must comply with the BABA requirements, with the exception of select construction materials (cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives), which are specifically excepted by the BABA statute.

EPA's Office of Water implements many infrastructure investment programs subject to BABA requirements, including the following:

- Alaska Native Villages and Rural Communities Water Grant Program (ANV) (and any associated Interagency Agreements with the Indian Health Service)
- Clean Water and Drinking Water State Revolving Fund Programs (CW and DWSRF)
- Clean Water and Drinking Water Grants to U.S. Territories and the District of Columbia
- Clean Water Indian and Drinking Water Tribal Infrastructure Grant Set-aside (and any associated Interagency Agreements with the Indian Health Service)
- Coastal Wetlands Planning, Protection and Restoration Act, (CWPPRA) Programs
- Congressionally Directed Spending/Community Project Funding (also known as Community Grants)
- Geographic Programs<sup>1</sup>
- Gulf Hypoxia Program
- National Estuaries Program (CWA Section 320)

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<sup>1</sup> Geographic Programs include: Great Lakes Restoration Initiative, Chesapeake Bay, San Francisco Bay, Puget Sound, Long Island Sound, Gulf of Mexico, South Florida, Lake Champlain, Lake Pontchartrain, Southern New England Estuaries, Columbia River Basin, Pacific Northwest

- 319 Nonpoint Source Management Program Implementation
- Reducing Lead in Drinking Water Grant Program (SDWA §1459B)
- Assistance for Small and Disadvantaged Communities Grants: Small, Underserved, and Disadvantaged Community Grant Program (SUDC), Emerging Contaminants in Small or Disadvantaged Communities (EC-SDC) and Drinking Water Infrastructure Resilience & Sustainability (SDWA §1459A)
- Sewer Overflow and Stormwater Reuse Municipal Grants (OSG)
- USMCA Implementing Legislation (Section 821 and Title IX, USMCA Supplemental Appropriations, 2020)
- U.S.-Mexico Border Water Infrastructure Program
- Voluntary School and Child Care Program Lead Testing and Remediation Grant Program (SDWA 1464(d))
- Water Infrastructure Finance and Innovation Act (WIFIA)

The questions and answers in this document apply to the implementation of BABA requirements for the Office of Water infrastructure programs listed above unless superseded by regulation, statute, or other applicable guidance. For many of the programs listed above which did not have domestic preference requirements prior to BABA, additional implementation details are pending or may be developed after the issuance of these procedures. In addition, EPA notes that more direction will be helpful to inform the determination and definition of domestic content in manufactured goods. Supplemental guidance on these and other issues, from either OMB or EPA, may be forthcoming. These implementation procedures may also apply to additional, unlisted EPA programs which may be required to apply BABA subsequent to publication of this memorandum (e.g., future funding programs which have been authorized, but not yet appropriated).

For more information on the BABA requirements, visit the EPA Office of Water’s dedicated website – <https://www.epa.gov/cwsrf/build-america-buy-america-baba> – or contact your funding authority (such as your grants officer, portfolio manager, or state contact). For information on approved waivers, visit <https://www.epa.gov/cwsrf/build-america-buy-america-baba-approved-waivers>. You may also email questions to [BABA-OW@epa.gov](mailto:BABA-OW@epa.gov).

This Implementation Procedures document is organized to provide responses to questions in the following topic areas:

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## QUESTIONS AND ANSWERS

### SECTION 1: GENERAL

- Q1.1: Will EPA provide documentation for BABA for bid solicitations and suggested contract language? Will EPA provide suggested language for Assistance Agreements?
  - A1.1: See Appendix 1, which includes suggested language for construction contracts which addresses the BABA requirements. In addition to the language suggested in Appendix 1, EPA also recommends that assistance recipients prepare contract bid solicitation documents with a statement for the consulting engineers and construction firms as follows: “By signing payment application and recommending payment, Contractor certifies they have reviewed documentation for all products and materials submitted for payment, and the certifications are sufficient to demonstrate compliance with Build America, Buy America Act requirements.” In most cases, the assistance recipient’s representatives assume the responsibility for their clients to conduct due diligence on compliance with applicable domestic preference requirements.

All Federal Financial infrastructure assistance agreements subject to BABA must have a clause requiring compliance with the requirements. See Appendix 2 for example assistance agreement language.
- Q1.2: Would federally-financed infrastructure projects outside of the United States need to comply with the BABA requirements?
  - A1.2: No. According to the OMB Guidance (M-22-11), a “project” is defined as “...any activity related to the construction, alteration, maintenance, or repair of infrastructure in the United States.” Therefore, the BABA requirements are not implicated for infrastructure projects occurring outside of the United States, such as projects funded through the United States-Mexico-Canada Agreement with infrastructure activities occurring in Mexico or Canada (that is, outside the United States).
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- Q1.3: If most of the project is BABA compliant, and a small portion is not, can an assistance recipient self-fund (i.e., paying with non-federal dollars) the non-compliant products?
  - A1.3: Any project that is funded in whole or in part with federal assistance must comply with the BABA requirements, unless the requirements are otherwise waived. All iron, steel, manufactured products, and construction materials used in a project must meet the BABA requirements unless waived. Absent a waiver, there is no “small portion” or product that does not need to satisfy the BABA requirements unless the requirements are waived (or specifically excluded as is the case for cement and cementitious materials; aggregates such as stone, sand, or gravel; aggregate binding agents or additives; or non-permanent products). An assistance recipient may request a waiver or inquire as to whether a broad waiver, such as a *de minimis* waiver, might apply.

- Q1.4: How do international trade agreements affect the implementation of the BABA requirements?
  - A1.4: The BABA requirements apply in a manner consistent with United States obligations under international trade agreements. Typically, these obligations only apply to direct procurement by the entities that are signatories to these trade agreements. In general, assistance recipients are not signatories to such agreements, so these trade agreements have no impact on BABA implementation. In the few instances where such an agreement applies to a municipality, that municipality is responsible for determining its applicability and requirements and communicating with the funding authority (such as EPA and/or a state) on the actions taken to comply with BABA.

SECTION 2: PRODUCT COVERAGE

- Q2.1: For products made of iron and steel, what is the difference between predominantly and primarily iron and steel?
  - A2.1: EPA considers the terms “predominantly” and “primarily” to be interchangeable, such that a product is considered predominantly (or primarily) iron and steel if it contains greater than 50 percent iron and steel by material cost.
- Q2.2: What is the definition of construction materials (with examples)?
  - A2.2: From OMB Guidance M-22-11: “construction materials” include an article, material, or supply (other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; aggregate binding agents or additives; or non-permanent products) that is or consists primarily of:
    - non-ferrous metals,
    - plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables), (including optic glass),
    - lumber, and
    - drywall.

For example, a plate of glass would be a construction material under BABA, but a framed window that incorporates the glass into a frame would be a manufactured product. Another common construction material for water infrastructure projects would be polyvinyl chloride (PVC) pipe and fittings. However, if PVC components are incorporated into a more complex product such as instrumentation and control equipment or a water treatment unit, those items would be manufactured products.

- Q2.3: What are manufactured products (with examples)?
  - A2.3: From OMB Guidance M-22-11: “...all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total

cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation...”

The manufactured products category would cover the majority of potential water infrastructure products, including complex products made up of a variety of material types and components. For water infrastructure projects, common manufactured products would include, but not be limited to, pumps, motors, blowers, aerators, generators, instrumentation and control systems, gauges, meters, measurement equipment, treatment equipment, dewatering equipment, actuators, and many other mechanical and electrical items.

- Q2.4: Which category will valves fall under for BABA? Will it differ from the American Iron and Steel (AIS) requirements?
  - A2.4: For programs that are subject to BABA and AIS (SRF, WIFIA, and Community Project Funding), projects using valves should classify them as iron and steel products under BABA as long as their material cost is made up of more than 50 percent iron and/or steel. Valves with 50 percent or less iron and/or steel by material cost would be considered manufactured products under the BABA requirements.

In accordance with OMB Guidance M-22-11, an article, material, or supply should be classified into only one of the three categories: iron and steel, manufactured products, or construction materials. Under the AIS requirements, all valves made primarily of iron and steel (that is, those with iron and/or steel material cost greater than 50 percent) must comply with the AIS requirements. For BABA, EPA interprets Section IV of OMB Guidance M-22-11 to mean that iron and steel products are those items that are primarily iron and steel, the same as for the AIS requirements.

- Q2.5: Does EPA have a list of products to be classified as “Iron and Steel” under BABA?
  - A2.5: Although this list is not comprehensive, the following products were classified as AIS products if made primarily (more than 50 percent) of iron and/or steel by materials cost (for programs subject to both AIS and BABA, this list would be equivalent for “iron and steel” items or products under either requirement):

Products likely made “primarily” of iron and steel to be classified as <u>Iron and Steel</u> under BABA		
Lined and Unlined Pipe	Lined and Unlined Fittings	Tanks
Flanges	Pipe Clamps and Restraints	Structural Steel
Valves	Hydrants	Pre-Cast, Iron/Steel Reinforced Concrete (of all types, regardless of iron/steel content percentage)
Manhole Covers and other Municipal Castings	Access Hatches	Ballast Screens
Iron or Steel Benches	Bollards	Cast Bases
Cast Iron Hinged Hatches	Cast Iron Riser Rings	Catch Basin Inlets
Cleanout/Monument Boxes	Construction Covers and Frames	Curb and Corner Guards

Products likely made “primarily” of iron and steel to be classified as <u>Iron and Steel</u> under BABA		
Curb Boxes	Curb Openings	Curb Stops
Detectable Warning Plates	Downspout Shoes	Drainage Grates
Drainage Grate Frames and Curb Inlets	Inlets	Junction Boxes
Lampposts	Manhole Rings and Frames	Manhole Risers
Meter Boxes	Service Boxes	Steel Hinged Hatches
Steel Riser Rings	Trash Receptacles	Tree Grates
Tree Guards	Trench Grates	Valve Boxes
Valve Box Covers and Risers	Access Ramps	Aeration Pipes and Fittings (separate from aeration/blowers)
Angles	Backflow Preventers/Double Check Valves	Baffle Curtains
Iron or Steel Bar	Bathroom Stalls	Beam Clamps
Cable Hanging Systems	Clarifier Tanks	Coiled Steel
Column Piping	Concrete Reinforcing Bar, Wire, and Fibers	Condensate Sediment Traps
Corrugated Pipe	Couplings	Decking
Digester Covers	Dome Structures	Door Hardware
Doors	Ductwork	Expansion Joints
Expansion Tanks (diaphragm, surge, and hydropneumatics)	Fasteners	Fencing and Fence Tubing
Fire Escapes	Flanged Pipe	Flap Gates
Framing	Gate Valves	Generic Hanging Brackets
Grating	Ground Testing Boxes	Ground Test Wells
Guardrails	HVAC Registers, Diffusers, and Grilles	Joists
Knife Gates	Ladders	Lifting Hooks, J-bar, Connectors within, and Anchors for Concrete
Lockers	Man Baskets and Material Platforms	Manhole Steps
Mud Valves	Municipal Casting Junctions	Non-mechanical (aka stationary) Louvers and Dampers
Overhead Rolling Doors/ Uplifting Doors (manual open, no motor)	Pipe Connectors	Pipe Hangers
Pipe Pilings (any type of steel piling)	Pipe Spool (pipe, flanges, connectors, etc.)	Pipe Supports
Pitless Adaptors	Pre-fab Steel Buildings/Sheds (simple structure, unfurnished)	Pre-stressed Concrete Cylinder Pipe (PCCP)
Railings	Reduced Pressure Zone (RPZ) Valves	Roofing
Service Saddles	Sheet Piling	Sinks (not part of eyewash systems)
Solenoid Valves	Stairs	Static Mixers
Stationary Screens	Surface Drains	Tapping Sleeves
Telescoping Valves	Tipping Buckets	Trusses
Tubing	Valve Stem Extensions	Valve Stems (excluding handwheels and actuators)
Wall Panels	Wall Sleeves/Floor Sleeves	Welding Rods
Well Casing	Well Screens	Wire
Wire Cloth	Wire Rod	Wire Rope and Cables

Q2.6: Does EPA have a list of products that could be made “primarily” of iron and steel but would be classified as “manufactured products” under BABA?

A2.6: Although this list is not comprehensive, the following products would be considered “manufactured products” under the BABA requirements, even if the item might be composed primarily of iron and steel by materials cost (Note: These items are not subject to the AIS requirements.):

Products likely made “primarily” of iron and steel to be classified as <u>Manufactured Products</u> under BABA		
Actuator Superstructures/ Support Structures	Aeration Nozzles and Injectors	Aerators
Analytical Instrumentation	Analyzers (e.g., ozone, oxygen)	Automated Water Fill Stations
Blowers/Aeration Equipment	Boilers, Boiler Systems	Chemical Feed Systems (e.g., polymer, coagulant, treatment chemicals)
Chemical Injection Quills	Chemical Injectors	Clarifier Mechanisms/Arms
Compressors	Controls and Switches	Conveyors
Cranes	Desiccant Air Dryer Tanks	Dewatering Equipment
Dewatering Roll-offs	Disinfection Systems	Drives (e.g., variable frequency drives)
Electric/Pneumatic/Manual Accessories Used to Operate Valves (such as electric valve actuators)	Electrical Cabinetry and Housings (such as electrical boxes/enclosures)	Electrical Conduit
Electrical Junction Boxes	Electronic Door Locks	Elevator Systems (hydraulic, etc.,)
Emergency Life Systems (including eyewash stations, emergency safety showers, fire extinguishers, fire suppression systems including sprinklers /piping/valves, first aid, etc.)	Exhaust Fans	Fall Protection Anchor Points
Fiberglass Tank w/Appurtenances	Filters (and appurtenances, including underdrains, backwash systems)	Flocculators
Fluidized Bed Incinerators	Galvanized Anodes/Cathodic Protection	Gear Reducers
Generators	Geothermal Systems	Grinders
Heat Exchangers	HVAC (excluding ductwork)	HVAC Dampers (if appurtenances to aerators/blowers)
HVAC Louvers (mechanical)	Intake and Exhaust Grates (if appurtenances to aerators/blowers)	Instrumentation
Laboratory Equipment	Ladder Fall Prevention Systems	Ladder Safety Posts
Lighting Fixtures	Lightning and Grounding Rods	Mechanical or Actuated Louvers/Dampers
Membrane Bioreactor Systems	Membrane Filtration Systems	Metal Office Furniture (fixed)
Meters (including flow, wholesale, water, and service connection)	Motorized Doors (unit)	Motorized Mixers
Motorized Screens (such as traveling screens)	Motors	Pelton Wheels
Pipeline Flash Reactors (similar to injectors)	Plate Settlers	Precast Concrete without Iron/Steel Reinforcement

Products likely made “primarily” of iron and steel to be classified as <u>Manufactured Products</u> under BABA		
Furnished Pre-fab Buildings (such as furnished with pumps, mechanics inside)	Presses (including belt presses)	Pressure Gauges
Pump Cans/Barrels and Strainers	Pumps	Mechanical Rakes
Safety Climb Cable	Sampling Stations (unless also act as hydrant)	Scrubbers
Sensors	Sequencing Batch Reactors (SBR)	Steel Shelving (fixed)
Slide and Sluice Gates	Spray Header Units	Steel Cabinets (fixed interior/furniture)
Supervisory Control and Data Acquisition (SCADA) Systems	Tracer Wire	Valve Manual Gears, Actuators, Handles
Voltage Transformer	Water Electrostatic Precipitators (WESP)	Water Heaters
Weir Gates		

- Q2.7: Is asphalt paving a covered product under BABA?
  - A2.7: No. EPA interprets Section 70917(c) of the IIA to exclude asphalt from BABA requirements. Asphalt paving is a type of concrete composed of an aggregate material mixed with a binder (bitumen). EPA considers asphalt concrete to be excluded by section 70917(c) due to its similarities with cement and cementitious materials.

SECTION 3: CO-FUNDING

- Q3.1: If projects are co-funded with funding mechanisms that don’t require BABA, must the entire project comply with BABA?
  - A3.1: Yes. Any project that is funded in whole or in part with federal assistance must comply with the BABA requirements, unless the requirements are otherwise waived. A “project” consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all the contracts and assistance agreements awarded are closely related in purpose, time, and place. This precludes the intentional splitting of projects into separate and smaller contracts or assistance agreements to avoid BABA’s applicability on some portions of a larger project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in separate phases that are distinct in purpose, time, or place, in which case, separate contracts or assistance agreements would carry separate requirements.



- Q3.2: How will project requirements be determined for co-funded projects subject to potentially different general applicability/programmatic waiver conditions (such as different adjustment period waivers)?
  - A3.2: OMB Guidance M-22-11 addresses cases with project co-funding from separate programs. EPA would apply the guidance’s “cognizant” program determination to projects that are co-funded with different general applicability/programmatic waivers. For instance, if a project were co-funded between WIFIA and SRF and the majority of the Federal funding for the project is from WIFIA, then WIFIA would be the “cognizant” program for application and determination of waivers. In that case, any conditions from an applicable WIFIA waiver would apply.

SECTION 4: WAIVERS

- Q4.1: Who may apply for a waiver and how do you apply?
  - A4.1: Assistance recipients and their authorized representatives may apply for a project-specific waiver. EPA does not accept waiver requests from suppliers, distributors, or manufacturers unless the assistance recipient endorses and submits the request on its own behalf to the funding authority. In the case where multiple programs are providing federal funds to the project, the assistance recipient should submit the waiver request to the cognizant program, the one providing the greatest amount of federal funds for the project. For information on applying for cost waivers, see questions 4.4 and 4.5. For information on the SRF program roles and responsibilities, see question 7.6.

Project-specific waiver requests should generally include: (1) a brief summary of the project, (2) a description and explanation of the need for the waiver for the product(s) in question, (3) a brief summary of the due diligence conducted in search of domestic alternatives (which could include correspondence between assistance recipient and supplier/distributors), (4) the quantity and materials of the product(s) in question, (5) all engineering specifications and project design considerations relevant to the product(s) in question, (6) the approximate unit cost of items (both foreign and domestic) in addition to an estimated cost of the materials and overall project, (7) the date any products will be needed on site in order to avoid significant project schedule disruptions, and (8) any other pertinent information relevant to EPA’s consideration of the waiver (e.g., if relevant for SRF projects: whether the project is designated as an equivalency project, the date the plans and specifications were submitted to the state, the date of construction initiation, expected date of project completion, any special considerations such as local zoning and building ordinances, seismic requirements, or noise or odor control requirements).

In the case of indirect federal assistance, such as the SRF programs, the state authority reviews and conveys the waiver request to EPA. States should submit waiver requests to the appropriate program waiver request inbox. For SRF projects, please use [CWSRFWaiver@epa.gov](mailto:CWSRFWaiver@epa.gov) or [DWSRFWaiver@epa.gov](mailto:DWSRFWaiver@epa.gov).

- Q4.2: Can an assistance recipient request a waiver based on a specification written for a specific brand or model of product (that is, a specification that names a branded item or model)?
  - A4.2: In most cases, performance-based specifications are expected and required for the majority of infrastructure projects funded by EPA’s financial assistance programs. In rare cases where “branded” or product-specific sourcing may be included in project specifications, it is suggested that the specifications include the item in question (that is, not simply a catalog page, but also materials of construction, sizing, quantities, and applicable engineering performance design characteristics for the project, etc.) in addition to the standard phrase “or equal.” For the purposes of product alternative market research, EPA will evaluate the BABA requirements based on performance-based engineering specifications for the product(s) in question. If the project’s specifications do not include performance-based specifications, or at least an “or equal” designation, EPA will base its research on an “or equal” designation using best professional judgment to the extent practicable.
  
- Q4.3: If a manufactured product is not readily available domestically, will EPA provide short-term “limited availability” product waivers?
  - A4.3: EPA will address the unavailability of domestic products through the waiver process, including potential national short-term waivers for specific products, if appropriate. To the extent practicable and with the intent to maximize domestic market and supply chain development, EPA intends to address issues of broad product unavailability with targeted, time-limited, and conditional waivers, as prescribed in OMB Guidance M-22-11. EPA will follow its robust and thorough product research processes (those put into place for the AIS requirements for the SRF and WIFIA programs and expanded for the new BABA requirements) to identify and determine those products for which proposed national/general applicability waivers may be appropriate.
  
- Q4.4: What information is needed when applying for a cost waiver under BABA?
  - A4.4: As part of the cost waiver request, the assistance recipient must demonstrate that implementation of the BABA requirements will increase the overall project cost more than 25 percent. Depending on the circumstances of the overall project cost increases, documentation to justify the cost waiver can vary but may include itemized cost estimates or bid tabulations comparing project costs with and without BABA implementation. Assistance recipients should begin assessing the potential cost impacts of the BABA requirements during the design phase of a project.
  
- Q4.5: Can administrative costs associated with tracking and verification of certifications be considered when determining if the cost of a project increases by 25 percent or more?
  - A4.5: Yes. Section 70914(b)(3) of the IIJA states that a waiver may be provided if the overall cost of the project increases by more than 25 percent due to the “inclusion of iron, steel, manufactured products, or construction materials produced in the United States.” EPA interprets this to mean that the “inclusion” of the BABA-covered products could encompass

reasonable administrative costs associated with complying with the BABA requirements, such as staff, contractor, and technological resources to collect and track BABA compliance documentation.

- Q4.6: How can assistance recipients and construction contractors address product delivery delays?
  - A4.6: Assistance recipients should reasonably plan for material procurement to account for known potential supply chain issues or extended lead times and shall notify the funding authority well in advance of the issues so that prompt attention can be given to explore options. Where extended lead times for compliant products are impacting project schedules and may significantly impact construction progress, timely communication with the funding agency is important. For products that are unavailable within a reasonable timeframe to meet the objectives and schedule of a project, EPA may consider a non-availability waiver with adequate justification. An assistance recipient would need to apply for the waiver and contact its funding authority (such as EPA and/or a state) to initiate the waiver process.

#### SECTION 5: DOCUMENTING COMPLIANCE

- Q5.1: Who will be responsible for BABA enforcement?
  - A5.1: Responsibility for BABA implementation applies at all levels, from manufacturers to suppliers and distributors, construction contractors, assistance recipients, and funding authorities.

The manufacturers have responsibility to provide adequate and accurate documentation of the products manufactured. If suppliers and distributors are involved, they are responsible for passing along compliance documentation for products supplied to projects that are subject to the BABA requirements.

The assistance recipient and their representatives are primarily responsible for ensuring the documentation collected for products used on the project is sufficient to document compliance with the BABA requirements.

The funding authority is responsible for providing oversight and guidance as needed to ensure the proper implementation of the requirements. The Uniform Grants Guidance (UGG) (Title 2 of the Code of Federal Regulations (CFR) Part 200) applies to many Federal financial assistance agreements that will include BABA requirements. The general provisions of 2 CFR Part 200 determine the responsible party for the grant funding authority.

For information on SRF program roles and responsibilities, see question 7.6.

At all levels, where fraud, waste, abuse, or any violation of the law is suspected, the Office of Inspector General (OIG) should be contacted immediately. The OIG can be reached at 1-888-546-8740 or [OIG\\_Hotline@epa.gov](mailto:OIG_Hotline@epa.gov). More information can be found at this website: <http://www.epa.gov/oig/hotline.htm>.

- Q5.2: When will the BABA requirements be assessed for compliance? Do assistance recipients need to have waivers for potential non-domestic products before assistance agreements are in place, at the time products are procured or products are incorporated into the project (i.e., used)?
  - A5.2: Compliance is assessed where the domestic product is used (or installed) at the project site. Proper compliance documentation, whether it is a BABA certification letter or a waiver, should accompany a product prior to its “use”, in accordance with Section 70914(a) of IJJA. This may occur prior to assistance agreements being in place but is not necessary. Additionally, communication of BABA requirements through appropriate Terms and Conditions in financial assistance agreements and in project solicitation and contract documents is key in ensuring all parties involved are informed of the requirements for the project before construction is underway.
  
- Q5.3: How can product compliance with the BABA requirements be demonstrated?
  - A5.3: Assistance recipients and their representatives should ensure that the products delivered to the construction site are accompanied by proper documentation that demonstrate compliance with the law and be made available to the funding authority upon request. The documentation may be received and maintained in hard copy, electronically, or could be embedded in construction management software. The use of a signed certification letter for the project is the most direct and effective form of compliance documentation for ensuring products used on site are BABA-compliant prior to their installation; however, other forms of documentation are also acceptable as long as collectively, the following can be demonstrated:
    - (1) Documentation linked to the project. For example, this can be in the form of the project name, project location, contract number, or project number.
    - (2) Documentation linked to the product used on the project. For example, description of product(s) (simple explanation sufficient to identify the product(s)), or an attached (or electronic link to) purchase order, invoice, or bill of lading.
    - (3) Documentation includes statement attesting that the products supplied to the assistance recipient are compliant with BABA requirement. Reference to the Infrastructure Investment and Jobs Act (“IJJA”) or the Bipartisan Infrastructure Law (BIL) are also acceptable. For iron and steel items under BABA, references to the American Iron and Steel (AIS) requirements are also acceptable and reciprocal with BABA for such items.
    - (4) Documentation that manufacturing occurred in the United States, which could include, for example, the location(s) of manufacturing for each manufacturing step that is being certified. It is acceptable for manufactured products to note a single point of manufacturing, documenting that the final point of manufacturing is in the United States. Note that each BABA category may require different determinations for compliance.
    - (5) Signature of company representative (on company letterhead and signature can be electronic). The signatory of the certifying statement affirms their knowledge of the manufacturing processes for the referenced product(s) and attests that the product meets the BABA requirements.

In addition to compliance documentation, assistance recipients or their representatives should also conduct a visual inspection of the product when it arrives to the project site, especially for iron and steel products which are often stamped with the country of origin. (Note: A country of origin stamp alone is not sufficient verification of compliance with BABA and assistance receipts should not rely on it to ensure compliance.)

EPA may develop alternative procedures for demonstrating compliance. Additional project- or program-specific instructions may be developed on a case-by-case basis in order to meet individual circumstances.

- Q5.4: Will EPA provide a form or template for tracking and documenting compliance?
  - A5.4: EPA does not require a specified format for tracking or documenting compliance. Assistance recipients are free to develop any system (from simple to complex software) for tracking items used on the project and the accompanying compliance documentation, e.g., certification letters, applicable waivers, if it helps with implementation and compliance. Elements that may help with keeping track of compliance may include: product description, quantity required/used, product category (i.e., iron and steel, manufactured product, or construction material), status of obtaining certification letter, product cost, and whether the item might qualify as *de minimis*, or qualify under another applicable waiver.
- Q5.5: If a manufacturer claims to comply with the Buy American Act, does it also comply with BABA?
  - A5.5: No. With the exception of the AIS requirements – which EPA interprets to be equivalent to the “iron and steel” requirements under BABA – EPA does not have an interpretation about the comparability of other domestic preference requirements relative to BABA. Any products that are to be certified as compliant with BABA should include a specific reference to the BABA requirements and appropriate attestation from a responsible manufacturing company official. See Question 5.3 for EPA’s recommendations for BABA certification letters.
- Q5.6: How will assistance recipients manage certification letters for hundreds, possibly thousands of products?
  - A5.6: EPA recognizes that the new BABA requirements will cover most products used in typical water and wastewater infrastructure projects, and that the number of items which may require certification at large and/or complex projects may reach several hundred. EPA is concerned about the potential administrative burden that this would place on assistance recipients. EPA recommends that projects with a high number of potentially covered products meet with their funding authority about potential compliance strategies to minimize burden and streamline compliance activity. Assistance recipients should prepare contract bid solicitation documents with a statement for the consulting engineers and construction firms as follows: “By signing payment application and recommending payment, Contractor certifies they have reviewed documentation for all products and materials submitted for payment, and the documentation is sufficient to demonstrate compliance with Build America,

Buy America Act requirements.” In most cases, the assistance recipient’s representatives may assume the responsibility for their clients to conduct due diligence on compliance with applicable domestic preference requirements.

- Q5.7: Who is responsible for documenting the 55 percent content requirement for manufactured products under BABA? What if the final manufacturer cannot trace or verify domestic origin for all components?
  - A5.7: The manufacturer who signs a certification letter is responsible for documenting compliance with any of the three categories of products (iron and steel, manufactured products, or construction materials). For manufactured products, BABA requires that greater than 55 percent of the total cost of all components of the manufactured product be from domestic sources. EPA recommends that the certification letter for manufactured products document whether the item passes the content test in the final product along with a statement attesting to compliance with the BABA requirements for manufactured products.
- Q5.8: How do final product fabricators document compliance when the final step of manufacturing may be simply assembling components?
  - A5.8: It is acceptable, in many cases, especially for highly complex manufactured products that utilize many sub-components, for the final point of assembly to certify without using a “step certification” process. Multiple certifications (i.e., step certifications) or a singular certification can be used for a product, as long as the certifying official is willing to attest to the product’s compliance with BABA requirements at all stages of manufacturing.
- Q5.9: Will Material Test Reports be acceptable in lieu of a BABA certification for iron and steel?
  - A5.9: Material Test Reports (MTRs, commonly referred to as “Mill Certifications” or “Mill Certs”) provide the chemical composition of steel and iron from a mill or foundry. If an MTR accompanies the delivery of steel or iron to a project site with an invoice or bill of lading, EPA will consider it sufficient to demonstrate compliance (equivalent to a certification letter) as long as the MTR includes a manufacturer representative’s signature in addition to the location (city and state) of the mill/foundry. It is common for MTRs to be the first letter in a “step certification” if the product is further fabricated or painted, etc., by another manufacturer.
- Q5.10: Can a manufacturer use a fillable certification letter for products?
  - A5.10: EPA recommends that certifications be signed by representatives of the manufacturing entity. EPA does not oppose manufacturers using forms to internally develop letters within their company, thereby providing signed, non-manipulable certification letters to suppliers, distributors, and/or assistance recipients. A fillable form that can be changed by someone outside of the manufacturer after signature does not demonstrate compliance and may create compliance concerns for the manufacturer or assistance recipient.

- Q5.11: Are product certifications from suppliers and distributors allowed?
  - A5.11: EPA recommends that representatives of product manufacturers certify compliance and discourages suppliers and distributors from creating certification letters. EPA does not rule out the possibility that a third-party certification process, such as a certification by a distributor, may be viable. However, EPA is currently not aware of a system or proposed system that meets the EPA's recommendations for documentation of product certification.
- Q5.12: How long should assistance recipients keep compliance documentation?
  - A5.12: Assistance recipients should apply recordkeeping requirements for the project according to the procedures dictated by the funding authority. For most EPA grant programs, this is prescribed in the UGG at 2 CFR 200.334-200.338; e.g., the SRF programs require a minimum of three years. Other funding programs may require longer documentation retention periods.

SECTION 6: PROGRAMS WITH AMERICAN IRON AND STEEL REQUIREMENTS

- Q6.1: Does BABA supersede the American Iron and Steel (AIS) Requirements?
  - A6.1: The BABA requirements for items considered “iron and steel” are equivalent to those for covered iron and steel products under the AIS requirements in the Clean Water Act and the Safe Drinking Water Act. These requirements apply to the CWSRF, DWSRF, WIFIA, and Water infrastructure Community Grants. BABA includes a “Savings Provision” (Section 70917(b)) that states that BABA does not affect existing domestic content procurement preferences for infrastructure projects funded by Federal financial assistance programs that meet the requirements of section 70914. EPA views the AIS requirements as meeting the “iron and steel” product requirements of BABA Section 70914, as they both include the key requirement that items made of iron and steel be wholly manufactured in the United States from the point of melting and/or pouring the iron or steel components through final manufacturing step. Because of the “Savings Provision” of Section 70917, the AIS requirements satisfy the “iron and steel” requirements of BABA. For the programs that have AIS requirements, EPA intends to implement BABA requirements the same way for iron and steel items as it has done for AIS products.
- Q6.2: For iron and steel products, does a manufacturer need to demonstrate compliance from initial melting through the finished product?
  - A6.2: For iron and steel products, the BABA requirements are the same as the existing AIS requirements, in that all of the iron and steel in a covered product (that is, the product is comprised of more than 50 percent iron and steel by material cost) must be melted and poured in the United States and all subsequent manufacturing processes (such as grinding, rolling, bending, reheating, and casting) must occur in the United States.

Q6.3: Will EPA apply the same manufacturing standards for BABA iron and steel products as for the American Iron and Steel (AIS) requirements?

- A6.3: Yes. For AIS, EPA did not require raw materials used in the production of steel or iron to be domestically sourced. For BABA, EPA interprets the requirements to be the same. Hence, like AIS, raw materials in the production of iron and steel subject to BABA requirements would not need to be domestically sourced. The key step for both AIS and BABA domestic iron and/or steel production is the melting/pouring (that is, the location of the furnace), which must be in the United States.
- Q6.4: Will the certification process be similar to the process established for the American Iron and Steel requirements?
  - A6.4: EPA expects the certification process for the BABA requirements to be very similar to that established for the AIS requirements. For iron and steel products, the process should remain the same for AIS and BABA. EPA recommends for manufactured products and for construction materials that certification letters include direct reference to the product/material content requirements under BABA, in addition to an affirmative statement verifying that the product meets the BABA requirements.
- Q6.5: Will duplicate certification letters be required for AIS and BABA for iron/steel products?
  - A6.5: No. Compliance with BABA requirements will be sufficient to demonstrate compliance with AIS requirements for iron and steel products. If a project is subject to BABA, the only demonstration of compliance necessary is with the BABA requirements, of which the iron and steel requirements are equivalent to those of the AIS statutory requirements: the iron or steel in a product made primarily or predominantly of iron and steel (comprising more than 50 percent iron and steel by material cost) must be melted and/or poured in the United States and all subsequent manufacturing processes must occur in the United States.

#### SECTION 7: PROGRAM-SPECIFIC ISSUES

- Q7.1.: How do the BABA requirements apply to Community Grants?
  - A7.1: The Community Project Funding/Congressionally Directed Spending grants for the construction of drinking water, wastewater, and stormwater infrastructure and for water quality protection are subject to the requirements specified in the explanatory statement accompanying the Consolidated Appropriations Act (Explanatory Statement for Division G of P.L. 117-13, the Consolidated Appropriations Act of 2022). The explanatory statement asserts: “Applicable Federal requirements that would apply to a Clean Water State Revolving Fund or Drinking Water State Revolving Fund project grant recipient shall apply to a grantee receiving a CPF grant under this section.” Therefore, the federally funded Community Project Funding/Congressionally Directed Spending grants are subject to the same requirements that apply to CWSRF or DWSRF projects, including BABA and AIS requirements. See also A1.2.



- Q7.2: Should SRF projects covered by the BABA SRF Projects Design Planning Adjustment Period Waiver follow the same procedures for demonstrating compliance as outlined for American Iron and Steel requirements?
  - A7.2: Yes. The SRF Design Planning Adjustment Period waiver does not waive the iron and steel requirements under BABA. The SRF programs have existing domestic preference requirements for SRF projects under CWA Section 608 and SDWA Section 1452(a)(4) (AIS requirements) to use iron and steel products that are produced in the United States. Sections 70917(a) and (b) of BIL explain the application of BABA to existing domestic preference requirements. Specifically, the savings provision in Section 70917(b) states that existing domestic preference requirements that meet BABA requirements are not affected by BABA. The statutory AIS requirements were existing at the time BABA became law and satisfy the BABA iron and steel requirements. Therefore, the statutory AIS requirements that have previously applied to SRF-funded projects will continue to do so, and compliance with AIS requirements will satisfy the BABA iron and steel requirements. Demonstration of compliance for iron and steel products will follow the AIS implementation policies for projects subject to the waiver.
  
- Q7.3: For SRF programs, is BABA considered a federal cross-cutting authority? (i.e., do “equivalency” rules apply?)
  - A7.3: Yes, BABA is considered a federal cross-cutting requirement that applies to SRF assistance equivalent to the federal capitalization grant (i.e., “equivalency” projects). EPA’s SRF regulations at 40 CFR 35.3145 and 35.3575 require states and recipients of SRF funds equivalent to the amount of the federal capitalization grant to comply with federal cross-cutting requirements. Section 70914 of the IIJA, which states when a Buy America preference applies, explains that “none of the funds made available for a Federal financial assistance program for infrastructure...may be obligated for a project unless all of the iron, steel, manufactured products, and construction materials used in the project are produced in the United States.” Therefore, BABA only applies to projects funded in an amount equivalent to the federal capitalization grant and not to those projects receiving funds in excess of the capitalization grant (i.e., “non-equivalency” projects). (Note: The AIS requirements continue to apply for all SRF projects, including non-equivalency projects, and all WIFIA and Community Grant projects, because equivalency does not apply.)
  
- Q7.4: Do the BABA requirements apply to Drinking Water State Revolving Fund set-asides?
  - A7.4: Due to requirements related to the deposit of funds in the DWSRF program, almost all of the funds used to conduct set-aside activities are Federal dollars. Therefore, Federal cross-cutting requirements must be applied to all set-aside activities. However, in the case of most set-aside activities, the cross-cutting requirements will not be implicated because of the nature of the activities conducted under the set-asides. Because the BABA requirements only apply to infrastructure, and infrastructure typically is not an eligible set-aside expenditure (with one potential exception being loans for incentive-based source water protection

measures under the Local Assistance and Other State Programs Set-Aside), the BABA requirements will not apply to most set-aside activities.

- Q7.5: What if an SRF project is refinanced using Federal financial assistance on or after May 14, 2022?
  - A7.5: If an SRF project began construction, financed from another funding source, prior to May 14, 2022, but is refinanced through an assistance agreement executed on or after that date, BABA requirements will apply to all construction that occurs on or after May 14, 2022, through completion of construction, unless a waiver applies. There is no retroactive application of the BABA requirements where a refinancing occurs for an SRF project that has completed construction prior to May 14, 2022. (Note: If SRF funding is used for the refinancing, the AIS requirements may still apply depending on the timing of construction.)
- Q7.6: What are the roles and responsibilities for SRF programs for BABA implementation?
  - A7.6: Implementation of the BABA requirements for the State Revolving Fund programs will continue the roles and responsibilities from the successful AIS implementation process.

As with AIS, it is both the assistance recipient's and the state's responsibility to ensure compliance with the BABA requirements. The state is the recipient of a federal capitalization grant and must comply with all grant conditions, including a condition requiring adherence to BABA requirements.

Consequently, states are strongly advised to conduct site visits of projects during construction and review documentation demonstrating the assistance recipient's proof of compliance. In EPA's experience, most states conduct periodic site visits and arrange timely meetings with funded projects. Observed best practices typically include a meeting early in the process (sometimes before bid and usually prior to commencing construction) and at least one project site visit during the construction process. Assistance recipients must maintain documentation of compliance with the BABA requirements, as explained in question 5.3. The documents must be kept by the assistance recipient and should be reviewed by the state during project reviews.

The state's role in the waiver process is to review any waiver requests submitted to the state to ensure that all necessary information has been provided by the assistance recipient prior to forwarding the request to EPA. If a state finds the request lacking, the state should work with the assistance recipient to help obtain complete information. Question 4.1 explains the information needed by EPA to expediently review a waiver request.

In order to implement the BABA requirements, EPA has developed an approach for effective and efficient implementation of the waiver process to allow projects to proceed in a timely manner. The framework described below will allow states, on behalf of the assistance recipients, to apply for waivers of the BABA requirements directly to EPA Headquarters. Only waiver requests received and/or endorsed from states will be considered. Pursuant to BABA, EPA has the responsibility to make findings as to the issuance of waivers to the BABA requirements.

### Step-by-step SRF Waiver Process

The waiver process begins with the assistance recipient. To fulfill the BABA requirements, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American-made iron and steel, manufactured goods, and construction materials. It is essential that the assistance recipient include the BABA terms in any request for proposals or solicitations for bids, and in all contracts (see Appendix 2 for sample construction contract language). The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three statutory conditions is demonstrated to EPA and approved.

To apply for a project-specific waiver, the assistance recipient should email the request in the form of a Word document (.doc) or editable PDF (.pdf) to the funding program. It is strongly recommended that each state identify a person or persons for BABA communications. The state designee(s) will review the application for the waiver and determine whether the necessary information has been included (Note: More information may be provided in the future regarding what information is required to be included in waiver requests). Once the waiver application is complete, the designee will forward the application to [CWSRFWaiver@epa.gov](mailto:CWSRFWaiver@epa.gov) or [DWSRFWaiver@epa.gov](mailto:DWSRFWaiver@epa.gov).

### Evaluation by EPA

After receiving an application for waiver of the BABA requirements and ensuring sufficient information was provided, EPA will publish the request on its website for 15 days and receive public comment. EPA will then determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver.

In the event that EPA finds that adequate documentation and justification has been submitted, the Administrator may grant a waiver to the assistance recipient. EPA will notify the state designee whether a waiver request has been approved or not approved as soon as such a decision has been made. Granting such a waiver is a four-step process:

1. Research – After receiving an application for a waiver, EPA will perform market research to determine whether the iron, steel, manufactured goods, or construction materials are available domestically.
2. Posting – After research, if no domestic product has been identified, EPA is required to publish the application and all material submitted with the application on EPA's website for 15 days. During that period, the public will have the opportunity to review the request and provide informal comment to EPA. The website can be found at: <https://www.epa.gov/cwsrf/build-america-buy-america-baba-waivers-open-public-comment>.
3. Evaluation – After receiving an application for waiver of the BABA requirements, EPA will determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver to determine whether or not to grant the waiver.

3. Signature of waiver approval by the Administrator or another agency official with delegated authority – As soon as the waiver is signed and dated, EPA will notify the State SRF program and post the signed waiver on the Agency’s website. The assistance recipient should keep a copy of the signed waiver in its project files.

(Note: Additional steps may be required in the future regarding the waiver process depending on additional guidance from OMB)

# STATE REVOLVING FUND IDENTIFICATION SIGN

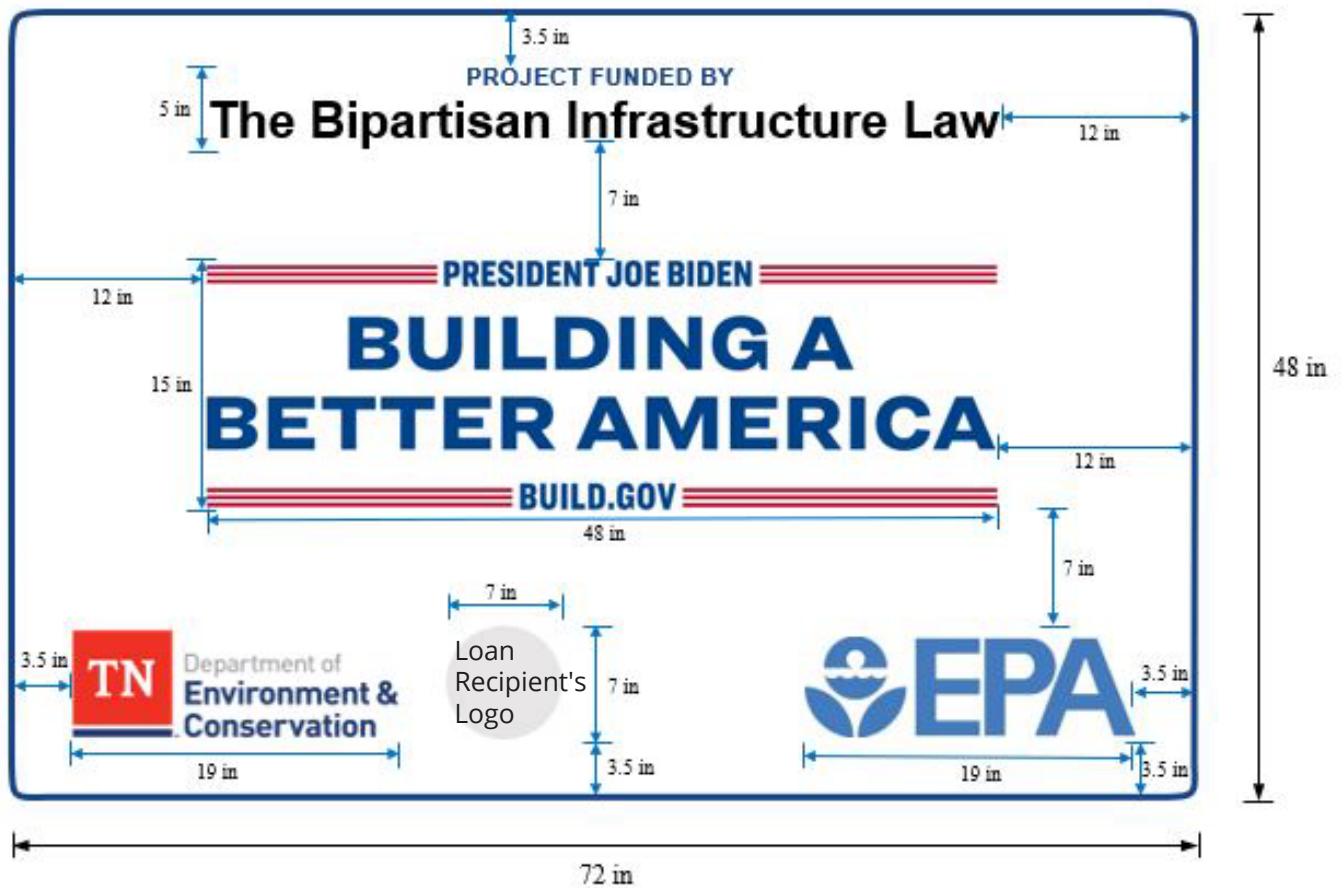
## Bipartisan Infrastructure Law, also known as the Infrastructure Investment and Jobs Act

All plans and specifications for each project approved shall contain provisions for requiring the general contractor to provide identification signs.

The sign shall be fabricated and erected following the notice to proceed on the first contract and shall be maintained in good condition by the site contractors until the final construction completion for all funded projects. If the project has multiple locations, one project sign should be located near the work that is occurring in an easily visible location that can be directly linked to the work taking place.

Logos of contractors are not permitted on the signage. The placement of all logos should conform to the brand's guideline.

1. The following diagram shall be used as a design:



2. The sign shall be a 48" x 72" in diameter sheet of exterior grade plywood, with a white background, and shall be built so as to remain erected during the entire construction phase of the project.
3. The BIL sign must comply with the guidance available here: <https://www.whitehouse.gov/wp-content/uploads/2022/08/Building-A-Better-America-Brand-Guide.pdf>
4. Costs associated with signage must be reasonable and limited, and that recipients are encouraged to use recycled or recovered materials when procuring signs.



## ASSISTANT ADMINISTRATOR FOR WATER

WASHINGTON, D.C. 20460

V 13, 2023

### DECISION MEMORANDUM

**SUBJECT:** Amended Public Interest Waiver of Section 70914(a) of P.L. 117-58, Build America, Buy America Act, 2021 for State Revolving Fund and Water Infrastructure Projects that Initiated Design Planning prior to May 14, 2022

**FROM:** Radhika Fox

A handwritten signature in black ink, appearing to be "R. Fox", is written over the name "Radhika Fox".

### Introduction

The nation's water infrastructure is decades old, with some systems tracing their construction back a century. Over the past 30 years, investment in water infrastructure has plummeted, leaving communities with pipes, treatment plants, and pumps at the end of their lifespans. Cities, suburbs, and rural areas desperately need to upgrade and build new infrastructure but doing so can lead to rate increases and make water unaffordable or inaccessible for the most vulnerable communities. With the need for such investment apparent, the Biden-Harris Administration championed, and Congress passed the *Bipartisan Infrastructure Law* (also known as the *Infrastructure Investment and Jobs Act*), which President Biden signed on November 15, 2021. The BIL will provide an unprecedented level of federal investment in water infrastructure in communities, including disadvantaged communities, across America, with broad eligibilities for drinking water and clean water projects through the State Revolving Funds.

Alongside the BIL, Congress passed the *Build America, Buy America Act* (BABA), which establishes strong and permanent domestic sourcing requirements across all federal financial assistance programs. The U.S. Environmental Protection Agency is honored to play a leadership role in implementing these provisions and is proud of its nearly decade of successful implementation of American Iron and Steel provisions in its State Revolving Fund programs. Through these efforts, the EPA will support efforts to catalyze domestic manufacturing, resilient supply chains, and good jobs – while successfully delivering a wide range of infrastructure projects.

This is a transformational opportunity to build a resilient supply chain and manufacturing base for critical products here in the United States that will catalyze investment in good-paying American manufacturing jobs and businesses. The EPA's efforts to implement BABA will help cultivate the domestic manufacturing base for a wide range of products commonly used across the water sector but not made domestically. This will take time, and flexibility will be important to ensure that the agency, states, and the water sector can leverage water investments on time and on budget.

## **Program Waiver**

The EPA hereby waives the requirements of Section 70914(a) of the BIL, pursuant to Section 70914(b)(1) (public interest waiver), for eligible projects to be financed by SRF programs and water infrastructure projects subject to SRF requirements funded separately from SRF appropriations (collectively “covered projects”), provided that such projects of either type initiated project design planning prior to May 14, 2022, the statutory effective date of the BABA requirements. This action permits the use of non-domestic manufactured products and construction materials in such covered projects, which includes both infrastructure projects funded by a Clean Water or Drinking Water SRF and eligible water infrastructure projects subject to SRF requirements that may otherwise be prohibited under the BABA requirements of Section 70914. Sections 70917(a) and (b) of BIL provide a savings provision for existing statutory requirements that meet or exceed BABA requirements. The statutory American Iron and Steel requirements of *Clean Water Act* Section 608 and *Safe Drinking Water Act* Section 1452(a)(4) has previously applied to SRF projects and will continue to do so as part of BABA requirements. This waiver applies to funds expended after the effective date of the final waiver (November 13, 2023) for covered projects for which funding was appropriated in fiscal year 2022 (FY22) and 2023 (FY23). For awards obligated on or after the effective date of the final waiver, the final waiver supersedes and replaces the earlier Adjustment Period Waiver for SRF projects issued by the EPA on September 2, 2022. The earlier Adjustment Period Waiver applies to funds obligated to the grant recipient before the effective date of this final waiver if: (i) the project was covered under the earlier Adjustment Period Waiver, and (ii) the award was obligated before this final waiver became effective. The EPA anticipates that a small number of projects, relative to the total number of projects funded, will need to seek waivers, due to the EPA strongly encouraging and working with assistance recipients to ensure they have ample opportunity to utilize BABA compliant products.

For FY22 and FY23 previously planned water infrastructure projects subject to SRF requirements only, the iron and steel requirements of BABA are also waived for such projects not already subject to the American Iron and Steel requirements. For all other eligible projects, a reasonable expectation existed that the American Iron and Steel requirements would apply to the SRF project, and no exceptions to those long-standing requirements are provided through this waiver.

## **Applicability of Existing Domestic Preference Requirements**

This waiver does not depend upon the cost or non-availability of U.S. products. This waiver action permits the use of non-domestic items in such projects that may otherwise be prohibited under BIL section 70914. The SRF programs have existing domestic preference requirements for SRF projects under CWA Section 608 and SDWA Section 1452(a)(4) (American Iron and Steel requirements) to install iron and steel products that are produced in the United States. This program waiver does not waive the iron and steel requirements under BABA. Sections 70917(a) and (b) of BIL provide a savings provision for existing statutory requirements that meet or exceed BABA requirements. The statutory American Iron and Steel requirements have previously applied to SRF-funded projects and will continue to do so as part of BABA requirements. Products covered under the American Iron and Steel requirements are primarily iron and steel (*i.e.*, greater than 50 percent iron or steel by material costs), permanently incorporated into the project, and are limited to:

- Lined or unlined pipes and fittings
- Manhole covers and other municipal castings

- Hydrants
- Tanks
- Flanges
- Pipe clamps and restraints
- Valves
- Structural steel
- Reinforced precast concrete
- Construction materials

These listed products are identified by Congress within the American Iron and Steel statute as commonly used iron and steel products in water infrastructure projects. Based on eight successful years of American Iron and Steel implementation, the EPA expects that projects subject to this waiver will obtain the majority of their iron and steel products from domestic sources.

### **Conditional, Targeted and Time-Limited**

This waiver covers projects that have initiated design planning prior to May 14, 2022, the statutory effective date of the BABA requirements. For purposes of this waiver, “initiated project design planning” means documentable efforts made by an assistance recipient to evaluate and identify both technologically and financially viable options for capital improvement projects. These efforts typically start with prepared technical documents describing professional engineering designs. Because the SRF programs are pass-through programs operated through state funding authorities, the state programs will be responsible for assessing and documenting the design status of projects relative to this waiver. For all other water infrastructure projects subject to the SRF requirements, the EPA project officer will be responsible for assessing and documenting the design status of projects relative to this waiver. The EPA places the following conditions (for state programs and/or project officers) implementing this BABA waiver for manufactured products and construction materials:

- 1) SRF programs and/or the EPA project officers shall ensure that all projects subject to the conditions of this waiver provide evidence of initiating design that qualifies the project for this waiver and shall maintain this evidence with project files per applicable state and/or federal requirements or for three years after completion of the project, whichever is greater.
  - a. If a project can provide evidence for any of the following conditions prior to May 14, 2022, it would qualify under this waiver:<sup>1</sup>
    - i. Submitted preliminary engineering report, or equivalent (to the state or to the assistance recipient)
    - ii. Issued a Request for Proposal or execution of a contract for design or engineering services (regardless of funding source)
    - iii. Execution of an assistance agreement – that includes design

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<sup>1</sup> For previously planned water infrastructure projects subject to SRF requirements also pursuing a waiver of iron and steel products under BABA, the project may qualify based on the conditions listed herein provided the project was not already subject to the American Iron and Steel requirements and with the exception of conditions 1(ii), 1(vii), and 1(viii), provided that the documentation demonstrates commencement of the project prior to May 14, 2022. All inquiries regarding iron and steel product concerns should be addressed to [SRF\\_AIS@epa.gov](mailto:SRF_AIS@epa.gov). In addition, the data information outlined in section (3) should also include the Grant Number corresponding to the Community Grants Data System or other relevant data system.



- iv. For project designed by assistance recipient, documentation of design initiation (such as completed preliminary engineering report)
  - v. Solicitation of construction contract bids
  - vi. Submitted plans and specifications (do not need to be complete) to a state and/or federal funding authority
  - vii. Public referendum or public meeting held regarding proposed project
  - viii. Evidence of new bonds passed, or other new funding backing secured for project
- b. If a project cannot provide any of the above evidentiary documentation but is significantly far enough along in the planning process that complying with BABA would be a detriment to the project proceeding, the project may still qualify for the waiver. However, the assistance recipient (via the state SRF authority and/or the EPA project officer) must request the opinion of the EPA for evaluation of the status of the project (email to [BABA-OW@epa.gov](mailto:BABA-OW@epa.gov) with title "Request for Initiated Design Planning Waiver Project Evaluation").
- 2) SRF programs shall update the SRF Data System with the appropriate fields (new field(s) will be added) for projects qualifying for this waiver. Project data must be entered by the end of the quarter in which the assistance agreement was signed. For other programs subject to the SRF requirements, the EPA project officer will maintain data for projects qualifying for this waiver in their respective project files.
- 3) SRF programs shall maintain a list of all projects qualifying under the conditions of this waiver and provide this list to the EPA upon request (no sooner than November 13, 2022, and no more frequently than twice per year). For other programs subject to the SRF requirements, the EPA project officers shall maintain a list of all projects qualifying under the conditions of this waiver, including the following information relating to each project subject to the conditions of this waiver:
- a. Project name
  - b. Assistance agreement identification number (*e.g.*, grant or loan number corresponding to the SRF Data System or relevant grants management system, thereby allowing the EPA to obtain other project information from there, as needed)
  - c. Description of significant manufactured products or construction materials likely subject to the waiver (*e.g.*, a force main construction project could list "three lift station pumps, five valve actuators, three flow meters, and two pressure gauges")
    - i. Up to 10 items. If project has significantly more than 10 significant manufactured products or construction materials potentially subject to the waiver, engineers should use best professional judgment to provide 10 key (major) items to be used, omitting duplicative, minor, and/or miscellaneous products.
    - ii. Complete materials lists are also acceptable, but not required.
    - iii. Note, the origin of the manufactured products and construction materials does not need to be known.
  - d. Date of initiated and documented design activity qualifying project for waiver (under 1(a) above)
- 4) SRF programs and the EPA project officers shall encourage all projects utilizing this waiver to purchase manufactured projects and non-ferrous construction materials wherever possible, while also ensuring that American Iron and Steel requirements are fully met by all treatment works and public water system projects subject to this waiver, where applicable.

## Program-Wide Scope

The SRF program's unique financial structure and funding procedures necessitates a program waiver to cover projects that receive SRF funding and meet the conditions of the waiver.

In the SRF funding process, the EPA provides annually appropriated capitalization grants to state financial authorities, which then provide direct assistance to recipient projects. Projects may enter the SRF funding process at every level of design planning. Because the SRFs are state-implemented programs, the specific stages of project design are not known nationally by the EPA. A high percentage of projects have initiated or even completed design by the time they receive an assistance agreement. At any time, as many as several thousand SRF projects may have initiated preparation of engineering plans and specifications, be ready to proceed to construction, or be under construction. In these cases, the projects are at a stage that makes it impractical to retroactively change and apply purchasing requirements. Because of the transition period from federal grant to state funding of projects, it is not possible for the SRF programs to predict the number of projects that, at the time of this waiver, have initiated project design planning or have solicited bids for engineering design services but not yet signed assistance agreements. The table below provides a sample of projects from an existing funding pipeline for a DWSRF state program (one of 102 national DW and CWSRF programs) that are in various levels of design and are typical of the types of projects that would be subject to this waiver.

<b>Project Description</b>	<b>Level of Design as of May 14, 2022</b>
Rehabilitation of Water Treatment Plant	Design in progress. Construction loan pending.
Water Main Construction Project	Design complete. Plans and specifications submitted to state
Consolidation of Water Systems	30% design complete.
Water Storage Tank and Booster Pump Station Rehabilitation	Under construction. Loan agreement pending.
New Water Storage Tank Construction	Design complete. Plans and specifications submitted to state

It is not possible for the EPA to nationally predict the number of, and the level of projects in the funding process. However, the EPA expects similar project impacts for assistance recipients, which are further described below. This waiver only applies to those projects that initiated design prior to the statutory BABA requirements effective date. Projects that receive federal SRF funding from an obligation executed on or after May 14, 2022, and initiated design planning after May 14, 2022 (the statutory effective date of the BABA requirements) will be subject to the full requirements. This waiver does not waive the iron and steel requirements under BABA (except in one limited circumstance described above). Sections 70917(a) and (b) of BIL provide a savings provision for existing statutory requirements that meet or exceed BABA requirements. The statutory American Iron and Steel requirements of CWA Section 608 and SDWA Section 1452(a)(4) have previously applied to SRF projects and will continue to do as part of BABA requirements.

This waiver is an important tool to aid implementation of the BABA requirements in the most efficient manner in order to promote investment in the country's domestic manufacturing base, strengthen critical supply chains, and position U.S. workers and businesses to compete and lead globally in the

21st century. The EPA understands that advancing Made in America objectives is a long game and the EPA plans to move forward with sufficient information to implement the new requirements in a way that maximizes coordination and collaboration to support long-term investments in domestic production.

As the EPA builds toward full implementation of the BABA requirements, the EPA intends to focus on the intersection between these potential critical supply chain issues and product needs that it identifies through its robust and thorough domestic product research program. The EPA has initially identified that some of the manufactured products and non-ferrous construction materials to be waived may, under the targeted conditions of this waiver, fall under water and wastewater infrastructure product categories, which may potentially intersect with the public health (such as water treatment technologies) and information and communications technology (such as computerized control technologies) industrial bases. The EPA is working to address the gaps in its knowledge base for these sectors, specifically the manufactured products and non-ferrous construction materials to be newly required under BABA. The EPA solicited public comment when proposing waiver on information regarding the domestic availability and potential market challenges for products used in water and wastewater infrastructure that may fall under these industrial base categories.

### **Anticipated Program and Project Impacts Absent a Waiver**

After publication of the government-wide BABA guidance issued by the Office of Management and Budget's Made in America Office, the EPA held listening sessions targeting all known potential BABA stakeholders for the SRF programs. The EPA hosted three widely advertised webinars, with sessions soliciting input from the following: (1) potentially affected manufacturers, suppliers, distributors, and representative organizations; (2) water sector and water infrastructure organizations, associations, and professional trade groups; and (3) states, state associations, the EPA Regions, and potential assistance recipients. More than two thousand entities participated in these webinars and submitted hundreds of questions and comments to the EPA regarding the implementation of BABA for the SRF, WIFIA, and other water infrastructure programs. One of the most common and popular topics was the perceived need for the previously issued adjustment period waiver for the SRF programs.

The EPA received 120 responsive comments during the public comment period for the original waiver signed September 2, 2022. The comments generally were in favor of an adjustment period waiver for the SRF programs. One comment from a potential domestic manufacturer opposed adjustment period waivers because they would prefer the manufactured product requirements apply as soon as possible. A significant portion of comments supported an adjustment period waiver but opposed the framework of the proposal based on the date an assistance recipient submits plans and specifications to their state authority. These concerned commenters, comprised of many states, several associations representing states, and organizations representing municipal authorities, requested that the EPA modify the waiver to mirror the approved adjustment period waiver for *Water Infrastructure Finance Innovation Act* projects that have initiated project design planning. The commenters asserted that the proposed plans and specifications waiver would leave behind a significant portion of SRF projects that have progressed beyond committed milestones and could not reasonably comply with the BABA requirements. Similarly, the commenters requested that the EPA more closely coordinate the requirements of the two waivers (for SRF and WIFIA programs) because many projects are co-funded

between the two programs. In response to the persuasive points made by the majority of commenters, the EPA has revised the previously issued adjustment period waiver for SRF programs.

The comments affirmed that the EPA's basis for the public interest program waiver is that due to the uncertainty about the application of BABA requirements prior to publication of guidance by MIAO (April 18, 2022), the potential SRF assistance recipients did not have the opportunity to reasonably plan for the domestic preference requirements for manufactured products and construction materials by the guidance publication date. This waiver does not waive the iron and steel requirements under BABA. Sections 70917(a) and (b) of BIL provide a savings provision for existing statutory requirements that meet or exceed BABA requirements. The statutory American Iron and Steel requirements of CWA Section 608 and SDWA Section 1452(a)(4) have previously applied to SRF projects and will continue to do as part of BABA requirements (except in one limited circumstance as described above).

Until detailed guidance was issued on April 18, 2022, potential SRF assistance recipients were unable to solicit bids from construction firms with appropriate definitions of key terms and concepts that were elucidated in the guidance. Additionally, projects that initiated design planning without knowledge of the BABA requirements would be required to redesign elements of the project, investigate potential domestic products, revise engineering drawings and bid specifications, and resubmit plans and specifications for approval, thereby substantially delaying the initiation of construction and adding to the cost of the project. Projects that advertised contract bids prior to the guidance being issued, also could be required to rebid the project, or submit change orders to comply with the new requirements, which would likely delay initiation of construction and unduly burden the SRF projects and assistance recipients. These potential delays associated with rebidding of construction contracts could significantly affect the cost and schedule of projects. Absent the waiver, assistance recipients may decline subsidized federal funds in favor of more expensive sources of financing to minimize such impacts. In all cases where this waiver applies, the other requirements for SRF funding still apply, which includes the American Iron and Steel requirements.

The imposition of the BABA requirements on projects eligible for SRF assistance whose assistance recipients had initiated design planning prior to May 14, 2022, the statutory effective date of the BABA requirements, could require the time-consuming and expensive redesign of those projects. Specifically, those projects that can show a reasonable basis for initiating design prior to this date could be harmed by the imposition of these requirements after the fact. This imposition could conflict with both the EPA's, as well as the states', interest in providing funding to eligible assistance recipients in an expeditious and efficient manner, as required by the CWA and the SDWA. Project delays could increase the time necessary to comply with CWA and SDWA requirements, and therefore, adversely impact protection of public health and the environment. A targeted waiver for projects that initiated design planning will provide a bridge for the EPA and its stakeholders' long-term ability to adjust from the American Iron and Steel requirements to the BABA requirements, including manufactured products and non-ferrous construction materials.

## **Public Notice**

The EPA received sixteen (16) responsive comments to the amended SRF waiver proposed June 8, 2023, for a 30-day public comment period. Commenters were generally supportive of expanding this waiver to include other programs with SRF requirements.

The majority of comments expressed opposition to the agency's proposal of a sunset date of September 30, 2024, for projects to utilize the waiver. One (1) commenter expressed support for the sunset date but requested clarity from the EPA regarding the impact of amended SRF assistance agreements on the applicability of the waiver. Comments, by state environmental agencies, public utilities, and associations representing them, opposing the proposed sunset date questioned the need for a sunset clause and asserted that the EPA had not proposed a rationale supporting the need for the sunset date or explained how it would be implemented. Commenters noted that because the waiver is based on the effective date of the BABA requirements (May 14, 2022), a future sunset date is not necessary as the pool of eligible projects will automatically narrow and ultimately close. Multiple commenters asserted that many major water infrastructure projects have long planning horizons, extending more than 30 months. The commenters claimed that the proposed sunset date will cause construction delays and cost overruns. Several commenters requested that if the sunset date is retained that it be extended to five (5) years to account for complex water infrastructure projects that may have unavoidable interruptions in funding processes – such as those requiring negotiations around ongoing consent decree modifications – which could delay funding subsequent to design planning. Commenters asserted that applying a sunset date could jeopardize the timely completion of critical water infrastructure projects, thereby undermining public health and affordability of safe drinking water, wastewater services, and stormwater management.

The EPA acknowledges concerns expressed by a wide range of commenters regarding the timing of the sunset date. As commenters note, complex water infrastructure projects may require many months (more than two years for some subset of projects) to secure and proceed to approval and funding subsequent to design planning. The EPA agrees that for a significant subset of complex, often very large, water infrastructure projects that a sunset date could interrupt and delay critical water infrastructure projects. As such, the final amended waiver adjusts the approach to phasing out this waiver. The EPA views the need for this general applicability waiver will decline over time, as the availability of BABA-compliant products and materials increases, and as more targeted product waivers are developed based on robust market research. While the agency understands that many complex, large water infrastructure projects have extended and extensive design planning and pre-construction processes, it is the agency's view many years of notice of the domestic preference requirements provides sufficient time for projects to adapt to implementation of the BABA requirements.

Two (2) commenters expressed concern and opposition toward the proposal for waiving iron and steel requirements for projects that were not subject to the American Iron and Steel requirements prior to May 14, 2022, asserting that the American Iron and Steel requirements have been in effect for nearly nine (9) years and that implementation for the American Iron and Steel requirements through the SRF program is widely practiced and successful. Another commenter expressed concern that the conditions of the waiver in the "Conditional, Targeted and Time-Limited" section were not clearly applied to all potential projects subject to the waiver and recommended that the EPA clarify that the conditions and data sections apply to all projects subject to the waiver.

The EPA disagrees with the few commenters who expressed opposition to waiving the iron and steel requirements for projects that were not previously subject to the American Iron and Steel requirements. Because a small subset of projects had no information or notice that iron and steel requirements would apply, the agency finds that waiving the iron and steel requirements for those

projects that were not previously subject to the SRF requirements is consistent with the rationale for the original waiver.

For the remainder of comments received, the final amended waiver reflects changes to address these comments, including concerns about the balanced application of conditions to all projects subject to the waiver.

### **Impacts on Recipients with Respect to Iron and Steel Requirements**

Assistance recipients of water infrastructure projects funded through the FY22 and FY23 appropriations that had not previously been subject to SRF requirements were unable to solicit bids from construction firms with knowledge of the requirements of the statute, specifically the American Iron and Steel requirements. Projects that had already commenced without knowledge of the applicability of American Iron and Steel requirements would be required to redesign elements of the project, investigate potential domestic products, revise engineering drawings and bid specifications, and resubmit plans and specifications for approval, thereby substantially delaying the initiation of construction and adding to the cost of the project. Projects that advertised contract bids could also be required to rebid the project or submit change orders to comply with the new requirements, which would likely delay initiation of construction and unduly burden assistance recipients. These potential delays associated with rebidding construction contracts could significantly affect the cost and schedule of projects. In all cases where this waiver applies, the other requirements for projects, as outlined in relevant guidance documents, still apply.

The imposition of BABA's iron and steel requirements on projects whose recipients had commenced design or planning prior to May 14, 2022, the implementation date of BABA, could require the time-consuming and expensive redesign of those projects. Specifically, those projects that can show a reasonable basis for commencement of the project prior to and including this date could be unduly harmed by the imposition of these requirements after the fact. Project delays could also increase the time necessary to comply with environmental statutes, including the *National Environmental Policy Act*, CWA, SDWA, and other statutory requirements, and therefore, adversely impact protection of public health and the environment. A targeted waiver for projects that commenced prior to and including the implementation date of BABA will provide a bridge for the EPA and its recipients' long-term ability to adjust to the iron and steel requirements for all future projects.

### **Re-evaluation of Design Decisions**

SRF and other assistance recipients apply a tremendous amount of effort and expenditure in planning, design, and even early construction and mobilization activities.

It is common for planning and development of complex projects to begin years prior to construction. This process often includes estimation of project benefits and costs to evaluate design alternatives and in many cases, involves complex environmental assessments, site reviews, local funding processes, and prioritization efforts. Although these early stages of project planning and design may be performed years in advance of construction, they incorporate, and are influenced by, the expected availability of supplies, materials, manufactured products, equipment, packaged technological solutions, local budget approvals, and even siting options. Design and construction of these projects are carefully choreographed and interdependent processes and imposing new conditions on the tail end of the

process may require re-evaluating earlier decisions on which the whole project is established, which may have included referenda and/or public approval processes.

Years of work are informed by early design considerations for water and wastewater treatment technologies, many times in response to federal requirements, compliance objectives, and/or enforcement agreements. With a project already designed around (in many cases) complex treatment equipment, subsequently applying new purchasing requirements, significant costs and effort would be needed to re-evaluate BABA-compliant technology alternatives and assess the implications of design alterations on the overall feasibility of the project. Many SRF projects, absent this waiver, would potentially need to stop work, delay critical-path construction activities, forego portions of planned projects, potentially fail compliance actions, and/or seek alternative funding as re-designing and finding domestic alternatives may not be feasible.

### *Increased Project and Construction Costs*

The EPA has received a consistent message from assistance recipients of its water infrastructure programs: projects requiring re-design to comply with BABA may lead to significant cost and schedule increases for much needed infrastructure. Furthermore, changes in design, treatment plant equipment, and materials could require communities with approved permits to resubmit engineering plans and specifications for state approval. Requiring projects that have initiated design planning to undergo a re-evaluation of their plans to comply with BABA may lead to significant cost and schedule increases for much needed infrastructure.

### *Delay in Compliance with CWA and SDWA Requirements*

The country faces unprecedented challenges with aging drinking water distribution systems and wastewater conveyance and treatment plants that have far exceeded their useful life. Many facilities need to make improvements to their system to return their community to compliance with the CWA or SDWA. Communities that are required to redesign systems will not only face increased planning, design, and construction costs, but may ultimately delay and perhaps even prevent some improvements necessary to meet requirements.

Such delays conflict with the EPA's, as well as prospective assistance recipients', interest in investing in the nation's water infrastructure and initiating construction in an expeditious and efficient manner, results antithetical to the goals of the BIL. This further prevents the assistance recipients' ability to timely address compliance issues under the CWA and SDWA and adversely impacts the protection of public health and the environment. For many of these projects, planning and design activities will have already begun to meet stringent federal and state regulations with court-enforced deadlines. A majority of SRF projects are necessary to meet regulatory requirements or resolve public health or environmental violations or enforcement actions.

### *A Decline in the Use of Federal Funds*

Assistance recipients faced with a need to re-design and re-permit projects may decline subsidized federal funds in favor of more expensive sources of financing to minimize such impacts. By declining to use SRF programs as a funding source, no domestic preference for American iron and steel will be required, potentially leading to a reduction in the use of domestic iron and steel. Similarly, the

intended long-term benefits of BABA implementation will be missed. This program waiver seeks to provide a reasonable transition period for BABA implementation while minimizing impacts to projects.

### **Program Implementation Considerations**

The EPA's implementation of American Iron and Steel requirements for the SRF programs has assured almost all iron and steel products in water, wastewater, and stormwater infrastructure projects are domestically sourced. However, the domestic availability of other non-ferrous construction materials and manufactured products incorporated in projects is largely unknown at this time. The list of items included on these projects can be vast. For example, a project bid tabulation for a large wastewater infrastructure project listed approximately 9,000 unique items, with most of those listing construction materials, equipment, or manufactured goods.

To further support the administration's priorities to steward investments to build a better America and promote domestic manufacturing and jobs, the SRF program will aim to collect information from projects covered by this waiver to help evaluate the domestic market availability of commonly used infrastructure products.

Through these efforts, the EPA will support government-wide efforts to catalyze domestic manufacturing, resilient supply chains, and good jobs while successfully delivering a wide range of public health protection and water quality improvement infrastructure projects. The EPA intends to build on its near decade of success implementing the American Iron and Steel requirements for thousands of SRF-funded projects, bridging that success to the BABA requirements for manufactured products and non-ferrous construction materials. The EPA intends to support the creation of resilient supply chains and manufacturing base for critical products here in the United States that will bring about investment in good-paying American manufacturing jobs and businesses. The creation of jobs in communities will also alleviate supply chain disruptions through cultivation of the domestic manufacturing base for a wide range of products commonly used across the water sector but not yet made domestically.

### **Assessment of Cost Advantage of a Foreign-Sourced Product**

Under OMB Memorandum M-22-11, agencies are expected to assess "whether a significant portion of any cost advantage of a foreign-sourced product is the result of the use of dumped steel, iron, or manufactured products or the use of injuriously subsidized steel, iron, or manufactured products" as appropriate before granting a public interest waiver. The EPA's analysis has concluded that this assessment is not applicable to this waiver, as this waiver is not based on the cost of foreign-sourced products. The EPA will perform additional market research as it implements the BABA requirements to better understand the market and to limit the use of waivers caused by dumping of foreign-sourced products.

### **Waiver Decision**

Section 70914(b)(1) of the BIL authorizes the Administrator to waive the requirements of Section 70914 in any case or category of cases in which they find that applying subsection (a) would be inconsistent with the public interest. Due to the critical need to repair and upgrade the nation's water infrastructure in a timely and cost-effective manner, and for the foregoing reasons, imposing the BABA



requirements on projects, that initiated project design planning prior to May 14, 2022, is not in the public interest. For water infrastructure projects subject to SRF requirements only, application of the iron and steel requirements of BABA are also waived for those projects not already subject to the American Iron and Steel requirements. For awards obligated on or after the effective date of the final waiver, the final waiver supersedes and replaces the earlier Adjustment Period Waiver for SRF projects issued by the EPA on September 2, 2022. The earlier Adjustment Period Waiver applies to funds obligated to the grant recipient before the effective date of this final waiver if: (i) the project was covered under the earlier Adjustment Period Waiver, and (ii) the award was obligated before this final waiver became effective.

If you have any questions concerning the contents of this memorandum, please contact Timothy Connor, Chemical Engineer, State Revolving Fund Branch, Water Infrastructure Division, at [connor.timothy@epa.gov](mailto:connor.timothy@epa.gov) or (202) 566-1059 or Kiri Anderer, Branch Supervisor, Water Infrastructure Technical Support Branch, Drinking Water Infrastructure Development Division, at [anderer.kirsten@epa.gov](mailto:anderer.kirsten@epa.gov) or (202) 564-3134.

## Implementation

The Act states:

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out

the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

The following questions and answers provide guidance for implementing and complying with the AIS requirements:

### **Project Coverage**

#### **1) What classes of projects are covered by the AIS requirement?**

All treatment works projects funded by a CWSRF assistance agreement, and all public water system projects funded by a DWSRF assistance agreement, from the date of enactment through the end of Federal Fiscal Year 2014, are covered. The AIS requirements apply to the entirety of the project, no matter when construction begins or ends. Additionally, the AIS requirements apply to all parts of the project, no matter the source of funding.

#### **2) Does the AIS requirement apply to nonpoint source projects or national estuary projects?**

No. Congress did not include an AIS requirement for nonpoint source and national estuary projects unless the project can also be classified as a 'treatment works' as defined by section 212 of the Clean Water Act.

#### **3) Are any projects for the construction, alteration, maintenance, or repair of a public water system or treatment works excluded from the AIS requirement?**

Any project, whether a treatment works project or a public water system project, for which engineering plans and specifications were approved by the responsible state agency prior to January 17, 2014, is excluded from the AIS requirements.

#### **4) What if the project does not have approved engineering plans and specifications but has signed an assistance agreement with a CWSRF or DWSRF program prior to January 17, 2014?**

The AIS requirements do not apply to any project for which an assistance agreement was signed prior to January 17, 2014.



**5) What if the project does not have approved engineering plans and specifications, but bids were advertised prior to January 17, 2014 and an assistance agreement was signed after January 17, 2014?**

If the project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the approval date for purposes of the exemption in section 436(f).

**6) What if the assistance agreement that was signed prior to January 17, 2014, only funded a part of the overall project, where the remainder of the project will be funded later with another SRF loan?**

If the original assistance agreement funded any construction of the project, the date of the original assistance agreement counts for purposes of the exemption. If the original assistance agreement was only for planning and design, the date of that assistance agreement will count for purposes of the exemption only if there is a written commitment or expectation on the part of the assistance recipient to fund the remainder of the project with SRF funds.

**7) What if the assistance agreement that was signed prior to January 17, 2014, funded the first phase of a multi-phase project, where the remaining phases will be funded by SRF assistance in the future?**

In such a case, the phases of the project will be considered a single project if all construction necessary to complete the building or work, regardless of the number of contracts or assistance agreements involved, are closely related in purpose, time and place. However, there are many situations in which major construction activities are clearly undertaken in phases that are distinct in purpose, time, or place. In the case of distinct phases, projects with engineering plans and specifications approval or assistance agreements signed prior to January 17, 2014 would be excluded from AIS requirements while those approved/signed on January 17, 2014, or later would be covered by the AIS requirements.

**8) What if a project has split funding from a non-SRF source?**

Many States intend to fund projects with “split” funding, from the SRF program and from State or other programs. Based on the Act language in section 436, which requires that American iron and steel products be used in any project for the construction, alteration, maintenance, or repair of a public water system or treatment works receiving SRF funding between and including January 17, 2014 and September 30, 2014, any project that is funded in whole or in part with such funds must comply with the AIS requirement. A “project” consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all contracts and assistance agreements awarded are closely related in purpose, time and place. This precludes the intentional splitting of SRF projects into separate and smaller contracts or assistance agreements to avoid AIS coverage on some portion of a larger

project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in separate phases that are distinct in purpose, time, or place, in which case, separate contracts or assistance agreement for SRF and State or other funding would carry separate requirements.

**9) What about refinancing?**

If a project began construction, financed from a non-SRF source, prior to January 17, 2014, but is refinanced through an SRF assistance agreement executed on or after January 17, 2014 and prior to October 1, 2014, AIS requirements will apply to all construction that occurs on or after January 17, 2014, through completion of construction, unless, as is likely, engineering plans and specifications were approved by a responsible state agency prior to January 17, 2014. There is no retroactive application of the AIS requirements where a refinancing occurs for a project that has completed construction prior to January 17, 2014.

**10) Do the AIS requirements apply to any other EPA programs, besides the SRF program, such as the Tribal Set-aside grants or grants to the Territories and DC?**

No, the AIS requirement only applies to funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12)

**Covered Iron and Steel Products**

**11) What is an iron or steel product?**

For purposes of the CWSRF and DWSRF projects that must comply with the AIS requirement, an iron or steel product is one of the following made primarily of iron or steel that is permanently incorporated into the public water system or treatment works:

- Lined or unlined pipes or fittings;
- Manhole Covers;
- Municipal Castings (defined in more detail below);
- Hydrants;
- Tanks;
- Flanges;
- Pipe clamps and restraints;
- Valves;
- Structural steel (defined in more detail below);
- Reinforced precast concrete; and
- Construction materials (defined in more detail below).



**12) What does the term ‘primarily iron or steel’ mean?**

‘Primarily iron or steel’ places constraints on the list of products above. For one of the listed products to be considered subject to the AIS requirements, it must be made of greater than 50% iron or steel, measured by cost. The cost should be based on the material costs.

**13) Can you provide an example of how to perform a cost determination?**

For example, the iron portion of a fire hydrant would likely be the bonnet, body and shoe, and the cost then would include the pouring and casting to create those components. The other material costs would include non-iron and steel internal workings of the fire hydrant (i.e., stem, coupling, valve, seals, etc). However, the assembly of the internal workings into the hydrant body would not be included in this cost calculation. If one of the listed products is not made primarily of iron or steel, United States (US) provenance is not required. An exception to this definition is reinforced precast concrete, which is addressed in a later question.

**14) If a product is composed of more than 50% iron or steel, but is not listed in the above list of items, must the item be produced in the US? Alternatively, must the iron or steel in such a product be produced in the US?**

The answer to both question is no. Only items on the above list must be produced in the US. Additionally, the iron or steel in a non-listed item can be sourced from outside the US.

**15) What is the definition of steel?**

Steel means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of steel for the purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of steel covers carbon steel, alloy steel, stainless steel, tool steel and other specialty steels.

**16) What does ‘produced in the United States’ mean?**

Production in the United States of the iron or steel products used in the project requires that all manufacturing processes, including application of coatings, must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives. All manufacturing processes includes processes such as melting, refining, forming, rolling, drawing, finishing, fabricating and coating. Further, if a domestic iron and steel product is taken out of the US for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the

material(s), if any, being applied as a coating are similarly not covered. Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components do not have to be of domestic origin.

**17) Are the raw materials used in the production of iron or steel required to come from US sources?**

No. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-US sources.

**18) If an above listed item is primarily made of iron or steel, but is only at the construction site temporarily, must such an item be produced in the US?**

No. Only the above listed products made primarily of iron or steel, permanently incorporated into the project must be produced in the US. For example trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel.

**19) What is the definition of ‘municipal castings’?**

Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings are:

- Access Hatches;
- Ballast Screen;
- Benches (Iron or Steel);
- Bollards;
- Cast Bases;
- Cast Iron Hinged Hatches, Square and Rectangular;
- Cast Iron Riser Rings;
- Catch Basin Inlet;
- Cleanout/Monument Boxes;
- Construction Covers and Frames;
- Curb and Corner Guards;
- Curb Openings;
- Detectable Warning Plates;
- Downspout Shoes (Boot, Inlet);
- Drainage Grates, Frames and Curb Inlets;
- Inlets;
- Junction Boxes;
- Lampposts;
- Manhole Covers, Rings and Frames, Risers;



Meter Boxes;  
Service Boxes;  
Steel Hinged Hatches, Square and Rectangular;  
Steel Riser Rings;  
Trash receptacles;  
Tree Grates;  
Tree Guards;  
Trench Grates; and  
Valve Boxes, Covers and Risers.

**20) What is ‘structural steel’?**

Structural steel is rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

**21) What is a ‘construction material’ for purposes of the AIS requirement?**

Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. This includes, but is not limited to, the following products: wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), welding rods, decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, and stationary screens.

**22) What is not considered a ‘construction material’ for purposes of the AIS requirement?**

Mechanical and electrical components, equipment and systems are not considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

The following examples (including their appurtenances necessary for their intended use and operation) are NOT considered construction materials: pumps, motors, gear reducers, drives (including variable frequency drives (VFDs)), electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators), mixers, gates, motorized screens (such as traveling screens), blowers/aeration equipment, compressors, meters, sensors, controls and switches, supervisory control and



data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, analytical instrumentation, and dewatering equipment.

**23) If the iron or steel is produced in the US, may other steps in the manufacturing process take place outside of the US, such as assembly?**

No. Production in the US of the iron or steel used in a listed product requires that all manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.

**24) What processes must occur in the US to be compliant with the AIS requirement for reinforced precast concrete?**

While reinforced precast concrete may not be at least 50% iron or steel, in this particular case, the reinforcing bar and wire must be produced in the US and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the US. The cement and other raw materials used in concrete production are not required to be of domestic origin.

If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered to be a construction material and must be produced in the US.

**Compliance**

**25) How should an assistance recipient document compliance with the AIS requirement?**

In order to ensure compliance with the AIS requirement, specific AIS contract language must be included in each contract, starting with the assistance agreement, all the way down to the purchase agreements. Sample language for assistance agreements and contracts can be found in Appendix 3 and 4.

EPA recommends the use of a step certification process, similar to one used by the Federal Highway Administration. The step certification process is a method to ensure that producers adhere to the AIS requirement and assistance recipients can verify that products comply with the AIS requirement. The process also establishes accountability and better enables States to take enforcement actions against violators.

Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. A step certification is a process under which each handler (supplier, fabricator, manufacturer,

processor, etc) of the iron and steel products certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. A certification can be quite simple. Typically, it includes the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a manufacturer's responsible party. Attached, as Appendix 5, are sample certifications. These certifications should be collected and maintained by assistance recipients.

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the US. While this type of certification may be acceptable, it may not provide the same degree of assurance. Additional documentation may be needed if the certification is lacking important information. Step certification is the best practice.

**26) How should a State ensure assistance recipients are complying with the AIS requirement?**

In order to ensure compliance with the AIS requirement, States SRF programs must include specific AIS contract language in the assistance agreement. Sample language for assistance agreements can be found in Appendix 3.

States should also, as a best practice, conduct site visits of projects during construction and review documentation demonstrating proof of compliance which the assistance recipient has gathered.

**27) What happens if a State or EPA finds a non-compliant iron and/or steel product permanently incorporated in the project?**

If a potentially non-compliant product is identified, the State should notify the assistance recipient of the apparent unauthorized use of the non-domestic component, including a proposed corrective action, and should be given the opportunity to reply. If unauthorized use is confirmed, the State can take one or more of the following actions: request a waiver where appropriate; require the removal of the non-domestic item; or withhold payment for all or part of the project. Only EPA can issue waivers to authorize the use of a non-domestic item. EPA may use remedies available to it under the Clean Water Act, the Safe Drinking Water Act, and 40 CFR part 31 grant regulations, in the event of a violation of a grant term and condition.

It is recommended that the State work collaboratively with EPA to determine the appropriate corrective action, especially in cases where the State is the one who identifies the item in noncompliance or there is a disagreement with the assistance recipient.

If fraud, waste, abuse, or any violation of the law is suspected, the Office of Inspector General (OIG) should be contacted immediately. The OIG can be reached at 1-



888-546-8740 or [OIG\\_Hotline@epa.gov](mailto:OIG_Hotline@epa.gov). More information can be found at this website: <http://www.epa.gov/oig/hotline.htm>.

## **28) How do international trade agreements affect the implementation of the AIS requirements?**

The AIS provision applies in a manner consistent with United States obligations under international agreements. Typically, these obligations only apply to direct procurement by the entities that are signatories to such agreements. In general, SRF assistance recipients are not signatories to such agreements, so these agreements have no impact on this AIS provision. In the few instances where such an agreement applies to a municipality, that municipality is under the obligation to determine its applicability and requirements and document the actions taken to comply for the State.

### **Waiver Process**

The statute permits EPA to issue waivers for a case or category of cases where EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the US will increase the cost of the overall project by more than 25 percent.

In order to implement the AIS requirements, EPA has developed an approach to allow for effective and efficient implementation of the waiver process to allow projects to proceed in a timely manner. The framework described below will allow States, on behalf of the assistance recipients, to apply for waivers of the AIS requirement directly to EPA Headquarters. Only waiver requests received from states will be considered. Pursuant to the Act, EPA has the responsibility to make findings as to the issuance of waivers to the AIS requirements.

### **Definitions**

The following terms are critical to the interpretation and implementation of the AIS requirements and apply to the process described in this memorandum:

**Reasonably Available Quantity:** The quantity of iron or steel products is available or will be available at the time needed and place needed, and in the proper form or specification as specified in the project plans and design.

**Satisfactory Quality:** The quality of iron or steel products, as specified in the project plans and designs.

**Assistance Recipient:** A borrower or grantee that receives funding from a State CWSRF or DWSRF program.

## Step-By-Step Waiver Process

### Application by Assistance Recipient

Each local entity that receives SRF water infrastructure financial assistance is required by section 436 of the Act to use American made iron and steel products in the construction of its project. However, the recipient may request a waiver. Until a waiver is granted by EPA, the AIS requirement stands, except as noted above with respect to municipalities covered by international agreements.

The waiver process begins with the SRF assistance recipient. In order to fulfill the AIS requirement, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American made iron and steel products. It is essential that the assistance recipient include the AIS terms in any request for proposals or solicitations for bids, and in all contracts (see Appendix 3 for sample construction contract language). The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three conditions is met:

1. Applying the American Iron and Steel requirements of the Act would be inconsistent with the public interest;
2. Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
3. Inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Proper and sufficient documentation must be provided by the assistance recipient. A checklist detailing the types of information required for a waiver to be processed is attached as Appendix 1.

Additionally, it is strongly encouraged that assistance recipients hold pre-bid conferences with potential bidders. A pre-bid conference can help to identify iron and steel products needed to complete the project as described in the plans and specifications that may not be available from domestic sources. It may also identify the need to seek a waiver prior to bid, and can help inform the recipient on compliance options.

In order to apply for a project waiver, the assistance recipient should email the request in the form of a Word document (.doc) to the State SRF program. It is strongly recommended that the State designate a single person for all AIS communications. The State SRF designee will review the application for the waiver and determine whether the necessary information has been included. Once the waiver application is complete, the State designee will forward the application to either of two email addresses. For CWSRF waiver requests, please send the application to: [cwsrfwaiver@epa.gov](mailto:cwsrfwaiver@epa.gov). For DWSRF waiver requests, please send the application to: [dwsrfwaiver@epa.gov](mailto:dwsrfwaiver@epa.gov).



## Evaluation by EPA

After receiving an application for waiver of the AIS requirements, EPA Headquarters will publish the request on its website for 15 days and receive informal comment. EPA Headquarters will then use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.

In the event that EPA finds that adequate documentation and justification has been submitted, the Administrator may grant a waiver to the assistance recipient. EPA will notify the State designee that a waiver request has been approved or denied as soon as such a decision has been made. Granting such a waiver is a three-step process:

1. Posting – After receiving an application for a waiver, EPA is required to publish the application and all material submitted with the application on EPA’s website for 15 days. During that period, the public will have the opportunity to review the request and provide informal comment to EPA. The website can be found at: [http://water.epa.gov/grants\\_funding/aisrequirement.cfm](http://water.epa.gov/grants_funding/aisrequirement.cfm)
2. Evaluation – After receiving an application for waiver of the AIS requirements, EPA Headquarters will use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.
3. Signature of waiver approval by the Administrator or another agency official with delegated authority – As soon as the waiver is signed and dated, EPA will notify the State SRF program, and post the signed waiver on our website. The assistance recipient should keep a copy of the signed waiver in its project files.

## Public Interest Waivers

EPA has the authority to issue public interest waivers. Evaluation of a public interest waiver request may be more complicated than that of other waiver requests so they may take more time than other waiver requests for a decision to be made. An example of a public interest waiver that might be issued could be for a community that has standardized on a particular type or manufacturer of a valve because of its performance to meet their specifications. Switching to an alternative valve may require staff to be trained on the new equipment and additional spare parts would need to be purchased and stocked, existing valves may need to be unnecessarily replaced, and portions of the system may need to be redesigned. Therefore, requiring the community to install an alternative valve would be inconsistent with public interest.

EPA also has the authority to issue a public interest waiver that covers categories of products that might apply to all projects.

EPA reserves the right to issue national waivers that may apply to particular classes of assistance recipients, particular classes of projects, or particular categories of iron or steel products. EPA may develop national or (US geographic) regional categorical waivers through the identification of similar circumstances in the detailed justifications presented to EPA in a waiver request or requests. EPA may issue a national waiver based on policy decisions regarding the public's interest or a determination that a particular item is not produced domestically in reasonably available quantities or of a sufficient quality. In such cases, EPA may determine it is necessary to issue a national waiver.

If you have any questions concerning the contents of this memorandum, you may contact us, or have your staff contact Jordan Dorfman, Attorney-Advisor, State Revolving Fund Branch, Municipal Support Division, at [dorfman.jordan@epa.gov](mailto:dorfman.jordan@epa.gov) or (202) 564-0614 or Kiri Anderer, Environmental Engineer, Infrastructure Branch, Drinking Water Protection Division, at [anderer.kirsten@epa.gov](mailto:anderer.kirsten@epa.gov) or (202) 564-3134.

Attachments

## Appendix 1: Information Checklist for Waiver Request

The purpose of this checklist is to help ensure that all appropriate and necessary information is submitted to EPA. EPA recommends that States review this checklist carefully and provide all appropriate information to EPA. This checklist is for informational purposes only and does not need to be included as part of a waiver application.

Items	✓	Notes
<p><b>General</b></p> <ul style="list-style-type: none"> <li>• Waiver request includes the following information:               <ul style="list-style-type: none"> <li>— Description of the foreign and domestic construction materials</li> <li>— Unit of measure</li> <li>— Quantity</li> <li>— Price</li> <li>— Time of delivery or availability</li> <li>— Location of the construction project</li> <li>— Name and address of the proposed supplier</li> <li>— A detailed justification for the use of foreign construction materials</li> </ul> </li> <li>• Waiver request was submitted according to the instructions in the memorandum</li> <li>• Assistance recipient made a good faith effort to solicit bids for domestic iron and steel products, as demonstrated by language in requests for proposals, contracts, and communications with the prime contractor</li> </ul>	✓	
<p><b>Cost Waiver Requests</b></p> <ul style="list-style-type: none"> <li>• Waiver request includes the following information:               <ul style="list-style-type: none"> <li>— Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products</li> <li>— Relevant excerpts from the bid documents used by the contractors to complete the comparison</li> <li>— Supporting documentation indicating that the contractor made a reasonable survey of the market, such as a description of the process for identifying suppliers and a list of contacted suppliers</li> </ul> </li> </ul>		
<p><b>Availability Waiver Requests</b></p> <ul style="list-style-type: none"> <li>• Waiver request includes the following supporting documentation necessary to demonstrate the availability, quantity, and/or quality of the materials for which the waiver is requested:               <ul style="list-style-type: none"> <li>— Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/delivery date for construction materials</li> <li>— Documentation of the assistance recipient's efforts to find available domestic sources, such as a description of the process for identifying suppliers and a list of contacted suppliers.</li> <li>— Project schedule</li> <li>— Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials</li> </ul> </li> <li>• Waiver request includes a statement from the prime contractor and/or supplier confirming the non-availability of the domestic construction materials for which the waiver is sought</li> <li>• Has the State received other waiver requests for the materials described in this waiver request, for comparable projects?</li> </ul>		

#### **Appendix 4: Sample Construction Contract Language**

ALL CONTRACTS MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN ALL CONTRACTS IN PROJECTS THAT USE SRF FUNDS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE OR LOCAL LAW:

The Contractor acknowledges to and for the benefit of the City of \_\_\_\_\_ (“Purchaser”) and the \_\_\_\_\_ (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel,” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.



## Appendix 5: Sample Certifications

The following information is provided as a sample letter of **step** certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx
2. Xxxx
3. Xxxx

Such process took place at the following location:

\_\_\_\_\_

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

The following information is provided as a sample letter of certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Certification for Project (XXXXXXXXXXXX)

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx
2. Xxxx
3. Xxxx

Such process took place at the following location:

\_\_\_\_\_

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

**00672.7 Bid Bond**

Know all men by these presents, that we, the undersigned,  
\_\_\_\_\_ as

Principal, and \_\_\_\_\_ as surety,

Hereby held and firmly bound unto \_\_\_\_\_ as Owner on the sum of \_\_\_\_\_ for the payment of which, well and truly to be made, We hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2025.

This condition of the above obligation is such that whereas the principal has submitted to the Purchaser a certain bid, attached hereto and hereby made a part of hereof to enter into a contract in writing for the construction of:

**SARP 10 Program 422234.71.0425 Group 3 Point Repair**

Now therefore,

- A) If said bid shall be rejected, or in the alternative,
- B) If said bid shall be accepted and the principal shall execute and deliver a contract in the form of contract attached hereto (properly completed in accordance with said bid), required insurance certificates, and shall furnish a Bond for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bond,

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall, in no event, exceed the amount of this obligation as herein stated.

The surety, for value received, hereby stipulates and agrees that the obligations of said surety and its bond shall be in no way impaired or affected by any extension of the time within which the Purchaser may accept such bid; and said surety does hereby waive notice of any such extension.

In witness whereof, the principal and the surety hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year set forth above.

**CONTRACTOR**

**SURETY**

\_\_\_\_\_  
Contractor's Company Name

\_\_\_\_\_  
Surety Name

\_\_\_\_\_  
Signature (principal)

By: \_\_\_\_\_  
Attorney in Fact - Signature

\_\_\_\_\_  
Printed or Typed Name and Title

\_\_\_\_\_  
Printed or Typed Name and Title



**00672.8 Schedule Impact Due to Weather**

Program Manager will determine Contractor’s entitlement to an extension of the Contract Time as a result of weather delays, based on the data included in Tables 1 and 2. Extensions of time will be granted at the discretion of the Program Manager for circumstances not covered by the flow chart.

The following rules apply to any analysis for weather related delays to this Project. Weather delay days may be awarded if the first two rules are met. Additional days may be awarded if conditions in Rule 3 are met for unusually heavy precipitation independent of Rules 1 and 2.

Rule 1: The average monthly precipitation amount must have been exceeded.

If the total amount of actual precipitation in a month exceeds the average for that month shown in Table 1, the first test has been met. Go to rule number 2. (Precipitation is defined as the quantity of water deposited by rain, hail, sleet, or snow.)

Rule 2: The number of days in a month with actual precipitation greater than the threshold amount shown in Table 2 has been exceeded.

The numbers of days with actual precipitation greater than the threshold amounts shown in Table 2 are eligible for award as weather delays days. Additional days may be awarded for unusually heavy precipitation independent of meeting the rules above.

Rule 3: Unusually heavy precipitation has occurred.

Precipitation greater than one inch in a single day may be justification for an additional day, time extension for each precipitation day. This rule may be applied singly but not in addition with any other rule.

**National Weather Service Data for  
Memphis International Airport – Years 2009-2019**

**Table 1**

Average Precipitation by Month (In Inches)											
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
3.66	5.26	5.75	6.30	5.84	4.59	4.74	3.75	2.61	3.85	4.55	5.05

**Table 2**

Average Number of Days with Precipitation Greater than 0.25 Inches											
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
4	5	6	6	6	4	4	4	2	4	5	6

Any weather-related extension of Contract time shall be non-compensable. Efficiencies gained as a result of favorable weather within a calendar month, where the number of days of normally anticipated weather days is less than expected, shall contribute to the project float and shall not affect the Contract Times. Application for a weather-related extension of time shall be submitted to the Program Manager and shall state the extension requested and be supported by the relevant weather data.



## 00672.9 SARP10 Safety Guidelines

### Black & Veatch Memphis SARP10 Safety Guidelines

Anyone working for the SARP10 Program must comply with these basic safety requirements, except where their individual employer's safety requirements are more stringent. It is the employer's responsibility to ensure that their employees are informed of the Project safety policies and that they work in compliance with the Program safety policies.

Black & Veatch is committed to the safety and health of all employees, subcontractors, vendors and visitors. In our effort to minimize hazards and provide the safest worksite possible, we expect all workers on the Program to know and practice the following safe work rules as a minimum. The following rules are not all inclusive.

**Noncompliance with the Rules We Live By will result in removal from the Program.**

#### Rules We Live By

- **Confined Spaces** - Comply with all requirements of Confined Space Entry permits and DO NOT enter a confined space without a permit.
- **Fall Protection** - Comply with the Fall Protection procedures when working above the applicable working height. Always use 100 percent of the fall protection techniques when tying off. Note: An open manhole is a fall exposure and must be protected.
- **Lock Out Tag Out (LOTO)** - Follow all Lock Out/Tag Out procedures at all times.
- **Trench and Excavation** - Do not start any excavation activities without a Trench & Excavation permit and comply with all requirements. Excavations must be properly sloped, shored or shielded before entering, and proper access/egress must be in place.
- **Drugs and Alcohol** - Drugs and alcohol have NO place in the work environment. Do NOT come to work if you are under the influence of illegal drugs or alcohol.
- **You** - Make a difference today. Don't walk by any unsafe situation and be a Safety Leader.

#### PPE Requirements

- Safety glasses with side shields, ANSI Z87.1 approved are mandatory on the worksite.
- Hard hats, ANSI Z89.1 approved, with no modifications or deformities are mandatory on the worksite.
- Good quality, over the ankle, work boots with safety toes (steel toe) are required. Sneakers of any kind are prohibited.
- High visibility work vests with reflective markings shall be worn in all construction areas. Must be ANSI Class II specification as and be fluorescent (orange or lime green)
- You are the person most responsible for your safety. Observe and obey all signs and barricades.

#### General Safety and Health Requirements

- 100% fall protection is required when working on unprotected surfaces at or above 6 feet. Full body harnesses and shock absorbing lanyards with double locking hooks are the only acceptable method of personnel fall protection.
- DO NOT use the top two steps of a step ladder or the top three steps of a straight ladder. Use the 3-point rule (both feet / one hand or two hands / one foot) when using ladders.
- When on site, be aware of moving vehicles and equipment. Before traveling in front of or behind pieces of equipment make eye contact with the operator and wait for an indication to proceed. Spotters are required at all times.
- DO NOT cross a red barricade without permission from the owner of that barricade.
- Immediately correct safety hazards if within your authority. If you cannot make the correction report it to your supervisor. Unresolved hazards or conditions not corrected by the previous methods must be brought to the attention of the Site Project Manager.
- Immediately report injuries, fires, spills, near misses, accidents or unsafe conditions or practices to the Safety Department.
- Pay attention to barricades, signs and announcements.



## 00770 – Loss Control Manual

The Loss Control Manual is available for viewing on the SARP10 website:

<http://www.sarp10.com/safety/>

Contact Tom Gilmer, Safety Manager for additional information:

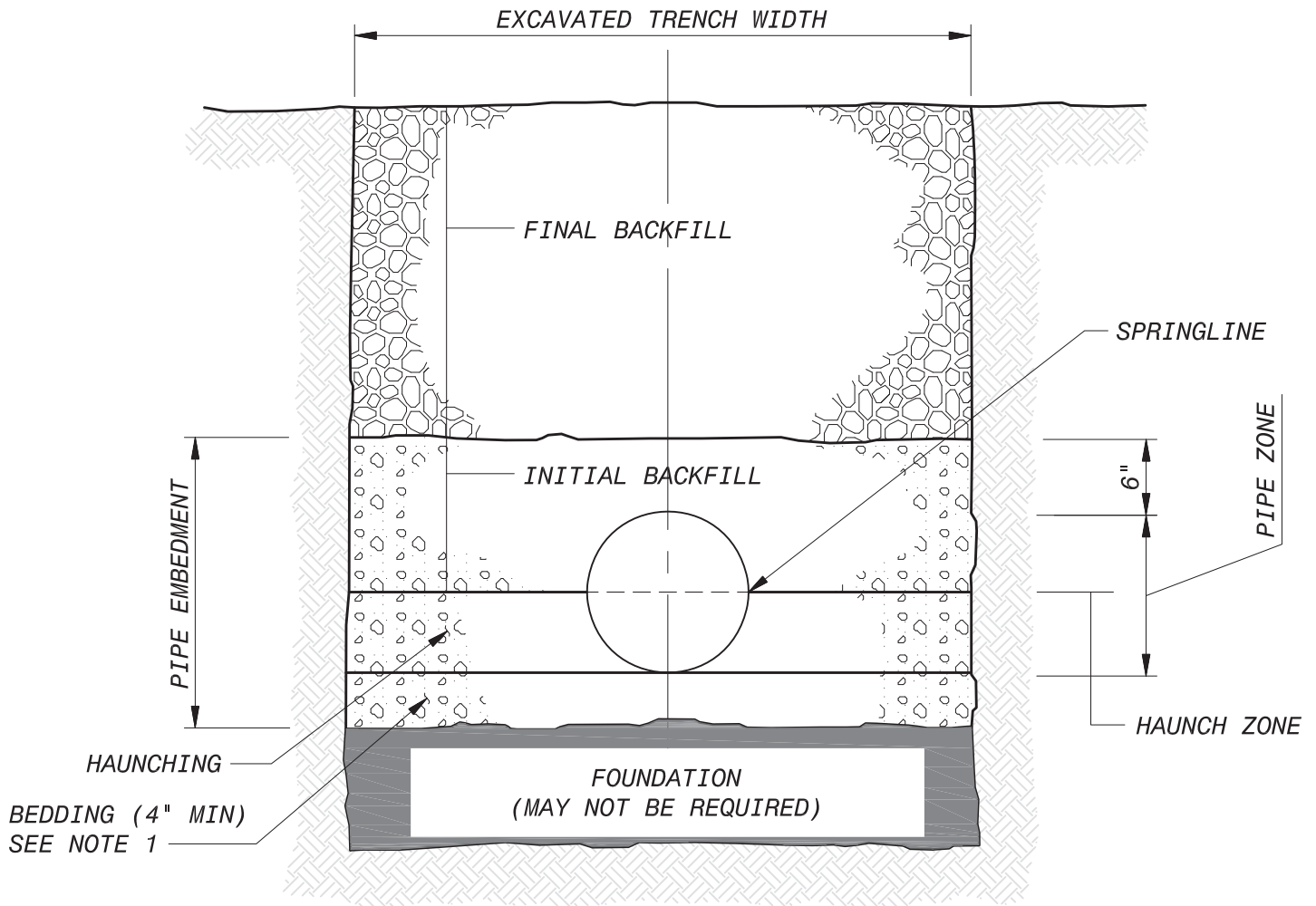
<mailto:GilmerTR@bv.com>

(913) 458-4207



## Technical Specifications

**PLEASE NOTE:** The exhibits for this RFB package will be available for viewing and/or downloading on the SARP10 website.



**FIGURE 1**

TRENCH CROSS SECTION SHOWING TERMINOLOGY

**NOTES**

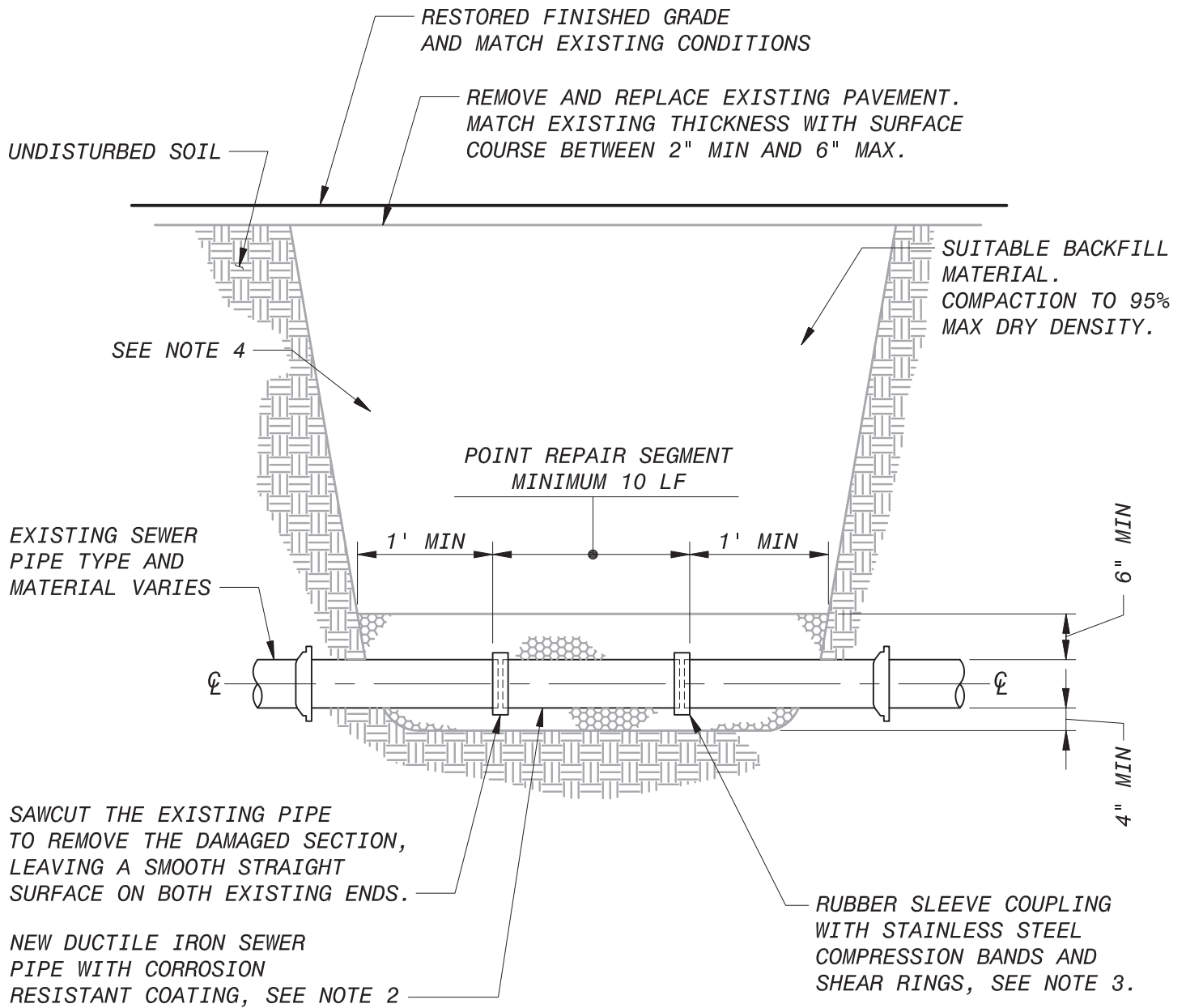
1. INSTALL CRUSHED LIMESTONE ASTM D-448-54 TABLE 1, #67 FOR BEDDING AND HAUNCHING MATERIAL. THE QUANTITY OF CRUSHED LIMESTONE FOR BEDDING AND HAUNCHING IS PART OF THE "SEWER POINT REPAIR" LINE ITEM AND NO SEPARATE PAYMENT WILL BE MADE.
2. INSTALL EITHER CRUSHED LIMESTONE OR RECYCLED CRUSHED CONCRETE FOR INITIAL BACKFILL AND FINAL BACKFILL PER CITY OF MEMPHIS SPECIFICATIONS.



**SARP10**

TRENCH CROSS SECTION  
SHOWING TERMINOLOGY





**NOTES**

1. CONSULT WITH SARP10 CONSTRUCTION MANAGER BEFORE MAKING REPAIRS REQUIRING MORE THAN 10 LF.
2. INSTALL NEW DUCTILE IRON SEWER PIPE, IN ACCORDANCE WITH CITY OF MEMPHIS STANDARD CONSTRUCTION SPECIFICATION SECTION 02530-SEWER PIPE INSTALLATION.
3. INSTALL FERNCO SERIES 5000RC SHIELDED COUPLINGS WITH NUT AND BOLT CLAMP, MISSION "FLEX-SEAL" ADJUSTABLE SHIELDED REPAIR COUPLINGS, OR APPROVED EQUAL.
4. REMOVE EXCAVATED MATERIAL UNDER PAVED SURFACES AND BACKFILL WITH CRUSHED LIMESTONE OR RECYCLED CRUSHED CONCRETE PER CITY OF MEMPHIS STANDARD SPECIFICATIONS.



**SARP10**

**SANITARY  
SEWER POINT REPAIR**













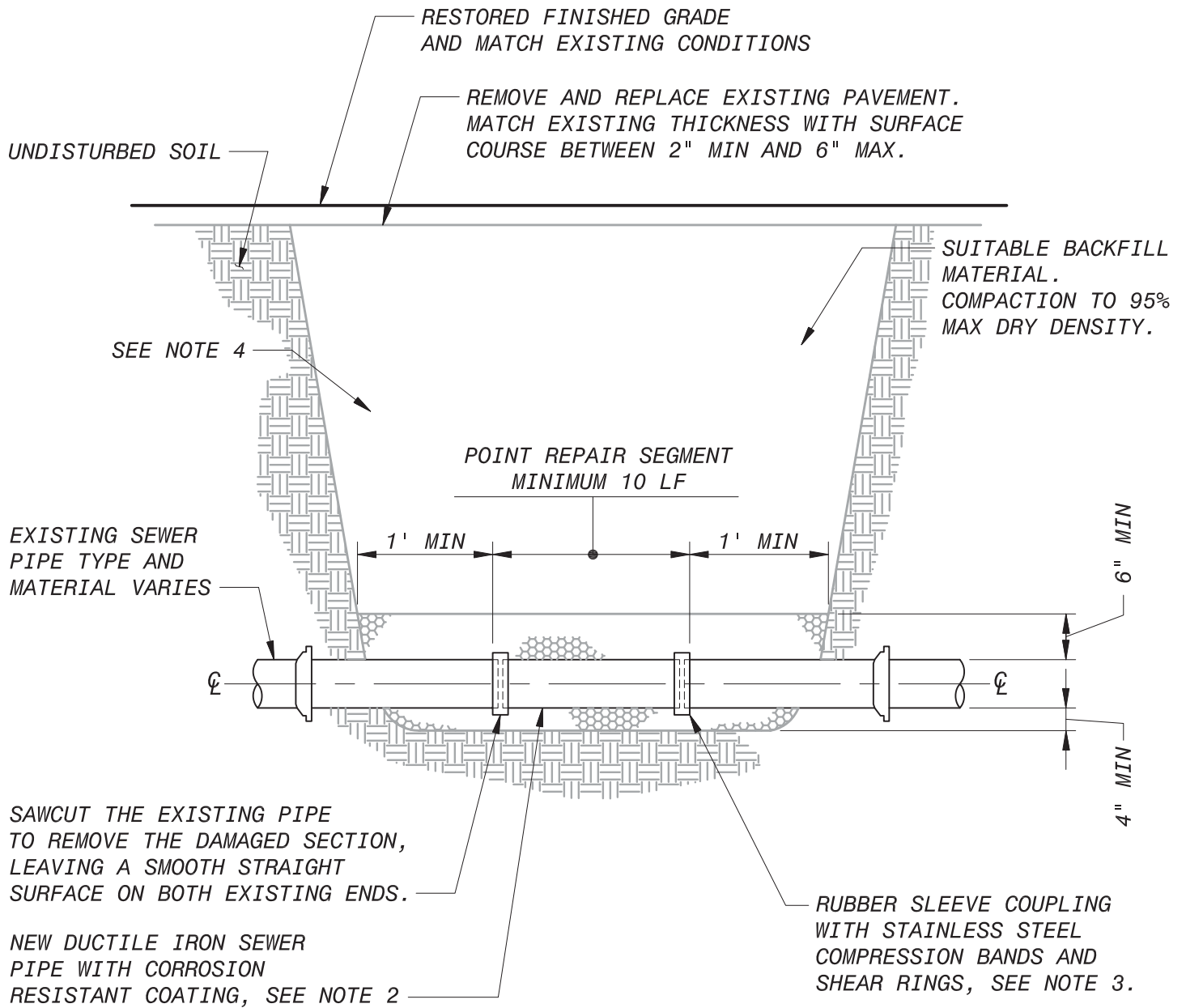












**NOTES**

1. CONSULT WITH SARP10 CONSTRUCTION MANAGER BEFORE MAKING REPAIRS REQUIRING MORE THAN 10 LF.
2. INSTALL NEW DUCTILE IRON SEWER PIPE, IN ACCORDANCE WITH CITY OF MEMPHIS STANDARD CONSTRUCTION SPECIFICATION SECTION 02530-SEWER PIPE INSTALLATION.
3. INSTALL FERNCO SERIES 5000RC SHIELDED COUPLINGS WITH NUT AND BOLT CLAMP, MISSION "FLEX-SEAL" ADJUSTABLE SHIELDED REPAIR COUPLINGS, OR APPROVED EQUAL.
4. REMOVE EXCAVATED MATERIAL UNDER PAVED SURFACES AND BACKFILL WITH CRUSHED LIMESTONE OR RECYCLED CRUSHED CONCRETE PER CITY OF MEMPHIS STANDARD SPECIFICATIONS.



**SARP10**

**SANITARY  
SEWER POINT REPAIR**



**SECTION 02531**  
**INSTALLATION AND REPLACEMENT OF MANHOLES**

**PART 1 GENERAL**

**1.01 SCOPE**

- A. This Work shall consist of the removal and replacement of existing or installation of new manholes for sanitary sewers as shown on the Drawings, stipulated in the Contract Documents, or as directed by the Purchaser. The construction shall be accomplished by these Specifications and in conformity with the details shown on the Drawings or established by the Purchaser.
- B. Where existing manholes are being replaced, the Subcontractor shall arrange the work such that sewage flow shall be maintained during the construction period with no discharge of sewage slowing into an open trench and provide necessary bypass pumping capacity to carry flow downstream of the manhole to be replaced. Additionally, the Subcontractor shall be responsible for properly removing and disposing of the existing manhole when replaced.
- C. All new manholes shall be precast concrete. The top section of the manholes shall be either flat top or eccentric cones as shown on Drawings.
- D. Cast iron frames shall be set at the required elevation and properly bonded to the flat top, eccentric cone, or grade rings with two rings of butyl mastic sealant and anchor bolts.

**1.02 SUBMITTALS**

- A. Unless otherwise specified all sample submittals shall be delivered to the Program Manager within two weeks of the NTP.
- B. Shop Drawings:
  - 1. Precast Manholes: Details of construction.
  - 2. Precast Base, Cones, and Top Slab Sections: Details of construction.
  - 3. Manholes Over Existing Piping:
    - a. Drawings and schedule for diverting flow.
    - b. Certificate from manufacturer of castings indicating they meet applicable requirements of these Specifications.
    - c. Precast Manhole Sections: Manufacturer's results of tests performed on representative sections to be furnished.
    - d. Certified load test data for precast manhole steps.
    - e. Plan for diversion of flow during installation of manhole over existing piping

**1.03 DELIVERABLES**

- A. Manhole Acceptance
  - 1. All manholes shall be subject to visual inspection by the Purchaser's Representative for faults, defects, or deviations from the Drawings and any such deviation or omission will

be corrected by the Subcontractor. All tests shall be made by the Subcontractor who will provide necessary equipment for testing in the presence of and under the supervision and instructions of the Purchaser's Representative.

**B. Manhole Vacuum Testing for Precast Manholes**

1. The Subcontractor shall provide all labor and equipment for vacuum testing.
2. All manholes shall be vacuum tested following backfill and compaction. The ring and lid casting assembly shall be installed prior to testing. The testing equipment shall consist of a gasoline-powered vacuum pump with sufficient vacuum hose length and a test head of proper size to fit the inside opening of the manhole. The test head shall be equipped with an inflatable rubber bladder to affect the seal to the manhole, an air pressure gauge, and a safety valve for filling the bladder, a 30-inch Hg liquid-filled vacuum gauge, a double air exhaust manifold with quarter turn ball valves, three bolt-on feet, and a bridge assembly with height adjustment rod.
3. Subcontractor shall plug all pipe openings, taking care to securely brace the plugs and the pipe. The plugs shall be placed a minimum of 6 feet beyond the manhole wall.
4. With the vacuum tester in place, Subcontractor shall inflate the compression to affect a seal between the vacuum base and the structure. Subcontractor shall connect the vacuum pump to the outlet port with the valve open and evacuate the manhole to 10-inches Hg (0.3 bar) for 48 inch diameter manholes and 5-inches Hg (0.15 bar) for 60-inch and greater diameter manholes.
5. Subcontractor shall close vacuum inlet/outlet ball valve, disconnect the vacuum pump, and monitor the vacuum for the specified time period. If the vacuum does not drop in excess of 1-inch Hg over the specified time period, the manhole is considered acceptable and passes the test. If the manhole fails the test, the Subcontractor shall identify the leaking areas by removing the head assembly, coating the interior surfaces of the manhole with a soap and water solution, and repeating the vacuum test for approximately thirty seconds. Once the leaks have been identified, Subcontractor shall complete all necessary repairs by sealing the leaks of the manhole to the satisfaction of the Purchaser, and repeat test procedures until satisfactory results are obtained.

<b>Vacuum Test Timetable</b>			
<b>Depth (Feet)</b>	<b>Manhole Diameter (Inches)</b>		
	<b>48"</b>	<b>60"</b>	<b>72"</b>
4'	10 sec.	13 sec.	16 sec.
8'	20 sec.	26 sec.	32 sec.
12'	30 sec.	39 sec.	48 sec.
16'	40 sec.	52 sec.	64 sec.
20'	50 sec.	65 sec.	80 sec.
24'	60 sec.	78 sec.	96 sec.
*	5.0 sec.	6.5 sec.	8.0 sec.

\*Add extra testing time "T", for each additional 2-foot depth. (The values listed above have been extrapolated for ASTM designation C924-85.

**C. Warranty and Guarantee for Precast Manholes**

1. The Subcontractor shall guarantee the rehabilitated manholes for ten (10) years after acceptance by the Owner to the extent that he will repair any leaks that may appear in

them during this period because of faulty workmanship or materials furnished by him at no additional expense to the Owner.

D. Deliverables

1. The Subcontractor shall provide post-rehabilitation MACP inspections for each manhole in accordance with Specification Section 02544 – Manhole GPS & MACP Inspection.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

A. Construction Material

1. All material furnished by the Subcontractor shall be new, high quality and free from defects. Previously used material in acceptable condition shall be allowed for bracing, forms, false work, and similar uses. Material not conforming to the requirements of the Specifications shall be considered defective and will be removed immediately from the site.

B. Qualification of Manufacturer

1. Manhole for sanitary sewers shall be the standard product of an established, reputable manufacturer made in a permanent plant. Suppliers for each material to be used by the Contractor shall be subject to the approval of the Purchaser. No material shall be delivered until the manufacturer and product have been approved by the Purchaser.

C. Mortar

1. Mortar shall be composed of one part Portland cement and two parts sand (volumetric measure) thoroughly mixed in a tight box, with water added gradually and mixed continually until mortar has attained the proper consistency for use in brick masonry; prepared only in such quantities as needed for immediate use; mortar mixed for more than 30 minutes, retempered, or previously set will not be allowed.

D. Cast Iron Castings

1. Castings shall be cast iron conforming to the Standard Drawings and the requirements of Class 30 ASTM A48; made accurately to the required dimensions; sound, smooth, clean, and free from blisters and other defects; not plugged or otherwise treated to remedy defects; machined so that covers rest securely in the frames with no rocking, and such that they are in contact with frame flanges for the entire perimeter of the contact surfaces. Castings shall be obtained from Universal Scaffolding.

E. Manhole Steps

1. Manhole steps shall not be allowed in sewer structures.

F. Butyl Mastic Sealant

1. The sealant shall be used when joining the casting frame to the precast manhole to provide a watertight structure. The sealing compound shall be produced from blends of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler, and shall contain no solvents, irritating fumes, or obnoxious odors. The compound shall not depend on oxidizing, evaporating, or chemical action for its adhesive or cohesive

strength. It shall be supplied in extruded rope form of suitable cross section and in such sizes as to seal the joint space. The Subcontractor shall use two complete ropes at each joint. The sealing compound shall be protected by a suitable removable two-piece wrapper, which shall be designed so that half may be removed longitudinally without disturbing the other half in order to facilitate application of the sealing compound. The sealant shall also meet the requirements of the following table:

Composition	Test Method	Minimum	Maximum
Bitumen (Petroleum Plastic Content)	ASTM D4	50	70
Ash Inert Mineral Matter	AASHTO T11	30	50
Volatile Matter	ASTM D6	---	2.0
Property	Test Method	Minimum	Maximum
Specific Gravity at 77 degrees F	ASTM D71	1.2	1.3
Ductility at 77 degrees F(cm)	ASTM D113	5.0	---
Softening Point	ASTM D36	320 degrees F	---
Penetration 77 degrees F (150 gms) 5 sec.	ASTM D217	50	120

G. Precast Manholes

1. All components shall meet the requirements of the Standard Drawings, ASTM C478, and ASTM C76 Class III. The mix design shall be:

Type I Portland Cement Content	615 Pounds per Cubic Yard
Fly Ash Content	85 Pounds per Cubic Yard
Coarse Aggregate Content	1,600 Pounds per Cubic Yard
Fine Aggregate Content	1,250 Pounds per Cubic Yard
Maximum Water/Cement Ration	0.40
Superplasticizer shall be added to create a workable slump.	

2. All cone sections and transition sections shall be eccentric. Barrel sections shall be custom made with openings to meet indicated pipe alignment and invert elevations.
3. The circumferential reinforcement for the manhole sections shall consist of welded wire fabric per ASTM C478.
4. Manholes shall be constructed with the minimum number of sections possible that the precaster can provide, to minimize the number of joints in the manhole. Minimum manhole section shall be 16 inches deep.
5. Each joint shall be a tongue and groove with two layers of butyl mastic sealant.
6. Pipe Connections:
  - a. Pipe connections to precast concrete manholes shall be with A-LOK cast in-place gaskets for new and replacement manholes. Grout shall not be allowed to encase A-LOK gaskets. Pipe connections for cured in place or for existing pipe shall be KOR N SEAL flexible connectors. Proper torque shall be applied to KOR-N-SEAL flexible

connectors with a torque wrench per manufacturer's specifications.

7. Channels and benches shall be factory grouted only. There shall be no field grouting of channels or benches.
8. A minimum line drop of 0.1 foot shall be provided across new manholes unless otherwise directed by the Purchaser.
9. Where the difference in invert elevation of two intersecting sewers in a manhole is 2 feet or more, a drop connection shall be installed as directed by the Purchaser.
10. Where invert elevations are not shown on the Drawings, pipes of differing sizes enter and exit manholes, all pipe crowns shall be matched to the same elevation.
11. The bottom of all precast base sections 4 feet in diameter shall extend a minimum of 6-inches beyond the outside wall of the manhole riser. The bottom of all precast base sections and cast-in-place bases 5 feet in diameter shall extend a minimum of 7-inches beyond the outside wall of the manhole riser. The bottom of all precast base sections and cast-in-place bases 6 feet and larger in diameter shall extend a minimum of 8-inches beyond the outside wall of the manhole riser.
12. For manholes four to six feet in diameter and less than twenty feet deep, precast reinforced concrete manhole base sections shall be a minimum of 8 inches thick. For all others, base sections shall be a minimum of 12 inches thick. All precast manhole base sections shall be reinforced with Number 4 steel reinforcing bars placed 6 inches on center each way and at mid depth of the slab, unless shown otherwise on the Drawings.
13. The interior of the manhole sections shall be a smooth, cylindrical surface. Lifting holes, when provided, shall be filled with expanding grout, or other approved materials.
14. All precast reinforced concrete manhole sections specified herein shall be inspected by the Purchaser's Representative. All materials that fail to conform to these Specifications will be rejected. After delivery to the Site, any materials that have been damaged in transit or are otherwise unsuitable for use in the Work shall be rejected and removed from the Site by the Subcontractor at no cost to the Purchaser.

## **2.02 EQUIPMENT**

- A. The Subcontractor shall furnish in good condition all equipment and facilities as required for the proper execution and inspection of the work. All equipment and facilities will be on site and approved by the Purchaser before work will be permitted to begin.

## **PART 3 EXECUTION**

### **3.01 SITE PREPARATION AND RESTORATION**

#### **A. Rights-of-Way and Easements**

1. The Subcontractor shall confine his construction activities to City of Memphis Rights-of-Way and Easements. The Subcontractor shall be responsible for obtaining written agreements for use of private property outside City acquired rights-of-way/easements for such purposes as storage of material and equipment and access to the construction site. The Subcontractor shall immediately provide a copy of all such written agreements to the City and Purchaser upon obtaining the same.



B. Clearing of Rights-of-Way and Easements

1. The Subcontractor shall confine his clearing of rights-of-way and easements to the least area necessary for construction of facilities shown on the Drawings. The Subcontractor shall protect as many trees and shrubs within the area as possible. Where necessary for construction, the Subcontractor shall clear all live and dead vegetation and growth, pole stubs, logs, and other objectionable material. Cleared material shall be removed to within 3 inches of existing ground. This work shall be done well before excavation operations but only after erosion controls have been placed.

C. Location of Existing Obstructions

1. Locations of obstructions shown on the Drawings are approximate and are not intended as an accurate location of such obstructions. Obstructions not shown on the Drawings but encountered by the Subcontractor shall be removed and replaced in their original state or protected by the Subcontractor at no additional cost to the Purchaser.

D. Removal of Obstructions

1. The Subcontractor shall demolish and remove all structures and structure foundations, abandoned vehicles, appliances, and rubbish within the right of way/easement limits necessary for the performance of the work.

E. Protection of Obstructions Outside Easement Limits

1. The Subcontractor shall protect and avoid damage to all trees, shrubs, plants, fences, structures, and all other objects outside the right of way/easement limits shown on the Drawings and/or Plats due to construction operations. All damage shall be repaired or restored at the Subcontractor's expense. Particular attention shall be paid to avoid damage to trees, shrubs, bushes, and private property located next to rights of way/easements. No trees, plants, or other objects may be removed outside such limits without written permission of the property owner.

F. Special Protection of Obstructions Inside Easement Limits

1. Wherever the underground installation of sanitary sewer facilities will go through surface improvements previously made by the City, other governmental bodies, or property owners, the Subcontractor will be responsible for their protection and preservation. This responsibility includes the removal and storage of such improvements to allow replacement and restoration as close as possible to the undisturbed condition.

G. Disposal of Debris

1. All trees, brush, logs, snags, leaves, sawdust, bark, and refuse shall be collected and disposed of according to the City Code of Ordinances at the expense of the Subcontractor. There will be no separate pay item for disposal of debris. Debris shall be removed from the site when practical and shall not be left until the completion of the contract. Burning of debris shall not be allowed. When material is to be disposed of outside the easement, the Subcontractor shall first obtain written permission from the property owner on whose property the disposal is to be made and will file a copy with the Purchaser. Unless otherwise provided in the Contract Documents, the Subcontractor will arrange for disposing of such material outside the right of way/easement. No debris will be deposited in wetlands.

H. Replacement of Fences

1. Any fences disturbed inside the right of way/easement limits will be replaced or restored to their original or better condition. Any fences removed will be replaced in their original location. Fences in such poor condition that they cannot be taken down and rebuilt with the same material shall be replaced with new fence material similar in original quality, size, construction, and appearance to the removed fence. Exceptions to this requirement shall be allowed if written releases are obtained from the property owners by the Subcontractor and submitted to the Purchaser.

I. Restoration of Turfed Areas

1. All areas shall be restored as nearly as practicable to their original condition. Finished lawn areas where soil has been deposited shall be cleared to the level of the existing sod and then raked and watered. Areas where sod has been damaged, destroyed, or ruts have been filled shall be resodded. After final restoration of the settled trench surfaces, trench areas and areas regraded as part of the construction shall be resodded, unless otherwise shown on the Drawings or directed by the Purchaser. Sod must be living at the time of final acceptance of the project.

**3.02 BACKFILLING**

A. General

1. After sanitary sewer facilities have been bedded and installed according to these Specifications and upon permission of the Purchaser, the backfill may be placed. Backfilling operations shall continue following as closely behind manhole installation as practical. All backfill shall be placed in uniform horizontal layers. Pushing backfill material down a ramp into excavated areas shall not be permitted. No trash shall be allowed to accumulate in the space to be backfilled. Particular care shall be taken to avoid allowing wood to be included in the backfill, other than sheeting and shoring that has been approved to be left in place.
2. The Subcontractor shall be responsible for the condition of the trenches and filled areas during the contract and warranty period. The Subcontractor shall maintain frequent inspection of the same. If anytime during the 12-month warranty period the trenches or filled areas settle or sunken places appear, the Subcontractor shall be required to refill these sunken places when they are discovered with suitable material and shall replace all damaged curb, gutter, and sidewalk. All soft or dangerous trenches shall be marked, barricaded and caution lighted for the protection of the public.
3. Property with an existing dwelling located on it or lots within a developed subdivision or planned development are considered improved property.

B. Street Right of Way and Improved Property

1. Backfill Material:
  - a. Backfill for manhole excavations through pavements in street or highway right of way or where the Purchaser orders, shall be made with pit run gravel or other acceptable material as approved by the Purchaser. The backfill shall be from the top of the pipe embedment material or manhole foundation to the subgrade elevation of the pavement. Pea gravel or similar granular material approximately uniform in size and without bonding properties shall not be used.
  - b. Backfill for manhole excavations beyond pavements in street or highway right of way

or outside public right of way shall be made with select earth from the top level of the pipe embedment material or foundation to the subgrade elevation in paved area, or within 1 inch of the surface in areas to be sodded, or to the surface in all other areas.

- c. Select material shall be free from debris, organic matter, perishable compressible material and shall contain no stones or lumps larger than 6 inches. Rocks and lumps smaller than 6 inches shall not exceed an amount that will interfere with the consolidating properties of the fill material. Care shall be taken that stones and lumps are kept separated and well distributed, and that all voids are completely filled with fine material. No rocks or lumps shall come in direct contact with the pipe. The upper 3 feet of backfill in sodded or planted areas shall be free of rocks or lumps larger than 1 inch in diameter.

2. Placement and Compaction:

- a. Backfill material shall be placed by hand in 6 inch loose layers and tamped to a point 2 feet above the outside top of the pipe. Backfill shall be compacted with suitable mechanical tamping equipment with special care being taken not to damage the pipe or joints. Use of compaction equipment directly above semi-rigid and flexible pipe should be avoided until sufficient backfill has been placed to ensure that the equipment will not damage the pipe. A minimum of 36 inches of compacted backfill above the top of semi-rigid and flexible pipe shall be in place before wheel loading and a minimum of 48 inches of compacted backfill before use of pneumatic tampers. From these elevations to the subgrade elevation of the pavement, bottom of the sod, or to the original ground surface, suitable backfill shall be mechanically placed in 9 inch, maximum, loose layers. All backfill material shall be compacted to 95 percent of maximum density at plus or minus 2 percent of optimum moisture content as determined by Laboratory Standard Proctor Test (ASTM D 698).

C. Open Areas and Unimproved Property

1. Backfill of excavations on unimproved property shall be made with select material from the top level of pipe embedment material or foundation to the surface. Non-granular select material to be used for backfill shall be free from debris, organic matter and perishable compressible material, and shall contain no stones or lumps or rock fragments larger than 6 inches. Rocks or lumps smaller than 6 inches in diameter shall not exceed an amount that will interfere with the consolidating properties of the fill material. No rocks or lumps shall come in direct contact with the pipe. Stones and lumps shall be kept separated and well distributed, and all voids shall be completely filled with fine material.

**3.03 REMOVAL OF EXISTING MANHOLES**

- A. Existing manholes and structures to be removed shall be shown on the Drawings or as directed by the Purchaser. The City reserves the right to retain or reject salvage of any materials encountered. Unless otherwise specified, salvaged rims and covers remain the property of the City and shall be delivered by the Subcontractor to the City yard as directed by the Purchaser. All remaining materials become the property of the Subcontractor who shall be responsible for disposal.

**3.04 GENERAL CONSTRUCTION REQUIREMENTS**

- A. New manholes and structures shall be constructed of plain or reinforced concrete. Where the top elevation is not shown on the Drawings, the manhole or structure shall be built to conform to the elevation of the existing final grade or as ordered by the Purchaser. Completion of the manhole shall include the installation of fittings, connections to pipes, placing of castings, testing, and other construction as shown on the Drawings.

- B. Inlet and outlet pipes shall extend through the walls of manholes to allow for water tight connections with the manhole walls. The ends shall be cut off flush with the inside surface of the wall as shown on the Drawings, design standards, or otherwise directed by the Purchaser. The pipes shall intersect at the structures so the inlet pipe will be aligned in the direction of outlet pipe such that counter-flow is prevented. Water stops shall be installed around pipes as they pass through the sanitary manhole wall.
- C. Inverts shall be of Class A concrete poured to conform to the shapes shown on the Plans or otherwise directed. The inverts shall be constructed as to cause the least possible resistance to flow. The shape of the inverts shall conform uniformly to inlet and outlet pipes. A smooth and uniform finish shall be required.
- D. Dewatering
  - 1. Subcontractor shall furnish, install and operate pumps, pipes, appurtenances, and all equipment of sufficient capacity required to remove any groundwater encountered in the excavation. Subcontractor shall conduct said groundwater away from the construction site in an approved manner. Generally, dewatering is considered to be incidental to the construction of sewer manholes.
- E. Bypass Pumping
  - 1. Subcontractor shall furnish, install, and operate pumps, pipes, appurtenances, and all equipment of sufficient capacity required to maintain sewage flow around the work area. Subcontractor shall conduct said bypass pumping in an approved manner. Generally, bypass pumping is considered to be incidental to the construction of sewer manholes.
- F. Traffic Control
  - 1. All traffic control shall be installed and maintained in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). At a minimum, the Subcontractor must have two trucks with flashing yellow lights on the work site. Traffic cones must also be placed downstream of the construction site to divert cars into the adjacent lane(s) per MUTCD requirements. On roads with heavy traffic volume, a flagman may also be needed to assist with traffic control. For bidding purposes, the Subcontractor should assume that a flagman will be needed on 30 percent of the setups.

### **3.05 INSTALLATION – PRECAST MANHOLES**

- A. Manhole Foundations
  - 1. Precast concrete manholes shall be built according to the Drawings or as directed by the Purchaser. All precast manholes shall use either a concrete slab constructed of Class A concrete on a 12-inch thick No. 67 crushed limestone foundation and will be cast integrally with the base section and the inlet and outlet pipes as shown on the Drawings or the precast manhole shall use a precast base section conforming to this Specification. The stone base shall be fully encapsulated in a geotextile fabric as indicated on the plans or as directed by the Purchaser. The Subcontractor shall dewater sufficiently to maintain the ground water level at or below the bottom of the manhole foundation prior to and during placement of the foundation.
- B. Manhole Installation on Existing Lines
  - 1. For all lines 12 inches in diameter or less, a section of pipe shall be removed and a complete precast manhole installed. The existing pipes shall be joined by a flexible

coupling to pipe extensions from the manhole. Minimum 4-foot pipe extension shall be required from manhole to connect to existing pipe.

C. Manhole Diameters

1. In general, the internal diameter of manholes shall be 4 feet.
2. Manhole diameter sizing, however, is contingent upon limitations of manufacturer due to pipe sizes and pipe deflections at manhole. Subcontractor shall verify proper manhole diameter is provided based on proposed manhole pipe configuration and pipe sizes indicated. Manhole sizing shall be approved by the Purchaser.

D. Frames and Covers

1. Cast iron frames and covers shall be set at the required elevation and properly bonded to the masonry with two rings of butyl mastic sealant and anchor bolts.
2. City Standard watertight frames and covers shall be used in flood prone areas, and areas where water ponds or could pond, including traffic areas.
  - a. Where shown on the Drawings, vent stacks shall be installed in long runs of sewers, potentially with watertight frames and covers. Vents shall be designed and constructed to preclude water entering the sewer system during storm events through the vents.
3. City Standard frame and cover obtained from Universal Scaffolding shall be used in all other areas.
4. Manhole rim elevations shall be set at grade in traffic areas and finished landscaped areas (finished grade is at the top of mulch in finished landscape areas), shall be set at 3 inches above grade in non-finished landscaped areas, and to be set at 2 feet or more above finish grade in non-traffic and non-landscaped areas.
5. Wherever manholes are constructed in paved areas, the top surface of the frame and cover shall conform to the exact slope, crown, and grade of the existing adjacent pavement.

**3.06 PROTECTION OF DOWNSTREAM FACILITIES**

- A. The Subcontractor must take all steps necessary to assure that no material is allowed to fall into the line during his installation process. The Subcontractor shall bear all cost of repairs resulting from any damages to downstream facilities resulting from failure to abide by this stipulation.

**3.07 WASTEWATER SPILLS**

- A. Should the Subcontractor spill any wastewater, such that the sewage either immediately or ultimately enters the waters of the State of Tennessee, then the Subcontractor shall be completely responsible for any fines or penalties imposed on the Purchaser or the Subcontractor by the USEPA or the State of Tennessee.

## **PART 4 MEASUREMENT & PAYMENT**

### **4.01 MEASUREMENT**

#### **A. Manhole Replacement with Precast Manhole**

1. Manhole replacement with precast manhole will be measured per vertical foot of manhole from the downstream invert up to the bottom of the frame casting

#### **B. Precast Manhole Installation**

1. Precast manhole installation will be measured per vertical foot of manhole from the downstream invert to the bottom of the frame casting.

#### **C. Pavement Backfill**

1. Pit run gravel or other acceptable material used for backfill under pavements or other areas directed by the Purchaser will be measured by the cubic yard. The backfill will extend 12 inches around the outside of the masonry or concrete work to allow for proper placement. No payment will be made for additional backfill used outside of 12 inches unless approved prior to completion by the Purchaser.

#### **D. Traffic Control**

1. Traffic control will be measured per EACH point repair for each standalone manhole installed or replaced when not associated with an adjoining sewer segment being rehabilitated.

#### **E. Dewatering**

1. Dewatering is considered to be an incidental to sewer manhole rehabilitation.

#### **F. Bypass Pumping**

1. Bypass pumping is considered to be an incidental to sewer manhole installation and replacement.

### **4.02 PAYMENT**

#### **A. Manhole Replacement with Precast Manhole**

1. Precast Manhole replacement will be paid at the contract unit price per vertical foot, which shall be full compensation for the base, precast sections, adjusting rings, as needed, gaskets, steps, cast-in or core drilled pipe openings, pipe connectors, grout, manhole rims, frames, and covers, and vacuum testing, and removal and approved offsite disposal of materials, including manhole being replaced.

#### **B. Precast Manhole Installation**

1. Precast Manhole installation will be paid at the contract unit price per vertical foot, which shall be full compensation for the base, precast sections, adjusting rings, as needed, gaskets, steps, cast-in or core drilled pipe openings, pipe connectors, grout, manhole rims, frames, and covers, and vacuum testing, and removal and approved offsite disposal of materials.

C. Pavement Backfill

1. Accepted quantities of pit run gravel or other acceptable material used for backfill under pavements or other areas designated by the Purchaser will be paid for at the contract unit price per cubic yard furnished and placed, which will be full compensation for furnishing, placing and compacting the selected material.

Cl. Traffic Control

1. Traffic control will be paid per EACH for each manhole rehabilitated including all appurtenances required to comply with MUTCD standards. Only standalone manhole installation or replacement will include a separate traffic control payment. All traffic control for manholes with adjoining sewer segment rehabilitation will be included in the traffic control for the associated pipe.

**4.03** PAYMENT WILL BE MADE UNDER:

Item No.	Pay Item	Pay Unit
02531-4.02.A	MANHOLE REPLACEMENT WITH PRECAST MANHOLE	VERTICAL FOOT
02531-4.02.B	PRECAST MANHOLE INSTALLATION	VERTICAL FOOT
02531-4.02.C	PAVEMENT BACKFILL	CUBIC YARD
02531-4.02.D	TRAFFIC CONTROL	EACH

**END OF SECTION 02531**

**SECTION 02540  
SANITARY SEWER POINT REPAIRS**

**PART 1 GENERAL**

**1.01 SCOPE**

- A. This work shall consist of the construction of sanitary sewer gravity main point repairs of the kinds and dimensions shown on the Drawings, stipulated in the Contract Documents, or as directed by the Purchaser. The construction will be accomplished by these Specifications and in conformity with the lines, grades, and details shown on the Drawings or established by the Purchaser. The Subcontractor shall perform all work necessary to complete the Contract with the best modern practice. Without specifications that state the quality of any work, the Subcontractor is required to perform such items using first-quality construction. Unless otherwise provided, the Subcontractor will furnish all material, equipment, tools, labor, and incidentals necessary to complete the Work.

**1.02 REFERENCES**

- A. City of Memphis Standard Construction Specifications.
- B. American Standard for Testing and Materials (ASTM).
- C. American National Standards Institute (ANSI).

**1.03 DEFINITIONS**

- A. A point repair as used in these Specifications shall mean repair of pipe segments of existing sanitary sewer mains or service lines and connections which require excavation to accurately locate a defect and make the necessary repair.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

A. Pipe Materials

- 1. All repairs to existing gravity sewer lines shall be made using ductile iron pipe. Ductile iron pipe for gravity sewer and service connections will conform to ASTM A 746. The pipe thickness design will conform to ANSI A 21.50. If no thickness class is specified on the Plans or Contract Documents, Class 50 or approved equivalent will be used. All ductile iron pipe will be lined with Protecto 401 Ceramic Epoxy, or approved equal. Linings will be applied according to manufacturer's recommendations. Fittings will conform to the requirements of ANSI A 21.10. Unless otherwise specified, joints will be push on gasket type conforming to the requirements of ANSI A 21.11. Mechanical joints will conform to the requirements of ANSI A 21.11. Flanged joints will conform to the requirements of ANSI A 21.15. Steel retainer rings will conform to ASTM A 148 for Grade 90 60.

B. Elastomeric Couplings

- 1. Elastomeric couplings for connecting replacement pipe to existing pipe shall be Fernco Series 5000 RC Shielded Couplings with nut and bolt clamp, Mission "Flex-Seal" adjustable shielded repair coupling or approved equal.



C. Crushed Limestone

1. Crushed limestone will be size No. 67 Coarse Aggregate meeting the requirements of the Tennessee DOT Standard Specifications for Road and Bridge Construction and the following gradation:

	Total Percent by Dry Weight Passing Each Sieve (U.S. Standard)				
Size No.	1"	3/4"	3/8"	No. 4	No. 8
67	100	90-100	20-55	0-10	0-5

D. Geotextile Material

1. Geotextile fabric shall meet the following requirements

Physical Property	Test Method	Acceptable Test Result
Tensile Strength, wet, lbs	ASTM D-1682	200 (min)
Elongation, wet, %	ASTM D-1682	40 (min)
Coefficient of Water Permeability, cm/sec	Constant Head	0.03 (min)
Puncture Strength, lbs.	ASTM D-751	100 (min)
Pore Size - EOS	Corps of Engineers	40 (max)
U.S. Standard Sieve	CW-02215	

**2.02 EQUIPMENT**

- A. The Subcontractor will furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work. All equipment and facilities will be on site and approved by the Purchaser before work will be permitted to begin.

**PART 3 EXECUTION**

**3.01 SITE PREPARATION AND RESTORATION**

A. Disposition of Excavated Material

1. Excavated material suitable for backfill will be stored no closer than 2 feet from the edge of the excavation. Excavated material will not obstruct crosswalks, side-walks, driveways, street intersections, nor interfere unreasonably with travel on streets. Gutters or other surface drainage facilities will not be obstructed. The Subcontractor must provide access to fire hydrants, mail boxes, sewer and conduit manholes and similar utility or municipal service facility as required. Excavated material intended for backfill will be stored in a way that minimizes loss of excavated material due to erosion. The Subcontractor shall comply with all applicable OSHA regulations and City of Memphis Storm Water Ordinances.
2. Unless otherwise directed, all excavated material that will not be used for backfilling or restoration will be removed from the site and disposed of by the Subcontractor. If the Subcontractor proposes to store or place such excess excavated material upon any private property, written consent of the property owner or owners must be obtained by the Subcontractor in advance. A certified copy will be given to the Purchaser. No surplus or excess material will be deposited in any stream channel nor anywhere that would change preconstruction surface drainage.

B. Control of Water

1. The Subcontractor will keep all excavations free of water. If the trench subgrade consists of good soil in good condition at the time of excavation, it will be the Subcontractor's responsibility to maintain it in suitable condition. Dams, flumes, channels, sumps, or other work and equipment necessary to keep the excavation clear of water will be provided by the Subcontractor. Dewatering of trenches, will be incidental to trench excavation. The Subcontractor will avoid producing mud in the trench bottom by his operations. If necessary or so ordered by the Purchaser, the Subcontractor will remove any soil that becomes unacceptable and replace it with limestone or other approved aggregate at his own expense to maintain a firm, dry base.
2. Pipe embedment, laying, jointing, and the placing of concrete or masonry will be done in a water free trench or excavation. Trenches will be kept clear of water until pipe joints, concrete and masonry have set and are resistant to water damage. The water will be disposed of in a manner acceptable to the Purchaser.
3. All gutters, pipes, drains, conduits, culverts, catch basins, storm water inlets, ditches, creeks, and other storm water facilities will be kept in operation, or their flows will be satisfactorily diverted and provided for during construction. Any facilities disturbed during construction will be restored to the satisfaction of the Purchaser.

C. Excavation Around Obstructions

1. The Subcontractor will cautiously excavate to find the limits of under-ground obstructions anticipated within the excavation. When a water pipe, gas pipe, other sanitary sewer, storm drain, or similar utility comes within the limits of the trench, such facilities will be properly supported.
2. The Subcontractor shall perform all excavation by hand where excavation by machinery would endanger trees, structures, or utilities that otherwise might be saved by hand excavation.
3. Hydroexcavation:
  - a. In order to protect existing utilities, the Subcontractor shall cautiously hydroexcavate or hand excavate the entire perimeter of the excavation to a minimum depth of four feet to locate all underground obstructions within the excavation. The excavation method to be utilized on any given point repair (hydroexcavation or hand digging) is at the Subcontractor's discretion. When a water pipe, gas pipe, other sanitary sewer, storm drain, or similar utility comes within the limits of the trench, the Subcontractor shall hydroexcavate or hand dig at least eighteen-inches around the utility.

D. Special Protection

1. Treacherous Ground:
  - a. When running sand, quicksand, or other treacherous ground is encountered, the work will be carried on with the utmost urgency and will continue day and night should the Purchaser so direct.
2. Sheeting and Shoring:
  - a. The Subcontractor will furnish, place, and maintain sheeting and shoring as required to support the sides of any excavation to prevent earth movement that could endanger the workers or public and to prevent damage to the excavation, adjacent utilities or

property. The Subcontractor will place this sheeting and shoring without the Purchaser's instructions.

- b. Sheeting will extend below structure invert a sufficient depth to assure adequate support. In the installation of sheeting, the use of vibratory type pile drivers (as opposed to impact type) will be limited to sheeting driven no greater than 5 feet below the invert. The sheeted trench width, as measured between those faces of the sheeting in contact with the earth trench wall, will not exceed the maximum width of a trench per Specification Section 02530. Walers and struts will be designed and installed to present no obstructions to proper placement of the pipe, pipe embedment, cradle or encasement, and they will not interfere with the satisfactory installation of the pipe.
- c. Sheeting, bracing, and shoring will be withdrawn and removed as the backfilling is being done, except where the Purchaser permits the material to be left in place. The Subcontractor will cut off sheeting left in place at least 2 feet below the surface and will remove the cut off material from the excavation.
- d. All sheeting, bracing, and shoring which are not left in place under this provision will be removed in a way that will not endanger the completed work or other structures, utilities, storm drains, sewers, or property. The Subcontractor will be careful to prevent the opening of voids during the extraction process.
- e. If sheeting and shoring are not specifically required on the Plans or in the Specifications, steel drag shields or trench boxes may be used subject to the authorization of the Purchaser. Voids left by the advancement of the shield will be carefully backfilled and compacted following trench backfill requirements.

#### E. Existing Utilities

1. It will be the Subcontractor's responsibility to arrange for the location of existing utilities prior to excavation. The Subcontractor will also be responsible for coordinating the relocation of any existing utilities with the appropriate utility owner.
2. Protection:
  - a. The Subcontractor will protect any storm drain, sewer, or utility within the limits of the construction. The Subcontractor will proceed with caution and will use every means to establish the exact location of underground structures and facilities before excavating in the vicinity. The City or Purchaser will not be responsible for the cost of protection or repair or replacement of any structure, pipe line, conduit, service connection, or similar facility broken or damaged by the Subcontractor's operations. All water and gas pipes and other conduits near or crossing the excavation will be properly supported and protected by the Subcontractor.
3. If the construction requires the removal and replacement of any overhead wires or poles, underground pipes, conduits, structures or other facilities, the Subcontractor will arrange for such work with the Owner or Owners of the facilities. No additional payment will be made by the City or Purchaser for this work.
4. Service Connections:
  - a. Sewer and utility services between mains and buildings will be maintained and adjusted as necessary by the Subcontractor to provide as nearly a continuous operation as can be expected. This will be accomplished in any way that the Subcontractor chooses, provided the individual service is not interrupted for more than two consecutive hours. The occupants will be notified by the Subcontractor at least six

hours before such service interruptions. When a break occurs, the Subcontractor will notify the affected occupant(s) of the probable length of time that the service will be interrupted.

5. If existing underground facilities or utilities require removal and replacement for the performance of this work, all replacements will be made with new material conforming to the requirements of these Specifications. If not specified, the material will be as approved by the Purchaser.
6. The removal and replacement of water services to adapt to new construction will be the Subcontractor's responsibility within the limits where the new service line grade blends smoothly with the existing service line grade.
7. The removal and replacement of sewer house connections to adapt to new construction will be the Subcontractor's responsibility from the sewer main to a point where the new grade and existing grade can be matched.
8. The Subcontractor will be responsible for any damage to the sewer house connection because of his operations. The Purchaser does not guarantee the number, size, condition, nor length of adjustment necessary to bring a service to a new grade.

F. Maintenance of Flow

1. Where existing sewer lines are being modified, the Subcontractor will arrange his work so that sewage flow will be maintained during the construction period with no discharge of sewage into the open trench, and no back up of sewage in the existing line. The Subcontractor will provide necessary bypass pumping capacity to carry flow downstream of the section to be modified.

G. Cleanup

1. After the installation work has been completed, the Subcontractor shall cleanup the entire project area. All excess material and debris not incorporated into the permanent installation shall be disposed of by the Subcontractor. The work area shall be left in a condition equal to or better than it was prior to the performance of the Work. Disturbed grassed areas shall be seeded or sod placed as directed by the Purchaser at no additional cost to the Owner. Site restoration shall be performed in accordance with the City of Memphis Standard Construction Specifications.

**3.02 BACKFILLING**

A. General

1. After sanitary sewer facilities have been bedded and installed according to these Specifications and upon permission of the Purchaser, the backfill may be placed. Backfilling operations will continue following as closely behind pipe installation as practical. All backfill will be placed in uniform horizontal layers. Pushing backfill material down a ramp into excavated areas will not be permitted. No trash will be allowed to accumulate in the space to be backfilled. Particular care will be taken to avoid allowing wood to be included in the backfill, other than sheeting and shoring that has been approved to be left in place.
2. The Subcontractor will be responsible for the condition of the trenches and filled areas during the contract and warranty period. The Subcontractor will maintain frequent inspection of the same. Anytime during the 12-month warranty period the trenches or filled areas settle and sunken places appear, the Subcontractor will be required to refill these sunken places when they are discovered with suitable material and will replace all

damaged curb, gutter, and sidewalk. All soft or dangerous trenches will be marked, barricaded and caution lighted for the protection of the public.

3. Property with an existing dwelling located on it or lots within a developed subdivision or planned development are considered improved property.

B. Street Right of Way and Improved Property

1. Backfill Material:

- a. Backfill for pipe trench excavations through pavements in street or highway right of way or where the Purchaser orders, will be made with pit run gravel or other acceptable material as approved by the Purchaser. The backfill will be from the top of the pipe embedment material or manhole foundation to the subgrade elevation of the pavement. Pea gravel or similar granular material approximately uniform in size and without bonding properties will not be used.
- b. Backfill for pipe trench excavations beyond pavements in street or highway right of way or outside public right of way will be made with select earth from the top level of the pipe embedment material or foundation to the subgrade elevation in paved area, or within 1 inch of the surface in areas to be sodded, or to the surface in all other areas.
- c. Select material will be free from debris, organic matter, perishable compressible material, and will contain no stones or lumps larger than 6 inches. Rocks and lumps smaller than 6 inches will not exceed an amount that will interfere with the consolidating properties of the fill material. Care will be taken that stones and lumps are kept separated and well distributed, and that all voids are completely filled with fine material. No rocks or lumps will come in direct contact with the pipe. The upper 3 feet of backfill in sodded or planted areas will be free of rocks or lumps larger than 1 inch in diameter.

2. Placement and Compaction:

- a. Backfill material will be placed by hand in 6 inch loose layers and tamped to a point 2 feet above the outside top of the pipe. Backfill will be compacted with suitable mechanical tamping equipment with special care being taken not to damage the pipe or joints. Use of compaction equipment directly above semi-rigid and flexible pipe should be avoided until sufficient backfill has been placed to ensure that the equipment will not damage the pipe. A minimum of 36 inches of compacted backfill above the top of semi-rigid and flexible pipe will be in place before wheel loading and a minimum of 48 inches of compacted backfill before use of pneumatic tampers. From these elevations to the subgrade elevation of the pavement, bottom of the sod, or to the original ground surface, suitable backfill will be mechanically placed in 9 inch, maximum, loose layers. All backfill material will be compacted to 95 percent of maximum density at plus or minus 2 percent of optimum moisture content as determined by Laboratory Standard Proctor Test (ASTM D 698).

C. Open Areas and Unimproved Property

1. Backfill of excavations on unimproved property will be made with select material from the top level of pipe embedment material or foundation to the surface. Non-granular select material to be used for backfill will be free from debris, organic matter and perishable compressible material, and will contain no stones or lumps or rock fragments larger than 6 inches. Rocks or lumps smaller than 6 inches in diameter will not exceed an amount that will interfere with the consolidating properties of the fill material. No rocks or lumps will come in direct contact with the pipe. Stones and lumps will be kept separated and well distributed, and all voids will be completely filled with fine material.

### 3.03 METHOD OF REPAIR

- A. The Subcontractor shall replace a sufficient number of entire pipe joints to ensure that defective pipe is removed and replaced up to 10 feet in length, per repair, at the discretion of the Purchaser, in accordance with the SARP10 Sanitary Sewer Point Repair detail.
- B. If the length of the required replacement segment is not adequate to locate sufficient competent pipe for connection with the new section, the Subcontractor, at the Purchaser's instruction, may be directed to replace additional sections of pipe such that an appropriate connection is possible.
- C. The Subcontractor shall be responsible for confirming the location of the defective pipe segment before beginning the point repair.
- D. The Subcontractor shall replace service wyes encountered within the point repair. Any defective service lines encountered within the point repair shall be replaced.
- E. Any service line or competent main line pipe broken by the Subcontractor shall be replaced at the Subcontractor's expense.
- F. The Subcontractor shall remove any fences, base materials, storm sewer, etc. that may interfere with the repair made at each specified point. The Subcontractor is responsible for the replacement of said fences, base materials, storm sewer etc., in the same or better condition than found.
- G. The bottom of the trench shall be reshaped so that the grade of the pipe replaced will match that required for the existing sewer line. The pipe embedment material shall be placed and the repair area shall be backfilled in accordance with Section 02530 Sewer Pipe Installation of the City of Memphis Standard Construction Specifications Modified by the SARP10 Program.
- H. If the material in the bottom of the trench is of such consistency that it is not stable, then the Subcontractor shall stabilize the bottom of the trench by placing suitable materials at the direction of the Purchaser in accordance with the 3.02 C. 1. Undercut Excavation of Section 02530 Sewer Pipe Installation of the City of Memphis Standard Construction Specifications Modified by the SARP10 Program.
- I. Prior to backfilling, point repairs shall be inspected by the Purchaser.

### 3.04 PIPE EMBEDMENT

- A. Pipe embedment will be defined as that material supporting, surrounding and extending to 6 inches above the top of the pipe. Pipe Embedment for sewer pipe will conform to the requirements given below. At the direction of the Purchaser or as shown on the Drawings, sewer pipe and backfill will be encapsulated in geotextile fabric meeting the following requirements:
  - B. Crushed Limestone
    - 1. Pipe embedment material will be Number 67 crushed limestone. Pipe 8 inches to 24 inches in diameter will be bedded on 4-inches of Number 67 crushed limestone. Pipe 27 inches to 48 inches in diameter will be bedded on 6-inches of bedding material. Pipe embedment for pipes larger than 48 inches in diameter will be by design based on anticipated soil conditions. After pipe installation, crushed limestone will then be tamped under the haunches and continued in layers not more than 6 inches in loose thickness around and above the pipe to a level 6 inches above the outside top of the pipe. The remainder of the



installation will be as outlined in this Specification's Backfill requirements.

### **3.05 VISUAL INSPECTION**

- A. All work will be subject to visual inspection for faults or defects and any such deviation or omission will be corrected at once. All tests will be made by the Subcontractor who will provide necessary equipment for testing and lamping the system in the presence of and under the supervision and instructions of the Purchaser. Lamp tests will be observed first hand by the Purchaser. Each section of sewer line will show a full circle of light when lamped between manholes. All defects located will be corrected before conducting leakage tests
- B. After backfilling and resurfacing, sewer segments containing point repairs shall be internally televised (CCTV) by the Subcontractor in their entirety in accordance with Section 02541 – Closed Circuit Television Inspection of Sewer Mains and Connections for final review and approval by the Purchaser.

### **3.06 TRAFFIC CONTROL**

- A. All traffic control shall be installed and maintained in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). At a minimum, the Subcontractor must have two trucks with flashing yellow lights on the work site. Traffic cones must also be placed downstream of the construction site to divert cars into the adjacent lane(s) per MUTCD requirements. On roads with a heavy traffic volume, a flagman may also be needed to assist with traffic control. For bidding purposes, the Subcontractor should assume that a flagman will be needed on 30 percent of the setups.

### **3.07 FALL PROTECTION**

- A. Subcontractor shall install and maintain all fall protection measures in accordance with the SARP10 Loss Control Manual. The Subcontractor shall construct a controlled access zone around the manhole being adjusted. At a minimum, the fall protection zone shall include traffic cones encircled with pennant tape. The controlled access zone must have one point of access with an entrance log.

## **PART 4 MEASUREMENT & PAYMENT**

### **4.01 MEASUREMENT**

#### **A. Sewer Point Repair**

- 1. Sewer point repairs will be measured per each. The repair length of ten linear feet will be measured along the centerline of the new pipe. Each additional linear foot of repair, directed by the Purchaser, beyond the minimum 10 feet will be measured for payment. The depth of the repair is measured from the existing grade to the pipe invert.

#### **B. Service Connection Removal and Replacement**

- 1. Service connection removal and replacement for all service wyes encountered within the point repair shall be measured per each, complete in place. Service connections damaged by the Subcontractor that do not require removal and replacement for construction of the sanitary sewer point repair will not be measured for payment.

C. Site Preparation and Restoration

1. The area to be considered for measurement will be the limit of the construction area unless otherwise directed by the Purchaser and shall be measured per each point repair.

D. Pavement Backfill

1. Pit run gravel or other acceptable material used for backfill under pavements or other areas directed by the Purchaser will be measured by the cubic yard in the following manner. Cubic yards of Pavement Backfill equals the linear feet of sewer pipe installed directly below pavement as measured along the centerline of the pipe multiplied by the trench payline width in feet multiplied by the depth of pavement backfill material in feet divided by 27. The trench payline width is defined as the outside diameter of the sewer pipe plus 2 feet. The depth of pavement backfill is defined as the distance from 6 inches above the top of the sewer pipe to the subgrade elevation of the pavement.

E. Hydroexcavation/ Hand Digging

1. Hydroexcavation and/or hand digging of the trench perimeter will be measured per each point repair.

**4.02 PAYMENT**

A. Sewer Point Repair

1. The accepted quantities of all mainline sewer point repairs will be paid for at the contract unit price per each for the various pipe sizes and depth of repair, which will be full compensation for material and material testing, excavation, special protection, protection of existing utilities, maintenance of sewage flow, traffic control, pipe embedment, haunching, laying, jointing, cleaning and inspection, conducting acceptance tests, installation of pipe wyes, connection to manholes, adapters and couplings, stoppers, and removal and/or abandonment of existing pipe within the limits of excavation and backfilling outside pavement areas. Excavations and repairs made at the incorrect location will not be paid for by the Purchaser.

B. Service Connection Removal and Replacement

1. Service connection removal and replacement for all service wyes encountered within the point repair shall be paid per each at the contract unit price for all service connections and associated lateral pipe. This payment shall include the excavation, removal of old service line and appurtenances, furnishing and construction of the new service line, connections to existing service line, and appurtenances to remain, and backfilling, complete in place.

C. Traffic Control

1. Traffic control will be paid per each sewer point repair including all appurtenances required to comply with MUTCD standards.

D. Pavement Backfill

1. Accepted quantities of pit run gravel or other acceptable material used for backfill under pavements or other areas designated by the Purchaser will be paid for at the contract unit price per cubic yard furnished and placed, which will be full compensation for furnishing, placing and compacting the selected material.

E. Hydroexcavation/ Hand Digging



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1. Hydroexcavation and/or hand digging of the trench perimeter will be paid per each point repair where one of these methods is used. Payment shall include all material and labor required to complete the item as specified with the expectation of 4 hours of crew time. Time spent for mobilization, traveling to and from the jobsite, and disposal of spent material will not be paid for separately. Any additional hydroexcavation or hand digging necessary due to extenuating circumstances or unforeseen obstructions will be paid per hour. The hourly rate will be equal to the unit cost divided by 4. Any work to be paid above and beyond the contract unit price must be approved by the Program Manager prior to work beginning.

**4.03 PAYMENT WILL BE MADE UNDER:**

Item No.	Pay Item	Pay Unit
02540-4.02.A.1.a	SEWER POINT REPAIR, 6" THROUGH 10" PIPE (<10' DEEP)	EACH
02540-4.02.A.1.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 6" THROUGH 10" PIPE (<10' DEEP)	LINEAR FOOT
02540-4.02.A.2.a	SEWER POINT REPAIR, 6" THROUGH 10" PIPE (10.1'-15' DEEP)	EACH
02540-4.01.A.2.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 6" THROUGH 10" PIPE (10.1'-15' DEEP)	LINEAR FOOT
02540-4.02.A.3.a	SEWER POINT REPAIR, 6" THROUGH 10" PIPE (15.1'-20' DEEP)	EACH
02540-4.02.A.3.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 6" THROUGH 10" PIPE (15.1'-20' DEEP)	LINEAR FOOT
02540-4.02.A.4.a	SEWER POINT REPAIR, 6" THROUGH 10" PIPE (20.1'-30' DEEP)	EACH
02540-4.02.A.4.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 6" THROUGH 10" PIPE (20.1'-30' DEEP)	LINEAR FOOT
02540-4.02.A.5.a	SEWER POINT REPAIR, 12" THROUGH 18" PIPE (<10' DEEP)	EACH
02540-4.02.A.5.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 12" THROUGH 18" PIPE (<10' DEEP)	LINEAR FOOT
02540-4.02.A.6.a	SEWER POINT REPAIR, 12" THROUGH 18" PIPE (10.1'-15' DEEP)	EACH
02540-4.02.A.6.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 12" THROUGH 18" PIPE (10.1'-15' DEEP)	LINEAR FOOT
02540-4.02.A.7.a	SEWER POINT REPAIR, 12" THROUGH 18" PIPE (15.1'-20' DEEP)	EACH
02540-4.02.A.7.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 12" THROUGH 18" PIPE (15.1'-20' DEEP)	LINEAR FOOT
02540-4.02.A.8.a	SEWER POINT REPAIR, 12" THROUGH 18" PIPE (20.1'-30' DEEP)	EACH

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02540-4.02.A.8.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 12" THROUGH 18" PIPE (20.1'-30' DEEP)	
02540-4.02.A.8.a	SEWER POINT REPAIR, 21" THROUGH 27" PIPE (<10' DEEP)	EACH
02540-4.02.A.8.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 21" THROUGH 27" PIPE (<10' DEEP)	LINEAR FOOT
02540-4.02.A.9.a	SEWER POINT REPAIR, 21" THROUGH 27" PIPE (10.1'-15' DEEP)	EACH
02540-4.02.A.9.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 21" THROUGH 27" PIPE (10.1'-15' DEEP)	LINEAR FOOT
02540-4.02.A.10.a	SEWER POINT REPAIR, 21" THROUGH 27" PIPE (15.1'-20' DEEP)	EACH
02540-4.02.A.10.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 21" THROUGH 27" PIPE (15.1'-20' DEEP)	LINEAR FOOT
02540-4.02.A.11.a	SEWER POINT REPAIR, 21" THROUGH 27" PIPE (20.1'-30' DEEP)	EACH
02540-4.02.A.11.b	EACH ADDITIONAL LINEAR FOOT BEYOND THE 10 FEET MINIMUM FOR SEWER POINT REPAIR, 21" THROUGH 27" PIPE (20.1'-30' DEEP)	LINEAR FOOT
02540-4.02.B	SERVICE CONNECTION REMOVAL AND REPLACEMENT	EACH
02540-4.02C	TRAFFIC CONTROL PER POINT REPAIR	EACH
02540-4.02.D	PAVEMENT BACKFILL FOR POINT REPAIR	CUBIC YARD
02540-4.02.E	HYDROEXCAVATION/ HAND DIGGING	EACH

**END OF SECTION 02540**

**SECTION 02541**  
**CLOSED CIRCUIT TELEVISION INSPECTION OF SEWER MAINS & CONNECTIONS**

**PART 1 General**

**1.01 SCOPE**

- A. This Work will consist of cleaning and Pipeline Assessment Certification Program (PACP) internal closed circuit television (CCTV) surveys to digitally inspect and record conditions of existing sanitary sewer mains and connections. Sewer pipes and connections to be inspected are located in both improved streets, arterial and primary roads, backyards and unimproved easements.
- B. The Work covered by this section includes furnishing all labor, competent PACP certified technicians, equipment, tools, accessories, and materials required to clean and inspect the designated sanitary sewer lines.

**1.02 SUBMITTALS**

A. PACP Requirements

- 1. PACP compliant inspections, logs, data, and photos shall be delivered to the Program Manager (from hereon Program Manager shall be interpreted as “Program Manager or his designee”) on external hard drive(s) which will become property of the Program Manager. Data files shall be formatted to facilitate upload into a PACP compliant Exchange database or internet uploads formats to an FTP site approved by the Program Manager.
- B. Unless otherwise specified all sample submittals shall be delivered to the Program Manager within two weeks of the NTP.
- C. For rehabilitation work, only Post-Rehabilitation PACP submittals will be required by the Purchaser. All CCTV done prior to rehabilitation shall be at the expense of the Subcontractor to ensure conformance with the Specifications.

D. Traffic Control

- 1. Traffic Control Plan shall be submitted to the Program Manager, including the following items:
  - a. Outline of permit acquisition procedure for lane closures.
  - b. Methods for proper signing and barricades, which comply with City of Memphis requirements.
  - c. Major streets (e.g. Shelby County Principal Arterial & Minor Arterial) requiring a City approved permit if taking a lane for mobile operations, secured through Traffic Control Plan submittal to the City and signed by a TN P.E. The City requires two-week lead time for permit processing.
    - i. The Subcontractor will be required to deliver a sample primary/arterial road Traffic Control Plan for review by the City.
    - ii. If the City determines that the nature of the work operation or the type of road in which the Subcontractor is working requires a permit, the Subcontractor will be required to modify the sample Traffic Control Plan to obtain a permit from the City.

- d. For everywhere else where a permit is not required, the Subcontractor shall develop, provide, and implement a traffic control plan for all mobile operations in accordance with standard MUTCD specifications.

E. Permits

1. The Subcontractor is also responsible for acquiring all necessary disposal and/or landfill site permits as required to perform this work.
  2. Railroad Rights of Way: The Subcontractor shall notify the Program Manager when work or access to manholes and sanitary sewers lie within the 25 feet railroad easement as measured by 25 feet outside the nearest rail of the tracks. To access sewer facilities within the 25 feet of the railroad right of way the Subcontractor shall contact the Program Manager 48 hours in advance who will alert the City's Zone Construction Inspector to coordinate individual railroad direction and guidance.
  3. Permit required confined space entry plans in compliance with the Loss Control Manual.
- F. Copies of National Association of Sewer Service Companies (NASSCO) certification for all field staff conducting PACP inspections.
- G. Sample of PACP compliant television survey log in MS Access format.
- H. Sample of PACP compliant video inspection in MP-4 (Web optimized) format.
- I. Cleaning and CCTV vehicle, equipment, and cleaning supplies list.
- J. Disposal site(s) and appropriate landfill permits for appropriate disposal of all waste materials removed from the sewer during the light and heavy cleaning operations.

**1.03 DELIVERABLES**

A. Records

1. Pipe Cleaning Record
  - a. The Subcontractor shall provide a dated manifest of the volume or weight of the dewatered sewer cleaning loads taken and dumped at the permitted landfill. Each waste load manifest shall be associated with a list of corresponding sewer segments from where the waste originated.
2. Digital Inspection Record
  - a. In the digital PACP V.6.0.1 compliant format, the Subcontractor shall provide the following information:
    - i. Digital CCTV survey inspection which shall be recorded and shall be continuous as the inspection proceeds through the manholes and sewer pipes. Inspection videos should be delivered in an MP-4 (Web optimized) format.
    - ii. Digital Recordings: The digital recording shall document the visual and audio record of the manhole and sewer pipe inspection and shall be the basis of measurement and payment. Digital recording playback shall be at the same speed that it was recorded. Original digital recordings for the Project shall be forwarded to the Program Manager on clearly labeled external hard drive(s) in PACP ACCESS format with final report submittals and shall become the property of the

Program Manager. Data for a single facility asset will not be split across multiple hard drives. Digital recordings shall be available to the Program Manager by the close of business on the Monday following a week after data acquisition. File naming must be consistent. Additional instructions, naming conventions, file structures, etc. will be provided after contract award.

- (1) Picture Quality: The sewer inspection digital record shall be free of steam, fog, vapor, or other headspace distortion that degrades the quality of the picture from the intended purpose of evaluating the sewer for structural and watertight integrity. If necessary, the Subcontractor shall provide positive ventilation or other means through the sewer pipe to draw out steam, fog, and vapor that will degrade the recorded image of the pipe.

### 3. Inspection Documentation Logs

- a. Observations made during television inspection shall be documented in an unmodified PACP compliant manner within an electronic inspection log form, supported by accompanying audio, digital photographs and MP-4 (Web optimized) format recording written to an external hard drive and submitted to the Program Manager. Hard copies of completed inspection log photographs shall be furnished to the Program Manager with invoicing.

### 4. Electronic & Hard Copy Records

#### a. Reports:

- i. The Subcontractor shall prepare printed inspection log reports for each associated sewer pipes inspected during the actual field inspection activities. These field logs shall then be reviewed by the Subcontractor's technical staff, along with reviewing the associated digital video record, as a means of ensuring that no defects or entries are omitted or incorrect. Edited field logs shall then be used in the final project reports and submitted in pdf format.

#### b. Draft Report and Final Report:

- i. The Draft Final Report will contain electronic and hard copies of each of the PACP CCTV log pipe segment inspection logs. Digital recordings of the inspections written to an external hard drive and the PACP compliant database of the inspections in ACCESS format shall also be submitted in electronic and pdf format.
- ii. Draft Report shall be delivered to the Program Manager within fifteen working days the last or final inspection. The Program Manager will have two work weeks to review and comment. Subcontractor shall address all comments provided and submit a Final Report within one work week upon receipt of comments. At the Program Manager's discretion a meeting will be held so the Subcontractor can explain the processes used to address the comments.

### 5. Quality

- a. Rejection of deliverables will be submitted to the Subcontractor via the Program Team in a written communication discussing issues that must be addressed. The Subcontractor will be required to follow up with a response within three business days upon receipt of the written communication. Subcontractors will have seven (7) calendar days from the rejection notice date to make the necessary corrections and resubmit the data deliverable in its entirety.

## **PART 2 PRODUCTS**

### **2.01 EQUIPMENT**

#### **A. General**

1. All equipment used for PACP compliant CCTV sewer segment inspections of existing sanitary sewer mains and connections shall be specifically designed and manufactured for the purpose intended under this Contract. The software and hardware for the electronic capture of the inspection defects and recorded observations must be Version 6.0.1 NASSCO PACP compliant.
2. The Subcontractor shall submit an equipment list to the Program Manager for approval before the commencement of the Work and shall certify that back-up equipment is available and can be delivered to the worksite within 72 hours.
3. The Subcontractor shall provide equipment to perform inspections of sewer mains located in streets, street rights-of-way, backyards, easements and rights-of way that are off-road.
  - a. Including but not limited to portable CCTV equipment, vehicles capable of transporting TV equipment and accessing remote easements, and adequate cleaning equipment rights of way or easement applications.

#### **B. PACP Compliant Software & Data Logger Requirements**

1. Data logger
  - a. Internal inspection logs created and captured electronically during the television inspection through the use of commercially available electronic data loggers in the truck are required. NASSCO PACP protocols Version 6.0.1 shall be used for capturing and recording the observations. Audio commentary made during the inspection and captured on the digital video shall correspond with the PACP observations on the log.
  - b. The data logger equipment and software shall allow the Program Manager access directly to the captured electronic data and provide for a non-proprietary export of the data into MS ACCESS databases in accordance with PACP standards for standalone database review.
2. Software must be compliant with the NASSCO PACP V.6.0.1 standards. Follow PACP protocol for recording of observations and defects for sewer mains.
  - a. All software shall be capable of providing complete survey reports in compliance with PACP, and the software shall be the V.6.0.1 of the PACP compliant software.
  - b. The Program Manager has no intent to specify which software the Subcontractor shall use, but requires the software and the submitted database to be fully compliant with PACP V.6.0.1 and capable of being exported to ACCESS databases. No payment will be rendered for improperly formatted data.
  - c. Software and data logger must be capable of capturing sewer main and sewer lateral observations by PACP descriptions, record travel footage along pipeline, and video time stamp the recorded observations to support hyper linking from the digital record to the event point or location within the digital inspection record. The same requirements apply to still photo images (if provided) which shall follow PACP guidelines and be hyperlinked to the inspection log.

C. Sewer Main CCTV

1. Sewer Main Digital Color Video Camera

- a. All cameras used shall be digital format color CCTV units specifically designed and constructed for use in sewer pipe inspection work. The cameras shall be operable in 100 percent humidity conditions. The camera shall have a high-resolution, 360-degree pan and tilt or rotating head with a wide viewing angle lens and either automatic or remote focus and iris controls. Camera lighting shall be sufficient for use with digital color inspection cameras and for the manhole and pipe diameters identified in the contract.
- i. Camera, Television Monitor, and Other Components shall be capable of producing a high resolution color digital inspection record.
- ii. Video file to be in MP-4 (Web optimized) format
- b. In all cases, the complete digital inspection system (camera, lens, lighting, cables, monitors, and recorders) shall be capable of providing a digital picture and digital video quality acceptable to the Program Manager. Inadequate lighting, image distortions, blurry or murky images, and dirty lenses will be a cause for rejection. No payment will be made for unsatisfactory inspections and the Subcontractor shall perform work until deliverable is of acceptable quality. Digital video cameras/digital recorders not specifically intended for use for internal television inspection of manholes and sewer lines shall not be permitted.
- c. Pan and tilt type camera, capable of turning at right angles to pipe's axis over an entire pipe wall perimeter shall be used.
- i. The camera lens shall be capable of self-righting itself after a lateral view or connection view with a return view down the pipe with a "home" capability for the lens.
- d. Lighting shall be suitable to allow clear picture of entire inner pipe wall extending at least 10 feet in front, including black High Density Polyethylene (HDPE) pipe.
- e. Document header and observations shall be in accordance with PACP V.6.0.1 protocols.

D. Cleaning Equipment

1. Hydraulic sewer pipe cleaners or combination hydraulic/vacuum cleaners shall be specifically designed and constructed for such cleaning.
2. Mechanical sewer pipe cleaners shall be specifically designed and constructed for such cleaning.
3. The Subcontractor shall possess equipment capable of hydraulically or mechanically cleaning a minimum of 1,000 linear feet of pipe from one direction and have a minimum 1,000 linear feet of hose or cable on-site during the cleaning execution.
4. Hydraulic sewer pipe cleaners shall be specifically designed and constructed for such cleaning. The sewer cleaner shall have a minimum usable water capacity of 600 gallons and a pump capable of delivering at least 30 gallons per minute at 1,500 psi at the nozzle.



- a. The hydraulic cleaning equipment shall have multiple hydraulic cleaner hose nozzles for a variety of sewer cleaning conditions, including grease, roots, debris and granular materials.
  - b. Vacuum equipment shall be capable of lifting debris removed from the segment from the downstream manhole.
5. Mechanical sewer pipe cleaners (cable machines with buckets, brushes, swabs, root cutters, and power rodders with similar capability) shall be capable of controlled forward and reverse travel through the sewers without inflicting damage to the existing pipe in removing rocks, grit and other heavy debris and roots.

### **PART 3 EXECUTION**

#### **3.01 INSPECTIONS**

##### **A. CCTV Inspection of Sewer Mains**

###### **1. Cleaning**

- a. Sewer pipe cleaners or combination hydraulic-vacuum cleaners must accompany CCTV units at all times. Ideally, sewers lines are to be cleaned and then followed immediately by CCTV inspection. All sewers must be cleaned in advance of CCTV during the same calendar day they are inspected.
- b. Light Cleaning
  - i. Before CCTV work, the Subcontractor shall light clean the sewer line from manhole to manhole, from upstream to downstream direction unless an obstruction is encountered, one sewer section at a time and performed as efficiently as possible at the Subcontractor's discretion.
  - ii. Materials shall not be passed from one sewer segment to another but must be trapped and removed from each sewer segment prior to CCTV inspection.
- c. Heavy Cleaning
  - i. If a camera is inserted and additional debris or impediments to inspection are observed following the required light cleaning, heavy cleaning shall be approved by the Program Manager. Sections of pipe containing significant roots, large areas of debris, and/or several inches of depth of sands and gravels that will require the use of additional hydraulic nozzles, cable/bucket machine, power rodders and root cutters is considered heavy cleaning.
  - ii. Heavy cleaning will be proposed by the Subcontractor and approved by the Program Manager. The Subcontractor must obtain prior approval for heavy cleaning in each sewer segment in order to receive payment for heavy cleaning.
- d. Cleaning Execution
  - i. No roots, grease or debris from light or heavy cleaning shall be passed from sewer segment to sewer segment during the cleaning operation. All debris flushed from the sewer must be collected, captured, and removed from the sewer at the downstream manhole.



- ii. Roots shall be removed in the sections where root intrusion is a problem. Special precautions shall be exercised during the cleaning operation to assure complete removal of visible roots from the joint area and so as not to incur further damage to the pipe. Any visible roots that may impact rehabilitation efforts shall be removed. Fine roots are allowed if the Subcontractor made a heavy cleaning attempt to remove roots with proper root removal means. Procedures may include the use of mechanical devices such as rodding machines, expanding root cutters and porcupines, and hydraulic procedures such as high-pressure jet cleaners.
- iii. The Subcontractor is responsible for safe, responsible and legal handling and disposal of all material and debris removed from the sewers. The Subcontractor is responsible for all permits and landfill fees associated with the disposal of debris collected and removed from the sewer.
- i. Proper disposal arrangements are the exclusive responsibility of the Subcontractor. The Subcontractor shall provide a dated manifest of the volume and weight of the dewatered sewer cleaning loads taken and dumped at the permitted landfill. The Subcontractor shall not dispose of debris at a City of Memphis Wastewater Treatment Plant. Each waste load manifest shall be associated with a list of corresponding sewer segments from where the waste originated.

2. Sewer Flow Levels During Inspection Operations

- a. Maintain low sewer flow during inspection by using sandbags or flow-through plugs or by inspecting during low flow times of day, evening, or early morning hours while camera is moving and recording observations in the sewer segment. Any items used to restrict flow shall be removed immediately after intended use.
  - i. Flow-through Plugs: If used, secure the plugs so as to remain in place during inspection. Use a fail-safe device at the downstream pipe connection to ensure the plug is not lost in the downstream sewer segment if it becomes dislodged from the upstream pipe connection.
  - ii. Conduct all cleaning and CCTV operations to prevent building backups and sewer overflows.
  - iii. Subcontractor shall be responsible for cleanup, repair, fines, property damage costs, and claims for any sewage backup, spillage or sanitary sewer overflow during or as a result of the cleaning and inspection operations.
- b. Allowable Depth of Flow For Inspection Operations
  - i. For effective inspection, all flow shall be minimized in the segment being inspected. However, the depth of flow at the upstream manhole of the interceptor section being worked shall be within the specified limits provided herein.
- c. Maximum Allowable Depth of Flow for CCTV Inspection
  - i. 6 - 10 inch diameter Pipe - 20% of pipe diameter
  - ii. 12 - 18 inch diameter Pipe - 25% of pipe diameter
  - iii. 24-inch diameter and Larger Pipe - 30% of pipe diameter

- iv. Exceptions to these guidelines shall result in rejection, and non-payment, of the CCTV inspection unless approved in advance by the Program Manager.

3. Camera Operations

- a. Using the pan/tilt feature, pan the interior of the manhole for record purposes in accordance with V.6.0.1 PACP protocols and begin and terminate the inspection in the starting and ending manholes.
  - i. Capture the inside of manhole walls, manhole channel, and pipe connection to wall at both upstream and downstream manhole and lateral connections using the digital mainline sewer camera and the pan/tilt feature.
- b. Place the camera at center of manhole and commence video before entering pipe.
  - i. Start footage counter at manhole wall/pipe connection or at a short pre-measured distance down the pipe for the sewer segment inspection.
- c. Connections: The digital camera shall be used to look at connections and up laterals from the connection in the main sewer pipe being inspected. The camera shall pause, pan, and record all connections. Conditions noted in these sidelines and laterals shall be noted on the inspection logs.
- d. Mainline camera operations:
  - i. Move through line at speed no greater than 30 feet per minute stopping for minimum 10 seconds to record lateral connections, mainline connections, defects, and features and points of interest.
  - ii. Do not float camera.
  - iii. Maintain technical quality, sharp focus, and distortion free picture with the camera lens centered in the pipe for the different diameters inspected.
    - (1) Eliminate steam in line for duration of inspection.
    - (2) Utilize blower as needed to defog sewer line.
  - iv. Digitally record a complete sewer segment in its entirety with no breaks, “blink-outs,” or interruptions from manhole to manhole according to PACP V.6.0.1 formats.
  - v. Pan, tilt, and rotate as necessary to best view and evaluate lateral connections, pipe defects, features, obstructions, and points of interest.
  - vi. Use power winches, powered rewinds, self-propelled tractors, or other devices that do not obstruct camera view or interfere with proper documentation of sewer conditions to move camera through sewer.
    - (1) Whenever non-remote powered and controlled winches are used, set up telephones or other suitable means of communication between manholes to insure good communication.
  - vii. Use hydraulic jet nozzle pressure and flow to remove standing water from depressions or sags in the sewer, if necessary, for complete inspection of the sag portion of the sewer segment.

viii. Measurement for location of defects and service laterals:

- (1) At ground level by means of Program Manager-approved footage counter or metering device.
- (2) Electronic display measurement meters: Accurate to PACP standards over length of section being televised.
- (3) Do not pull unnecessary length of slack camera cable if it impacts the footage counter.

ix. Stop camera at service connections and inspect lateral with pan and tilt camera.

- (1) Identify building connection in PACP compliant terms as active, capped, or abandoned.
- (2) If no wastewater flows are being discharged from building, consider steady, clear observed flow as infiltration/inflow.

x. Identification of Defects

- (1) If roots, sludge, or sediment material impedes inspection after the light cleaning, withdraw camera and perform heavy cleaning at the direction of the Program Manager.
- (2) Upon completion of heavy cleaning operation, resume internal inspection.
- (3) Furnish media confirmation for heavy cleaning (more than three passes with jet cleaner) to Program Manager.
- (4) If protruding tap impedes inspection trim protruding tap to 1/2 inch.

xi. If obstructions are not passable and cannot be removed by sewer cleaning, withdraw CCTV equipment and perform a reverse inspection from opposite end of the sewer segment in accordance with PACP protocols.

- (1) Subcontractor shall be responsible for costs associated for reverse set-ups when an obstruction is encountered that cannot be passed.
- (2) Subcontractor shall be responsible for all judgments and impacts as to whether an obstruction in the sewer main can be passed. Costs involved in extracting a stuck camera in the sewer main will be borne by the Subcontractor and at no additional cost to the Program Manager.
- (3) When additional obstructions are encountered after reversal of equipment and no means are available for passing a second obstruction in order to complete the sewer main inspection, remand the segment inspection to the Program Manager for resolution. The portion of the main inspected will be paid for as prescribed.

xii. Undocumented facilities

- (1) If undocumented manholes or sewer mains (facilities not on the field updated GIS sewer maps) are encountered during the inspection, the Subcontractor

needs to complete the documentation requirements per PACP requirements and capture on the video the following:

- (a) Approximate horizontal distance from the upstream or reference manhole.
- (b) Approximate depth of the undocumented manhole by turning the pan/tilt camera vertically and estimating the height of the cover from the invert.
- (c) A provisional manhole asset ID number shall be used by the Subcontractor by adding a dash and two-character number to the closest upstream manhole ID.

xiii. Retrieval of Stuck Equipment

- (1) The Subcontractor is responsible for hiring a licensed sub-Subcontractor to retrieve any equipment/foreign objects that get stuck in the sewer system through the execution of the scope of work (fallen cameras, jet nozzles, inflatable plugs, sandbags etc.) at the Subcontractor's own cost. Such retrieval by an appropriately licensed sub-Subcontractor shall be made within 72 hours to avoid interfering with the City of Memphis sewer system operations. Any and all impacts and related costs due to the Subcontractor's equipment in the line shall be the responsibility of the Subcontractor. Subcontractor shall follow SARP10 sewer point repair specifications outlined in "Section 02540 Sanitary Sewer Point Repairs" and "Section 02950 Removal and Replacement of Pavements and Incidentals" during retrieval of equipment. Also per "00585.2.2 Safety, Health, and Accident Prevention Program," Purchaser must approve sub-tier Subcontractors prior to mobilization to the jobsite.

4. Quality Assurance

- a. With each monthly invoice the Subcontractor shall provide a QA/QC memo documenting that 10% of the previous month's CCTV data has undergone a random, independent review by a PACP certified reviewer using NASSCO standards for Television Inspection of Main Sewer and PACP Quality control as the basis for the QA/QC procedures. The independent reviewer shall be a Tennessee P.E. or is a P.E. in another state and has a Tennessee P.E. license pending. Each line segment which has been randomly reviewed shall be identified in the QA/QC memo as well as any subsequent findings or recommendations. Internal independent QA/QC is acceptable, as long as the person is a Tennessee P.E. or is a P.E. in another state and has a Tennessee P.E. license pending. Failure to submit the QA/QC memo shall delay payment of the current month's invoice.
- b. For all new Subcontractors and Operators who begin PACP coding, an initial review of CCTV data will consist of reviewing, at a minimum, 20 of the first 100 PACP inspection records submitted. Subsequent reviews will be based on the results of the initial reviews as explained below.
- c. Auditing Procedures:
  - i. Header Information: As explained in the NASSCO PACP Quality Control Standards each audited inspection record is given an accuracy level for the header information and the detailed observation records. It is expected that the accuracy of the header record exceed 90% because the majority of the contents are based upon facts and not subject to operator judgment. To assess the accuracy level of the header, record the number of errors as compared to the total number of header fields using the following formula:

(1) **100% - (error count/total header fields)\*100% = Header Accuracy**

- ii. Detailed Observations: Determining the accuracy level for the detailed observation records is similar to the method for assessing the header record. The main difference being that a defect observation has multiple data entries that must also be counted towards the total number of entry fields. In the event that a defect is not coded all of the required entries for coding the missed defect are counted towards the total error count. The following formula is used to calculate the accuracy level of the detailed observation records:

(1) **100% - (error count/total entries) \* 100% = Detail Accuracy**

iii. Review Scoring and Results

- (1) Satisfactory Review, No changes required. Accuracy Level of 90% or above for both the Header Record and Observation Detail with no major errors or omissions found.
- (2) Unsatisfactory Review (below levels of acceptance) will not be accepted by the Program Manager and will not be considered payable items in the Subcontractor's Request for Payment.

5. Deliverable Documentation

a. Mainline Sewer

- i. Submit V.6.0.1 PACP compliant records, logs, and electronic inspection data for sewer line inspection to Program Manager by the close of business on the Monday following a week after data acquisition.
- ii. Monthly QA/QC memo submittal listing which segments have been randomly reviewed, as well as any subsequent findings or recommendations.
- iii. Digital videos, data, and photos shall be delivered to the Program Manager on external hard drives which will become property of the Program Manager.
- iv. Data files shall be formatted to facilitate upload into a PACP Exchange Database with the approval of the Program Manager.
- v. Inspections displaying poor digital video/audio quality will be rejected. Quality refers to, but is not limited to, grease or debris on lens, camera under water, image too dark or light, image washed-out, distorted image, out of focus images, lines improperly cleaned, and poor/no audio.
- vi. Subcontractor will re-televiser rejected inspections and resubmit inspections at no additional cost to the Program Manager.

b. Map changes/undocumented manholes:

- i. For map changes identifying undocumented manholes and network changes which were found as a result of field inspections or observations, a Map Edit Form shall also be prepared and supplied by the Subcontractor with a drawing or sketch and shall indicate special details, field measurement or distances, or locations about an observed undocumented manhole or a change to the sewer network. The

Map Edit Form should also identify buried manholes and siphons that have been encountered.

- ii. Subcontractor shall indicate all buried manholes identified in the field via CCTV using the provided Buried Manhole Form. Any additional manholes that have not been located or verified via CCTV but are impeding the completion of required CCTV work should be designated as unable to locate (UTL) and be included on the form.

c. Incident observation and data collection:

- i. The Subcontractor shall report all buried manholes, pipe collapses, large void, utility conflicts, Unable to Complete line segments, and heavy cleaning requests to the Program Manager through the program-defined reporting application (Teamworx) and shall fill out all required fields and attach picture documentation as necessary. At least one picture shall be included showing the incident or condition of the sewer line encountered that required it to be recorded. All reported incident observations will be monitored by the Program Manager and inadequate reporting will result in a meeting between the Program Manager and Subcontractor.

6. Easement or Turf Operation

- a. The Subcontractor will restore the work area to its original condition as quickly as possible after the inspection is complete. The Subcontractor will not be allowed to postpone restoration of the site until the end of the project.

#### **PART 4 MEASUREMENT & PAYMENT**

##### **4.01 MEASUREMENT**

###### **A. Light Cleaning & CCTV Inspection**

1. Light cleaning and mainline CCTV inspection shall be measured by linear foot by each diameter of mainline sewer inspected and documented in accordance with the specification.

##### **4.02 PAYMENT**

###### **A. Mainline CCTV Inspection**

1. Light cleaning and mainline CCTV inspection shall be paid for at the unit price for each linear foot of each diameter inspected and documented in accordance with the specification.
2. The unit price for Light Cleaning and Mainline CCTV inspection shall cover the entire cost of the required light cleaning and CCTV inspection and reporting in accordance with PACP V 6.0.1 format, including but not limited to labor, mobilization and access, CCTV equipment, recording media, traffic control, light cleaning of mainline sewer, documenting results in PACP records and logs, digital format recordings, photo equipment, power supply for equipment, interim and final reports and all other appurtenant work.
3. No additional payment will be made for:
  - a. Re-inspection due to rejected inspection and/or records for any reason.

- b. Reversals.
- c. Performing excavation and associated sewer point repair to retrieve a stuck CCTV camera or hydraulic cleaning hose/nozzle.
- d. Incomplete electronic logs.
- e. Unapproved duplication of inspections: The Subcontractor is responsible to ensure duplications do not occur.

**4.03** PAYMENT WILL BE MADE UNDER:

Item No.	Pay Item	Pay Unit
02541-4.01.A	LIGHT CLEANING & MAINLINE CCTV INSPECTION FOR ALL DIAMETERS	LINEAR FEET

**END OF SECTION 02541**

**SECTION 02630**  
**SITE PREPARATION AND RESTORATION**

**PART 1 GENERAL**

**1.01 SCOPE**

- A. This Work shall consist of the removal of brush, rubbish, fences, structures, abandoned appliances, building foundations, all trees, shrubs and plants not to be protected, and all other obstacles within the right-of-way / easement limits shown on the Plans and/or in the Special Instructions; the disposal of debris; and the restoration and/or protection of trees, shrubs, plants, fences, turfed areas, and structures after construction of drainage facilities is completed.

**PART 2 PRODUCTS**

**2.01 EQUIPMENT**

- A. All equipment for the satisfactory performance of the work shall be on the project and approved before the work will be permitted to begin.

**PART 3 EXECUTION**

**3.01 RIGHT-OF-WAY AND EASEMENT**

- A. The Subcontractor shall confine his construction activities within the rights-of-way and/or easements as shown on the Plans and easement/rights-of-way plats provided by the owner. The Subcontractor shall be responsible for obtaining written agreements for use of private property outside of City of Memphis acquired rights-of-way/easements for such purposes as storage of material and equipment and access to the construction site. The Subcontractor shall provide a copy of all such written agreements to the Purchaser immediately upon obtaining the necessary documentation.

**3.02 EXISTING OBSTRUCTIONS**

- A. Where applicable, locations of obstructions shown on the Plans are approximate and are shown only for information purposes and are not intended as an accurate location of such obstructions. Obstructions not shown on the Plans but encountered by the Subcontractor shall be removed as necessary and, if directed by the Owner, replaced in their original state or protected by the Subcontractor at no additional cost to the Purchaser.

**3.03 REMOVAL OF VEGETATION**

- A. The rights-of-way/permanent easements shown on the Plans and right-of-way/easement plats shall be cleared of all dead trees, living trees, stumps, brush, projecting roots, hedge, weeds, pole stubs, logs, and other objectionable material, vegetation and growth. This work shall include the removal of all trees, shrubs, and plants not suitable for moving and replanting as determined by the Owner. All trees, stumps, roots, pole stubs, brush, hedge, and other protruding obstructions within the rights-of-way/easements shall be removed to within 3 inches of existing ground. This work shall be done well in advance of excavation operations. Trees and shrubs to be replanted shall be extracted with an ample ball of earth around roots so that transplanting may be successful. The root ball shall be wrapped in burlap. Vegetation stored for replanting shall be watered sufficiently to protect the root system from dehydration.



- B. Low hanging branches and unsound branches on trees or shrubs designated to remain, shall be removed. All trimming shall be done by skilled workmen and in accordance with good tree surgery practices.

### **3.04 REMOVAL OF OBSTRUCTIONS**

- A. Existing fence material and posts within the rights-of-way/easement limits shown on the Plans and right-of-way/easement plats shall be moved from the construction area and stored in such a manner as to protect them against damage. The Subcontractor shall be responsible for the condition of the removed fence material and posts. The Subcontractor shall demolish and remove all structures and structure foundations within the rights-of-way/easement limits unless otherwise instructed by the Purchaser. Such structures and foundations shall be removed to 12 inches below the subgrade elevation or as directed by the Purchaser. If permitted by the Purchaser, the Subcontractor shall backfill basements, cisterns, and the like in an approved manner. The Subcontractor shall remove all abandoned vehicles, appliances and rubbish within the rights-of-way/easement limits.

### **3.05 PROTECTION OF OBSTRUCTIONS OUTSIDE RIGHT-OF-WAY/EASEMENT LIMITS**

- A. The Subcontractor shall protect and avoid damage to all trees, shrubs, plants, fences, turfed areas, structures, and all other objects outside of the right-of-way/easement limits shown on the Plans and right-of-way/easement plats from damage due to construction operations. Damage caused by the Subcontractor shall be repaired or restored at no cost to the Purchaser. Particular care shall be used to avoid damage to trees, shrubs, bushes, turfed areas, and private property located adjacent to rights-of-way/easements on private property. No trees, plants, turfed areas, or other objects outside such limits shall be disturbed or damaged without the written permission of the property owner.

### **3.06 SPECIAL PROTECTION OF OBSTRUCTIONS INSIDE EASEMENT LIMITS**

- A. Wherever the underground installation of drainage facilities conflicts with other improvements previously made by the Purchaser, other governmental bodies, or adjacent property owners, the Contractor shall be responsible for their protection and preservation, including necessary removal and storage of such improvements, and subsequent replacement to obtain, to the fullest extent possible, the undisturbed condition.

### **3.07 DISPOSAL OF DEBRIS**

- A. All trees, brush, logs, snags, leaves, sawdust, bark, construction debris, and refuse shall be collected and disposed of in accordance with all applicable City codes and ordinances. Debris shall be removed from the site as soon as practical and shall not be left until the completion of the contract. If burning of debris is allowed by the Purchaser, the Subcontractor must obtain and pay for a permit from the City of Memphis Department of Fire Prevention and all precautions necessary shall be exercised to prevent the spread of fire and such burning shall be in accordance with Division 1, "General Requirements" of these Specifications. Burning shall be done only at approved locations and in conformity with the laws, ordinances, and requirements of agencies and officials having jurisdiction. When materials are to be disposed of, the Subcontractor shall obtain written permission before hand from the property owner on whose property the disposal is to be made and shall file a copy of such permit with the Purchaser. Unless otherwise provided in the Contract Documents, the Subcontractor shall make his own arrangements for disposing of such materials off site.

### **3.08 REPLACEMENT OF VEGETATION**

- A. As soon as backfill operations permit, the Contractor shall replace transplanted trees, shrubs, and plants. The Contractor shall properly water the transplanted vegetation immediately upon

replanting and at suitable intervals thereafter. If shrubs, plants, or trees die after transplanting and before final acceptance of the Work, the Contractor shall at his expensed replace same with equal shrubbery, plants, or trees.

**3.09 REPLACEMENT OF FENCES**

A. Any fences disturbed within the rights-of-way/easement limits shall be replaced to the satisfaction of the Purchaser. Fences in such poor condition that they cannot be removed and replaced shall be replaced with new fence material similar in original quality, size, and appearance to the removed fence or a written release shall be obtained from the property owners. For chain link fence, new fence materials and construction methods shall conform to the requirements of Specification Section 02820. For box culvert or pipe construction, any fences removed shall be replaced in their original location. Any fence damaged during construction shall be restored to original or better condition. For channel lining construction, removal of fences shall be performed with care and the fence rolled up or stacked and stored on the owner's property. All side yard fences within the easement shall be replaced or extended to the new channel with in-kind fence material.

**3.10 ESTABLISHMENT OF TURFED AREAS**

A. After final restoration of settled trench surfaces, all areas within the right-of-way or permanent easement limits which were established turfed areas prior to construction will be sodded in accordance with Specification Section 02921. All cut or fill slopes constructed for new drainage facilities will be sodded in accordance with Specification Section 02921 and in conformity with City cross-sections.

**3.11 RESTORATION OF OTHER TURFED AREAS**

A. All areas outside the right-of-way, permanent easement, or cut and fill slopes shall be restored as nearly as practical to their original condition at the Contractor's expense. Finished lawn areas upon which earth has been deposited shall be cleared to the level of the existing sod and then raked and watered. Areas where sod has been damaged, destroyed, or ruts have been filled in shall be resodded. Areas where sod is only slightly damaged may be lightly reseeded, if so permitted by the Purchaser. Sodding and seeding materials and construction methods shall conform to the requirements of Specification Section 02921.

**PART 4 MEASUREMENT & PAYMENT**

**4.01 MEASUREMENT**

A. Removal and Replacement of Vegetated/Turfed Areas

1. Removal and replacement of vegetated and turfed areas will be measured per square yard upon which the new vegetation has been set.

**4.02 PAYMENT**

A. Removal and Replacement of Vegetated/Turfed Areas

1. Removal and replacement of vegetated/turfed areas will be paid at the Subcontractor unit price per square yard for the accepted quantities and will be full compensation for removal and/or protection of trees, shrubs, plants, brush; and the restoration of vegetated and turfed areas.

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**4.03** PAYMENT WILL BE MADE UNDER:

Item No.	Pay Item	Pay Unit
02630-4.01.A	REMOVAL AND REPLACEMENT OF VEGETATED/TURFED AREAS	SQUAREYARD

**END OF SECTION 02630**

**SECTION 02820  
 CHAIN LINK FENCE**

**PART 1 GENERAL**

**1.01 SCOPE**

- A. This work shall consist of the construction of chain link fences and gates in accordance with these Specifications and at the locations and in conformity with the lines, grades, and dimensions shown on the Plans or as directed by the Owner. Chain link fence may be located atop concrete channel lining walls, retaining wall or similar structure, or may be located independently of structures.

**PART 2 PRODUCTS**

**2.01 MATERIALS.**

- A. Materials used throughout the project shall be of constant design and manufacture in respect to individual items or parts, excepting where the proposed fence will be an extension of an existing fence, in which case the new fence shall be constructed of materials similar in appearance to those in the existing fence and continued until broken by cross street, railroad, fence ditch, or other physical feature. Unless otherwise directed, new materials shall be as described hereinafter.

**B. Fabric.**

- 1. The fabric shall be zinc coated steel chain link type meeting the requirements of AASHTO M 181 for Type I, Class B fabric (zinc coating = 2 oz/ft<sup>2</sup>). All chain link fabric shall be manufactured of No. 9 gauge wire pickets, forming a uniform 2 inch mesh, and shall be of the height shown on the Plans or specified in the Contract Documents. Fabric up to and including 60 inches high shall be knuckled at the top and bottom selvage and fabric over 60 inches high shall be twisted on the top selvage and knuckled on the bottom selvage.

**C. Line Posts.**

- 1. Line posts shall be zinc coated steel pipe or H-sections of the following dimensions and of the lengths shown on the Plans or specified herein:

Fence Height	H - Section				
	Nominal Size (inch)	Outside Diameter (inch)	Weight Per Foot (Pounds)	Dimension (inches)	Weight Per Foot (pounds)
6 feet or less	1 ½	1.9	2.72	1.875 x 1.625	2.70
6 feet to 8 feet	2	2.375	3.65	2.25 x 1.95	4.10

- 2. Steel pipe shall conform to ASTM A 120 or AASHTO M181-85I Grade 2 and H-Sections shall be produced from ASTM A 570 and ASTM A 572, Grade 45. The weight of zinc coating shall be a minimum of 1.8 oz/square foot. The weight of zinc coating and weight per foot for steel post meeting the requirements of AASHTO M181-85I grade 2 may vary from the above noted values.

**D. End Posts, Corner And Pull Posts, And Braces.**

- E. End posts, corner posts, and pull posts shall be zinc coated steel pipe or square sections of the following dimensions and of the lengths shown on the Plans or specified herein:

Fence Height	Steel Pipe			Square Section	
	Nominal Size (inch)	Outside Diameter (inch)	Weight Per Foot (Pounds)	Outside Dimension (inches)	Weight Per Foot (pounds)
6 feet or less	2	2.375	3.65	2.0	3.60
6 feet to 8 feet	2 ½	2.875	5.79	2.5	5.70

- Diagonal braces shall be 1 ¼ inch (1.660 inch O.D.) galvanized steel pipe, weighing 2.27 pounds per foot. Steel pipe and square sections shall conform to ASTM A 120 or AASHTO M181-851 Grade 2. The weight of zinc coating and weight of pipe per foot for steel post meeting the requirements of the AASHTO M181-851 grade 2 may vary from the above noted values.

F. Top Rail:

- Top rail shall be used when specified on the Plans in lieu of top tension wire. The top rail shall be 1 ¼ inch (1.660 inch O.D.) galvanized steel pipe, weighing 2.27 pounds per foot, meeting the requirements of ASTM A 120 or AASHTO M181-851 Grade 2. Top rails in random lengths shall be fitted with expansion sleeves for connecting lengths into a continuous run or shall have a 3 inch swagged end. Suitable fittings shall be provided for securing top rail to each gate, corner, and end post.

G. Barbed Wire:

- Barbed wire shall consist of two No. 12 ½ gauge, twisted steel strands with No. 14 gauge four-point barbs spaced not more than 5 inches apart. The galvanized strands shall meet the requirements of ASTM A 121, Class II coating.

H. Miscellaneous Fittings And Hardware:

- Zinc coated miscellaneous fittings and hardware shall be commercial grade steel or better quality, pressed, wrought, or cast as appropriate to the article, and sufficient in strength to provide a balanced design when used in conjunction with fabric, posts, and wires of the quality specified herein. All steel fittings and hardware shall be galvanized in accordance with AASHTO M 111.

I. Barbed Wire Support Arms:

- Barbed wire support arms shall be single arms for carrying 3 barbed wire strands. Barbed wire support arms for line posts shall be at an angle of 45 degrees (plus or minus 5 degrees) and shall be fitted with clips or other suitable means for attaching three lines of barbed wire, with the top strand of barbed wire 12 inches (plus or minus 1 inch) above and horizontally from the fence line, and the remaining two strands of barbed wire spaced uniformly between the top of the fence fabric and top strand of barbed wire. Support arms shall be capable of withstanding a load of 250 pounds when the base is clamped securely and the vertical load applied from where the outer strand of barbed wire passes over the arm.

J. Wire Ties:

1. Wire ties shall be No. 9 gauge and shall be either zinc coated steel, aluminum coated steel or aluminum alloy and sufficient in strength and other properties to provide a balanced design when used in conjunction with fabric, posts, and wire of the qualities specified herein. When tension wire is used, wire ties and clips for fastening fabric to tension wire shall be No. 11 gauge.

K. Tension Wire:

1. Tension wire shall be used at the bottom of fencing fabric when not otherwise secured and used at the top unless a top rail is specified. Tension wire shall be No. 6 gauge, spring rolled, aluminized steel wire.

L. Truss Rods and Turnbuckle:

1. Truss rods shall be 3/8 inch diameter steel rods and shall be equipped with a turnbuckle having a take-up of not less than four inches and shall be galvanized in accordance with AASHTO M 111.

M. Fence Gates:

1. Fence gates shall be of the kinds and sizes shown on the Plans or specified in the Contract Documents. They shall be of the swing type, complete with latches, stops, keepers, hinges, and fabric. The latch shall have provision for fastening with a padlock. The gates shall be covered with fabric matching the fence. The hinges shall be of adequate strength to support the gate and shall not twist or turn under action of the gate. The gates, gate posts, and braces shall be of the same material and finish as the adjoining fence. All gate posts and rails shall be furnished complete with ball caps and rail ends.
2. Posts, braces, and framing members for chain link fence gates shall be zinc coated steel pipe meeting the requirements of Specification Section 02820 Paragraph 2.01.C. Gate post shall be 2 ½ inch (2.875 inch O.D.) pipe weighing 5.79 pounds per foot for gate widths of 5 feet or less; and 3 ½ inch (4.0 inch O.D.) pipe weighing 9.10 pounds per foot for gate widths between 5 feet and 13 feet.
3. Framing members and interior bracing shall be of the following minimum dimensions:

Framing and Bracing

Fence Height	Nominal Size	Outside Diameter	Weight Per Foot
6 feet or less	1 ¼	1.66	2.27
6 feet to 8 feet	1 ½	1.90	2.72

- a. Gate frames shall be welded at all corners or assembled with corner fittings. When corner fittings are used, gates shall have truss rods as specified in Specification Section 02820 Paragraph 2.01.J to prevent sag or twist. All welded joints shall receive a shop applied zinc coating equivalent in thickness to that of the members being joined.
4. Fabric shall meet the requirements of Specification Section 02820 Paragraph 2.01.A.

5. Barbed wire shall meet the requirements of Specification Section 02820 Paragraph 2.01.E.
6. Miscellaneous fittings and accessories shall meet the applicable requirements of Specification Section 02820 Paragraphs 2.01 F, G, H, and J. The hinges shall be of such design to allow the gate to swing back 180 degrees, parallel with the fence line.

N. Concrete.

1. Concrete for post footings shall be Class A as specified in Specification Section 03050.

O. General.

1. Posts shall be fitted with ornamental tops or extension arms as stipulated in the Plans or in the Contract Documents. Caps or ornamental tops for tubular posts shall have a base fitting into the post with a flange extending over the top of the posts to protect against moisture. When a top rail is provided, all posts shall be provided with caps having a ring or hole suitable for the through passage of the top rail. Rail and brace ends, or other suitable means of connection, shall be provided when top rail or braces are required.
2. Fabrication of all materials shall be in conformity to the sizes, shapes, and other factors set out in these Specifications or shown on the Plans, and shall show careful, finished craftsmanship in all respects.
3. The weights specified for steel posts, braces, and rails are nominal weights, and a plus or minus tolerance of 5 percent will be permitted. All posts located on the top of concrete channel lining walls or similar structure shall be of sufficient length to be set fully 12 inches into the wall or structure.
4. All line posts located on the ground shall be of sufficient length to be set fully 24 inches deep into concrete footings, and all end, corner, and pull posts shall be of sufficient length to be set 30 inches deep into concrete footings.

**2.02 EQUIPMENT**

- A. All equipment necessary for the satisfactory performance of the work shall be on hand and inspected by the Owner before construction work will be permitted to begin.

**PART 3 EXECUTION**

**3.01 GENERAL REQUIREMENTS.**

- A. Fencing shall be placed atop concrete structures, such as concrete channel linings, in accordance with Plans and Design Standards. Fence post inserts will normally have been set into the concrete walls prior to fence construction activities. Inserts shall be 12 inch ling solid wall PVC pipe conforming to ASTM D2241, thin wall metal conduit conforming to ANSI C 80.3 and sealed at one end or other material approved by the Owner. Cans, bottles and the like shall not be used as inserts. Alternatively, posts may be sect directly into the structure concrete as the concrete is poured, making sure that all posts are plumbed and held securely in the proper position until the concrete has set.
- B. The inside diameter of the inserts shall be sufficient to provide a minimum of ¼ inch clear space between the outside surface of the post and the inside surface of the insert. Inside of inserts shall be cleaned of debris and other foreign matter, insert space filled full of nonshrinking grout, the posts set into place in the insert and plumbed, and the post held plumb until the grout has set. All excess grout shall be removed before it sets. Where inserts have not been provided in the concrete structure, post holes of the same diameter and depth as required for inserts shall be



cored in the concrete. Posts shall be set in cored holes in the same manner as posts set in inserts.

### **3.02 FENCING SET INDEPENDENTLY OF STRUCTURES.**

- A. Before beginning construction or placing of fences, all necessary work for clearing and grubbing, removal of structures and obstructions, and site preparation shall be performed in accordance with the applicable Sections of these Specifications. Clearing for fence construction shall not extend beyond the construction easements without written approval of the property owner. Living trees and shrubs one foot or more each side of the fence line shall remain undisturbed unless otherwise directed by the Owner. Any rock protruding above the ground surface and in the line of the fence shall be removed to ground surface.
- B. Posts for chain link fence shall be set at intervals not to exceed 10 feet. The interval between posts shall be measured parallel to the bottom of the fabric of the proposed fence and in line of fence from center to center of post.
- C. All line posts located on the ground shall be set fully 24 inches deep in concrete footings; end, corner and pull post shall be set 30 inches deep in concrete footings. Diameters of footing shall be : for line post not less than 8 inches; for end, corner or pull post not less than 10 inches. Footings for gate post shall be designed to support the cantilever load of the gate. Concrete for embedment of posts and for anchors shall be Class A and shall be crowned to shed water. Concrete shall be cured a minimum of 3 days prior to installation of fabric.

### **3.03 ERECTING FENCE.**

- A. For fence heights less than 6 feet a top and bottom tension wire shall be installed, unless specified otherwise. For fence heights 6 feet or greater a top rail and bottom tension wire shall be installed. When a top rail is specified, the top rail shall be connected with expansion sleeves to form a continuous rail.
- B. Bracing assemblies consisting of the specified bracing pipe as the compression member and specified truss rod as the tension member shall be installed and securely tightened prior to installation of fabric. One brace assembly shall be provided for end post and two brace assemblies for corner and pull posts. When fence alignment changes abruptly by more than 30<sup>0</sup> a corner brace assembly shall be installed. When the internal angle of a curved fence alignment exceeds 30<sup>0</sup> one brace assembly shall be installed at each point of curvature. Pull post shall be installed at abrupt changes in grade or at the midpoint of a straight fence alignment exceeding 500 feet in length.
- C. The fabric shall be placed on the side of the post as directed by the Owner and 2" above ground or concrete structure. Fabric shall be secured at one end and sufficient tension applied to remove all slack before making attachment elsewhere. The fabric shall be fastened to the posts with wire ties at intervals not exceeding 14 inches. Fabric shall be fastened to the tension wire or rail with wire ties at intervals not exceeding 24 inches. When specified, barbed wire shall be installed and pulled taut before being permanently attached to a post or arm. Fence gates shall be constructed in accordance with the Plans, Specifications and manufacturer's standards and instructions, or as directed by the Owner.

### **3.04 TEST**

- A. Before any fencing is installed, manufacturer's certificates stating that the fabric, post, rails, braces, barbed wire, tension wire, ties and hardware are made in accordance with applicable standards as specified herein shall be filed with the Owner. At the option of the Owner, test samples of any materials to be furnished shall be furnished at the job site before work commences.



**PART 4 PAYMENT**

**4.01 MEASUREMENT**

A. Chain Link Fence

1. Fences will be measured for payment by the linear foot along the bottom of the fabric and from end to end of fence, complete and in place, deducting the width of gates and openings, for each type and height of fence provided.

B. Fence Gates

1. Gates will be measured for payment by the unit, per each, complete and in place, for the kinds and dimensions as shown on the Plans.

**4.02 PAYMENT**

A. Chain Link Fence

1. The accepted quantities of chain link fence will be paid for at the contract unit price per linear foot, complete and in place, for each type and height of fence, which price will be full compensation for fabric, posts, rails, tension wire, miscellaneous hardware, post hole excavation, concrete footings, concrete coring and grouting.

B. Fence Gates

1. The accepted quantities of gates will be paid for at the contract unit price per each, complete and in place, for the kinds and dimensions of gates stipulated or shown on the Plans.

**4.03** Payment will be made under:

Item No.	Pay Item	Pay Unit
02820-4.01.A	CHAIN LINK FENCE HEIGHT x DESCRIPTION	LINEAR FOOT
02820-4.01.B	FENCE GATES HEIGHT x WIDTH OF OPENING	EACH

**END OF SECTION 02820**

**SECTION 02921  
SODDING**

**PART 1 GENERAL**

**1.01 SCOPE**

- A. This work shall consist of furnishing and placing sod at all locations shown on the Plans or where directed by the Owner, and in conformity with these Specifications. Ordinarily, the work will consist of the furnishing and placing of new sod originating from sources outside the rights-of-way and easement limits. In some cases, however, the work will include removing sod from areas where the requirements of the project would destroy existing sod, storing the sod so removed, and resetting it in areas shown on the Plans or designated by the Owner.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

A. Sod

1. New sod shall consist of live, dense, well rooted growth of Bermuda grass, free from Johnson grass, nutgrass, and other obnoxious grasses or weeds, well suited for the intended purpose and for the soil in which it is to be planted. All sod shall be cleanly cut in strips having a reasonably uniform thickness of not less than 2 inches and cut in 10 to 12 inch squares.
2. The sale or movement of sod for propagation is controlled by Tennessee Plant Pest Act of 1955, TCA 43-55 et. Seq., and the Contractor shall be responsible for obtaining all inspections, authorizations, and permits which may be required by such law and the Tennessee Department of Agriculture.

B. Fertilizer

1. Manufactured fertilizer shall meet the requirements of Specification Section 02920 Paragraph 2.01.B and shall be Grade 15-15-15 unless otherwise specified on the Plans or in the Contract Documents.

C. Ammonium Nitrate

1. Ammonium nitrate shall be a standard commercial product, shall conform to the requirements for other commercial fertilizers as specified in Specification Section 02920 Paragraph 2.01.B, and shall have a minimum of 33 ½ percent nitrogen.

D. Agricultural Limestone

1. Agricultural limestone shall meet the requirements of Specification Section 02920 Paragraph 2.01.C.

**2.02 EQUIPMENT**

- A. All equipment necessary for the satisfactory performance of this work shall be on the project and approved before work will be permitted to begin.

### **PART 3 EXECUTION**

#### **3.01 WEATHER LIMITATIONS**

- A. Sod shall be set or reset only when the soil is moist and favorable for growth. No setting or resetting shall be done during December 1 and February 1, unless weather and soil conditions are considered favorable and permission is granted by the Purchaser.

#### **3.02 REMOVING AND STORING SOD FOR RESETTING**

- A. If specified, sod removed from such areas as lawns, yards, and lots shall be so cut, handled, and stored that the sod can be reset in the same locations from which it was removed. No exchange of sod will be permitted unless approved by the Owner. Unless reset immediately after cutting, sod shall be stacked in piles and kept moist until reset. Sod shall be reset within 7 days after removal, unless otherwise specifically permitted by the Owner. Reset sod shall show vitality and growth at the time of acceptance by the City and for duration of the warranty period.

#### **3.03 SODDING**

- A. The area to be sodded shall be brought to the lines and grades shown on the Plans or as directed by the Owner. The surface of the ground to be sodded shall be loosened to a depth of not less than one inch with a rake or other device. If necessary, it shall be sprinkled until saturated for a minimum depth of one inch and kept moist until the sod is placed. Immediately before placing the sod, fertilizer and lime shall be applied uniformly to the prepared surface of the ground. Fertilizer shall be applied at the rate of 8 pounds of Grade 15-15-15, or equivalent per 1,000 square feet. Agricultural limestone shall be applied at the rate of 100 pounds per 1,000 square feet.
- B. Sod shall be placed as soon as practical after removal from the point of origin and shall be kept in a moist condition during the interim. The sod shall be carefully placed by hand on the prepared ground surface with the edges in close contact and, as far as possible, in a position to break joints. Each strip of sod laid shall be fitted and rolled using a roller of sufficient size and weight to fix the sod into place. Immediately after placing, the sod shall be thoroughly wetted and rolled with an approved roller or hand tamped, as approved by the Owner. Pinning or pegging shall be required on slopes greater than 2 to 1 to hold the sod in place or in other instances at the direction of the Owner.

#### **3.04 MAINTENANCE AND REPAIR**

- A. The sod shall be watered as frequently as necessary for a period of two weeks, after which, ammonium nitrate shall be applied at the rate of 3.5 pounds per 1,000 square feet, and the sod given an additional watering. The Contractor shall not allow any equipment or material placed on any planted area and shall erect suitable barricades and guards to prevent his equipment, labor, or the public from traveling on or over any area planted with sod. Care shall include periodic watering, fertilizing and mowing necessary to maintain the vitality and appearance of the sod. When mowing is required, mower blades shall be set at sufficient height to protect the vitality of the growth. Sodded areas that become eroded, damaged or fail to successfully establish a stand of grass shall be repaired and/or replaced as directed by the Owner. All material and labor required to maintain and repair seeded areas shall be furnished by the Contractor at no cost to the City. Sod must be living at the time of final acceptance of the project and through the duration of the warranty period.

#### **3.05 DISPOSAL OF SURPLUS MATERIAL**

- A. All surplus material shall be disposed of off-site.

**PART 4 PAYMENT**

- A. No information in this section.

**END OF SECTION 02921**

**SECTION 02950  
 REMOVAL AND REPLACEMENT OF PAVEMENTS AND INCIDENTALS**

**PART 1 GENERAL**

**1.01 SCOPE**

- A. This Work shall consist of the removal and replacement of pavements, sidewalks, driveway aprons, curbs and gutters, driveways, paved areas, and curbs made necessary by the improvement of sanitary sewer infrastructure, and other items of construction that require temporary cuts. Such replacement shall be to a condition at least equal to the condition existing prior to removal and of in-kind material and shall be compliance with the Drawings, these Specifications, or as directed by the Purchaser. The Work which will be included in the Subcontract and for which the Subcontractor shall be compensated therefore is limited to that area within the rights-of-way and construction easements for the Project. The Subcontractor will not be compensated for the removal and replacement of facilities outside the rights-of-way, easements, and limits of construction of the Project.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

A. Concrete:

1. Portland cement concrete shall be in accordance with Section 03050 Portland Cement Concrete.

B. Asphaltic Concrete Pavement:

1. Asphaltic concrete surface courses shall meet the requirements of Mix No. 1 and bases courses shall meet the requirements of Mix No. 2 as described below.
2. The composition of the mixes shall be as follows:

Total Percent Passing by Weight

Sieve Size	Mix No. 1	Mix No. 2
2"	100	100
1-1/2"	100	100
3/4"	100	100
3/8"	76-96	65-95
No. 4	51-76	45-70
No. 8	36-60	25-50
No. 30	16-40	12-30
No. 100	3-12	2-12
No. 200	2-8	1-6

3. The proportions of the total mixture, in percent by weight, shall be as follows:

Courses	Combined Mineral Aggregate	Asphalt Cement
Mix No. 1, Surface	92.0 – 96.0	4.0 – 8.0
Mix No. 2, Binder	93.0 – 97.5	2.5 – 7.0

4. It is the intent of this Section of the Specifications that the above described mixes shall conform to the following mixtures specified in the Tennessee Department of Transportation Standard Specifications for Road and Bridge construction.
  - a. Mix No. 1 – Section 411, Asphaltic Concrete Surface (Hot Mix), Grading E.
  - b. Mix No. 2 – Section 307, Bituminous Plant Mix Base (Hot Mix), Aggregate Grading C.
5. For multiple layer construction, succeeding layers shall not be laid until the previous layer has cooled sufficiently to support the construction equipment
6. When Mix No. 1 is to be used as a surface for traffic lanes, the mineral aggregate shall be composed of not less than 50 percent nor more than 55 percent crushed limestone and not more than 50 percent nor less than 45 percent natural sand. When Mix No. 1 is used for surfacing of shoulders or other non-traffic lane construction, the mineral aggregate may be composed entirely of limestone, including screening and manufactured sand, but in no case shall the mineral aggregate for this construction consist of less than 50 percent limestone. The natural sand shall be so graded that not more than 5 percent will be retained on the No. 4 sieve.

C. Temporary Cold Patch Asphalt

1. Temporary cold patch asphalt shall meet the requirements of TDOT Standard Specifications for Road and Bridge Construction Section 410.

D. Expansion Joint Filler:

1. Prefomed expansion joint filler shall be of the bituminous type, shall conform to the requirements of AASHTO M 213 and shall not be more than 1 inch or less than 1/2 inch in thickness. The filler shall be cut to the full depth of pavement, curb and gutter, sidewalk, or driveway being replaced.

E. Gravel Pavement or Base:

1. Crushed limestone with such material as manufactured sand or other fine materials naturally contained or added thereto as needed to match existing conditions and conform to the gradations shown below:

Grading Table for Graded Aggregate Base Course  
 Total Percent, by Dry Weight, Passing Each Sieve (U.S. Standard)

Size No.	2 ½"	2"	1 ½"	1"	3/8"	No. 40
1	100	95-100			35-65	10-30

**2.02 EQUIPMENT**

- A. Equipment and tools necessary for cutting, removal, and hauling of existing items; handling and placement of new material; and all equipment necessary to perform all parts of the Work shall be at the job site sufficiently ahead of the start of construction operations to be examined and approved by the Purchaser.
- B. When saws are used to cut pavement, the Subcontractor shall provide sawing equipment adequate in power to complete the sawing to a minimum of 1-1/2 inches below the pavement

surface in one pass. An ample supply of saw blades shall be maintained at the site of the Work at all times during sawing operations.

- C. Other types of pavement cutting equipment shall be capable of cutting the pavement to a neat straight line of 1-1/2 inch minimum depth below the pavement surface in one pass.
- D. The Subcontractor shall provide equipment capable of removal of pavements, sidewalks, driveway aprons, curbs and gutters, driveways, paved areas, and curbs without disturbance of adjacent items to remain in place.

### **PART 3 EXECUTION**

#### **3.01 REMOVAL OF ASPHALT PAVEMENT**

- A. Asphalt pavement shall be removed to a clean straight line as shown on the drawing details. Pavement shall be cut by saw or other equipment approved by the Purchaser in advance. Edges of existing asphalt pavement adjacent to trenches, where damaged, shall be recut in a clean straight line within the limits of damaged pavement only. Such recuts shall be parallel to the original cuts and perpendicular to the pavement surface.

#### **3.02 REMOVAL OF CONCRETE PAVEMENT**

- A. Concrete pavement shall be removed to a neat straight line as shown on the drawing details. Care shall be used to avoid damage to pavements and to the pavement base remaining in place.

#### **3.03 REMOVAL OF CONCRETE SIDEWALK, CURB AND GUTTER, AND DRIVEWAY**

- A. Concrete sidewalks, curbs and gutters, and driveways shall be removed to the nearest contraction or expansion joint. Care shall be used to avoid damage to sidewalks, curbs and gutters, and driveways remaining in place.

#### **3.04 REMOVAL OF GRAVEL PAVEMENT**

- A. Gravel surfaces encountered in construction shall be removed as needed to allow for the adjustment of the manhole frame and cover.

#### **3.05 REPLACEMENT OF PAVEMENT**

##### **A. Asphalt Pavements**

1. Replace asphalt paving courses to match existing thickness. The minimum surface course thickness shall be 2 inches. Asphalt pavement and base replacement shall be constructed for the entire cross-section of pavement removal area including all areas where pavement was re-cut subsequent to the initial pavement removal.

##### **B. Concrete Pavements**

1. Concrete pavement shall be replaced with Class A concrete pavement equal in thickness to the pavement removed but not less than 4 inches thick. Concrete pavement and base replacement shall be constructed for the entire cross-section of pavement removal area including all areas where pavement was re-cut subsequent to the initial pavement removal.
2. Reasonable efforts shall be made to avoid contrast in the color and texture of existing and restored surfaces.

C. Placing, Curing, and Protection of Concrete

1. After the backfill in the trench has been brought to the appropriate subgrade elevation shown on the Plans, compacted to the specified density, and permission has been given by the Purchaser, a concrete slab of the appropriate thickness shall be placed within the entire disturbed area.
2. Any loose or disturbed pavement or base shall be removed prior to placement of the concrete. Concrete shall be placed only on a moist subgrade and shall not be placed unless the ambient temperature is 35° F and rising. In no case shall concrete be placed on a frozen or frosty subgrade. After the concrete is placed, it shall be struck off in an approved manner to the appropriate grade as shown on the Plans and shall be finished with floats and straight edges until the required surface texture has been obtained.
3. No vehicles or loads shall be permitted on any concrete until the Purchaser has determined that the concrete has obtained sufficient strength for such loads. The Subcontractor shall construct and place such barricades and protection devices as are necessary to protect the concrete.

D. Installation and Replacement of Temporary Cold Patch Paving

1. With the approval of the Purchaser, during times when permanent hot mix asphalt is not available, pavement surfaces shall be restored with temporary cold patch asphalt. Once the permanent asphalt is available, the Subcontractor shall remove and replace the temporary cold patch asphalt with permanent asphalt in accordance with Section 3.05.A Asphalt Pavements.

**3.06 REPLACEMENT OF SIDEWALKS, DRIVEWAY APRONS, CURBS AND GUTTERS, DRIVEWAYS AND OTHER PAVED AREAS, AND CURBS**

- A. Concrete sidewalks and driveway aprons shall be replaced in accordance with the City of Memphis Standard Construction Specifications.
- B. Unless otherwise directed, curb and gutter shall be replaced with new concrete curb and gutter of the same cross-section and at the same top of curb elevation and flow line as that removed. Where curb and gutter of a different type than existing is to be used for replacement, the replacement flow line shall match existing and a transitions section provided between the existing and replacement cross-sections. Curb heights shall be transitioned at a rate of 1 inch in 5 feet. Granite curb shall be replaced with new concrete curb whose height matches existing adjacent curb top elevations. Any expansion joint material removed shall be replaced at the original locations. Existing concrete edges shall be cleaned prior to placement of concrete. The finished curb and gutter cross-section, elevations, texture, and color shall conform to the adjacent concrete surfaces.
- C. Replacement of paved areas other than street pavement; concrete, asphalt, or gravel driveways; and asphalt or concrete curb within the right-of-way or construction easement limits shall be in kind for those cross-sections removed, unless directed otherwise by the Purchaser.

**3.07 DAMAGE DUE TO SETTLEMENT**

- A. The Subcontractor shall be responsible for any damage caused by settlement of backfill placed beneath pavements, sidewalks, driveway aprons, curbs, curbs and gutters, driveways, paved areas other than street pavement, and asphalt or concrete curb within the right-of-way or construction easement limits. This includes any damage which may occur at any time prior



to, and during a period of one year from the date of Final Completion of the Work covered by the Subcontract.

- B. During such period, the Subcontractor shall at his own cost and expense refill all excavations where settlement damage has occurred and replace damaged pavements, sidewalks, driveway aprons, curbs, curbs and gutters, paved areas, driveways, and all other damaged items to the satisfaction of the Purchaser. Should the Subcontractor fail to repair settlement damage which may occur as described above within 5 days after being given notice thereof, the Purchaser shall have the right to repair such settlement and charge the cost of such repairs to the Subcontractor.

### **3.08 DAMAGE OUTSIDE CONSTRUCTION EASEMENT LIMITS**

- A. The Subcontractor will be held responsible for all damage to roads, highways, shoulders, curbs and gutters, ditches, embankments, bridges, culverts, and other property, caused by him or any of this Sub-subcontractors in hauling or otherwise transporting materials to and from the several sites of Work, regardless of the location of such damage. The Subcontractor shall make arrangements relative to the payment for, or repair or replacement of, such damage or damaged surfaces or structures which are satisfactory and acceptable to the Purchaser, at the Subcontractor's cost and expense.

## **PART 4 MEASUREMENT & PAYMENT**

### **4.01 MEASUREMENT**

#### **A. Pavement Removal and Replacement**

- 1. Pavement removal and replacement shall be measured for payment by the square yard, complete in place.

#### **B. Concrete Sidewalk Removal and Replacement**

- 1. Sidewalk removal and replacement shall be measured for payment by the square foot, complete in place.

#### **C. Concrete Curb and Gutter Removal and Replacement**

- 1. Curb and gutter removal and replacement shall be measured for payment by the linear foot, complete in place.

#### **D. Gravel Driveway and Gravel Area Removal and Replacement**

- 1. Gravel driveways and gravel area removal and replacement shall be measured for payment by the ton of crushed limestone, complete in place.

#### **E. Temporary Cold Patch**

- 1. Cold Patch shall be measured for payment by the square yard, complete in place.

### **4.02 PAYMENT**

#### **A. Pavement Removal and Replacement**

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Modified by SARP10 Program

1. The accepted quantities of pavement removal and replacement shall be paid for at the Subcontract unit price per square yard for the type specified, which price will be full compensation for cutting and recutting pavement; removal and disposal of pavement and base; preparing the subgrade; placing, finishing, curing, and protection of concrete; and placing and compacting asphaltic concrete wearing surfaces, complete in place.
  2. The accepted quantities of temporary pavement removal and replacement shall be paid for at the Subcontract unit price per square yard for the type specified, which price will be full compensation for installation; maintenance; removal and disposal of pavement; preparing the subgrade; and placing and compacting temporary asphaltic concrete wearing surfaces, complete in place.
- B. Concrete Sidewalk Removal and Replacement
1. The accepted quantities of sidewalk removal and replacement shall be paid for at the contract unit price per square foot, which price will be full compensation for removal and disposal of sidewalk; preparing the subgrade; and placing, finishing, curing and protection of concrete, complete in place.
- C. Concrete Curb and Gutter Removal and Replacement
1. The accepted quantities of curb and gutter removal and replacement shall be paid for at the Subcontract unit price per linear foot for the type specified, which price will be full compensation for removal and disposal of curb and gutter; preparing the subgrade; and placing, finishing, curing and protection of concrete, complete in place.
- D. Gravel Driveway and Gravel Area Removal and Replacement
1. The accepted quantities of gravel driveway and gravel area removal and replacement shall be paid for at the Subcontract unit price per ton of crushed limestone, which price will be full compensation for preparing the subgrade and replacing the gravel, complete in place.
- E. Temporary Cold Patch
1. The accepted quantities of temporary cold patch shall be paid for at the Subcontract unit price per square yard for temporary cold patch installation, which price will be full compensation for cutting and recutting pavement; removal and disposal of pavement and base; preparing the subgrade; placing, tampering; and placing complete in place.

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**4.03** PAYMENT WILL BE MADE UNDER:

Item No.	Pay Item	Pay Unit
02950-4.02.A.1	ASPHALTIC CONCRETE PAVEMENT REMOVAL AND REPLACEMENT	SQUARE YARD
02950-4.02.A.2	CONCRETE PAVEMENT REMOVAL AND REPLACEMENT	SQUARE YARD
02950-4.02.A.3	TEMPORARY ASPHALT REMOVAL AND REPLACEMENT	SQUARE YARD
02950-4.02.B	CONCRETE SIDEWALK REMOVAL AND REPLACEMENT	SQUARE YARD
02950-4.02.C	CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	SQUARE YARD
02950-4.02.D	GRAVEL DRIVEWAY AND GRAVEL AREA REMOVAL AND REPLACEMENT WITH CRUSHED STONE	TON
02950-4.02.E	TEMPORARY COLD PATH	SQUARE YARD

**END OF SECTION 02950**

**SECTION 03050  
PORTLAND CEMENT CONCRETE**

**PART 1 GENERAL**

**1.01 SCOPE**

- A. This specification covers the classification, materials, proportioning of materials, equipment, mixing requirements, and testing for portland cement concrete to be used for construction of streets, bridges, and miscellaneous structures and facilities as defined in Division 2 – Site Construction of these Specifications. The classification requirements, forming, curing, measurement, and payment for specific uses of concrete are specified and defined in the appropriate sections of Division 2.

**PART 2 PRODUCTS**

**2.01 CONCRETE CLASSIFICATION**

Portland cement concrete used for construction of the various items covered in Division 2 of these Specifications shall be classified by usage as follows:

1. Class A
  - a. Class A concrete shall be used as specified for such items as concrete curb, curb and gutter, sidewalks, drainage and sewer structures other than box culverts, ditch paving, bridges (other than superstructure) and similar uses.
2. Class A S
  - a. Class A S concrete shall be used for bridge superstructures and channel lining of ditches.
3. Class B
  - a. Class B concrete shall be used for roadway base and pavement.
4. Class C
  - a. Class C concrete shall be used as specified for such items as concrete cradles, encasements, embankment slope paving at bridge abutments, and other low strength applications.
5. Class P
  - a. Class P concrete shall be used for cast-in-place box culverts and precast and precast-prestressed concrete structures or structural members. High-early-strength concrete shall be as specified in Specification Section 03050 Paragraph 6.05.

**2.02 MATERIALS**

- A. Materials used in the production of portland cement concrete of the various classifications specified herein shall meet the following requirements.

**2.03 PORTLAND CEMENT**

- A. Portland cement shall be Type I cement conforming to the requirements of AASHTO M 85,

except that for high-early-strength concrete, Type III cement may be used.

**2.04 FINE AGGREGATE.**

A. Fine aggregate shall consist of natural sand, clean and free from any surface film or coating and graded from fine to coarse. Fine aggregate shall conform to the requirements of ASTM C 33 and the specifications included herein. The amount of deleterious substance shall not exceed the following percentage by weight:

1. Removed by decantation.....	3 percent
2. Coal or lignite.....	1 percent
3. Clay lumps.....	1 percent
4. Other local deleterious substances (such as shale, alkali, Mica, coated grains, soft and flaky particles).....	1 percent
5. Total coal, clay lumps, shale, soft fragments and other local deleterious substances .....	5 percent

B. All fine aggregate shall be free from amounts of organic impurities that would be detrimental to concrete strength and durability. Aggregate shall be subjected to the colorimetric test made in the field as follows:

1. Fill a 12 oz. graduated bottle to the 4 ½ oz. mark with the sand to be tested. Add a 3% solution of sodium hydroxide until the volume, after shaking, amounts to 7 ounces. Shake thoroughly and let stand for 24 hours. The sample shall then show a practically colorless solution, or at least, a solution not darker than straw color.

C. Fine aggregate shall be well graded from coarse to fine and, when tested by means of laboratory sieves, shall conform to the following requirements:

Passing	Percent
3/8 in. Sieve.....	100
No. 4 Sieve.....	95 to 100
No. 16 Sieve.....	50 to 90
No. 50 Sieve.....	10 to 30
No. 100 Sieve.....	0 to 10
No. 200 Sieve.....	0 to 3

a. Note: Not more than 45% should be retained between any two consecutive sieves.

D. Fine aggregate shall be of such quality that mortar composed one (1) part portland cement and three (3) parts fine aggregate, by weight when made into briquets or cylinders, shall show a tensile or compressive strength at seven (7) and twenty-eight (28) days at least equal to the strength of briquets or cylinders composed of one (1) part of the same cement and three (3) parts standard Ottawa sand by weight. The percentage of water used in making the test specimens of cement and fine aggregate shall be such as to produce a mortar of the same consistency as that of the Ottawa sand test specimens of standard consistency.

**2.04 COARSE AGGREGATE**

- A. Coarse aggregate for any class of portland cement concrete shall consist of crushed stone or crushed or uncrushed gravel unless otherwise specified.
- B. Coarse aggregate for Class A, Class B, or Class C concrete shall be furnished in two sizes: Size No. 4 and Size No. 67 as shown hereinafter in Table 03050.1, Coarse Aggregate Gradation Table. The two sizes shall be manufactured, within the specified limits, to produce Size No. 467 when combined in the proper proportions at the batching plant. If the supplier provides a proper stockpile to prevent segregation, then a combined Size No. 467 can be used in lieu of blending Size No. 4 and Size No. 67.
- C. Coarse aggregate for Class AS concrete shall be Size No. 57. Only limestone coarse aggregate will be used for Class AS concrete; gravel coarse aggregate will not be permitted.
- D. Coarse aggregate for Class P concrete shall be size No. 57 or Size No. 67 as may be specified or directed. Only limestone coarse aggregate shall be used for Class P concrete; gravel coarse aggregate will not be permitted.
- E. Coarse aggregate for concrete curbing placed by machine extrusion methods shall be Size No. 57 or Size No. 67.
- F. The coarse aggregates shall otherwise conform to the requirements of AASHTO M 80 and ASTM C 33 with the following exceptions and stipulations:

1. Deleterious Substances.

The amount of deleterious substances shall not exceed the following limits:

	Maximum Percent by Weight
a. Soft or nondurable fragments (fragments which are structurally weak such as shale, soft sandstone, limonite concretions, gypsum, weathered schist or cemented gravel) .....	3.0
b. Coal and lignite .....	1.0
c. Clay lumps .....	0.25
d. Material passing the No. 200 sieve .....	1.00
e. Thin or elongated pieces (length greater than 5 times average thickness)	10.00
f. Other local deleterious substances.....	1.00

i. Notes:

- (1) In the case of crushed aggregate, if all the material finer than the 200 mesh sieve consists of the dust of fracture essentially free of clay or shale, Item 4, Maximum Per Cent by Weight, may be increased to 1.5.
- (2) The sum of the percentages of Items No. a, b, c, d, and f shall not exceed 5.0.
- (3) When the coarse aggregate is subjected to five alternations of the sodium sulfate soundness test, the weighted percentage of loss shall be not more than

nine.

- (4) Alternate freeze/thaw tests for soundness will not be performed.
- (5) The percentage of wear as determined by AASHTO T 96 shall not exceed 40.

**COARSE AGGREGATE GRADATION TABLE**  
**Table 03 05 00.1**

Size Number	Amounts Finer Than 2"	1-1/2"	1"	3/4"	1/2"	3/8"	No. 4	No.8
4	100	90-100	20-55	0-15	----	0-5	----	----
467	100	95-100	----	35-70	----	10-30	0-5	----
57	----	100	95-100	----	25-60	----	0-10	0-5
67	----	----	100	90-100	----	20-55	0-10	0-5

**2.05 WATER**

- A. The water used in mixing concrete shall be clean, free from oil, acid, strong alkalis, organic or vegetable matter.

**2.06 AIR-ENTRAINING ADMIXTURES**

- A. Air-Entraining Admixtures shall conform to the requirements of AASHTO M 154, except that the tests for bleeding, bond strength and volume change will not be required.
- B. The Purchaser will maintain a list of qualified products. The Subcontractor shall be required to furnish a material that appears on this list.
- C. A product may become approved by furnishing test data from a recognized laboratory showing that the air-entraining admixture proposed for use conforms to the requirements of these Specifications. A recognized laboratory is defined as one of the following: A State Transportation Department Laboratory; a Federal Highway Administration Laboratory; or other laboratories which are approved by the Purchaser.

**2.07 Chemical Additives**

- A. For Portland cement concrete mixtures, these additives shall conform to the requirements of AASHTO M 194 covering the following five types:
  - 1. Type A – Water reducing admixtures
  - 2. Type B – Retarding admixtures
  - 3. Type C – Accelerating admixtures
  - 4. Type D – Water reducing and retarding admixtures
  - 5. Type E – Water reducing and accelerating admixtures
- B. Additionally, admixtures for increasing the flowable characteristics of concrete (super plasticizers) may be used, subject to the approval of the Purchaser for each class and intended

use of the concrete. Such admixtures shall meet the applicable requirements of ASTM C 494. The use of a plasticizer shall not change the maximum water requirements for the approved design mix. When approved for use, the admixture shall be introduced into the mix in the manner and quantities recommended by the manufacturer.

- C. Additives listed in items A through E above and super plasticizers may only be used with the written approval of the Purchaser. Before any admixture is approved, the manufacturer of the admixture or the Subcontractor shall furnish the Purchaser documentary evidence that the material proposed for use has been tested in accordance with the methods of test specified in AASHTO M 194 (or ASTM C 494 for super plasticizers) and meets the requirements of the Specification. Documentary evidence for all additives shall be the results of tests conducted by a testing laboratory inspected at regular intervals by the National Bureau of Standards. The Purchaser may require a notarized certification from the manufacturer of any additives used stating that the material is identical with that originally approved and has in no way been changed or altered. Even through additives have been approved by the Purchaser, the Subcontractor shall be responsible for the successful use of the additives. No reduction in the cement content of the concrete as designed without chemical additives will be made when additives are permitted.
- D. Calcium chloride additives will not be permitted.

## **2.08 CURING MATERIALS**

- A. Curing materials shall be as specified in the various Specification Sections of Division 2 and as specified below:
- B. Water
  - 1. Water used in curing portland cement concrete shall be free from any substance which may be injurious to concrete when applied on the surface as a curing agent.
- C. Burlap
  - 1. Burlap shall conform to AASHTO M 182, Class 3 or Class 4. If Class 1 or Class 2 burlap is permitted, at least two layers shall be use.
- D. Liquid Membrane-Forming Compounds.
  - 1. These compounds shall conform to AASHTO M 148. Where applied texture finish is specified, a Type 1-D, Class B, membrane which is compatible with the texture finish shall be used. Type 2 (white pigmented) membrane shall be used in all other applications, unless otherwise specified.
- E. White Polyethylene Sheeting.
  - 1. This material shall conform to AASHTO M 171.

## **2.09 FLY ASH**

- A. Class C fly ash conforming to the requirements of ASTM C 618-84 may be used as a replacement for portland cement if approved in writing by the Purchaser. The maximum amount of cement being replaced by fly ash shall not exceed 15 percent. Before any fly ash will be approved for use, the Subcontractor shall furnish the Purchaser documentary evidence that the fly ash proposed for use has been tested in accordance with ASTM C 311-7 and meets the requirements of that specification. Documentary evidence shall be the results of tests conducted by a testing laboratory inspected at regular intervals by the National Bureau of Standards. Even though the fly ash has been approved by the Purchaser, the Subcontractor shall be responsible



for its successful use. When a specific air content has been required and fly ash is being used, the air content shall be tested on each truck load of concrete at the batch plant and the tested value shall be indicated on the ticket.

## 2.10 EQUIPMENT

### A. General

1. Equipment and tools necessary for handling materials and performing all parts of the Work shall be subject to the approval of the Purchaser. The equipment shall be at the job site sufficiently ahead of the start of construction operations to be examined thoroughly and approved. The equipment and organization shall be of sufficient capacity to accomplish the maximum continuous concrete placement, as governed by the construction joints shown on the Plans and Design Standards or as directed by the Purchaser.

## 2.11 BATCHING PLANT AND EQUIPMENT

### A. General

1. The batching plant shall include bins, weighing hoppers, and scales. If cement is used in bulk, a bin, hopper, and separate scale for cement shall be included. The Subcontractor shall provide adequate means for cement cut off checks. The weighing hoppers shall be properly sealed and vented to preclude dusting during operation. The bulk cement storage bin or hopper shall be provided with adequate means for sampling the cement in storage.

### B. Bins and Hoppers

1. Bins with adequate separate compartments for fine aggregates, each size of coarse aggregate, and cement shall be provided in the batching plant. Each compartment shall discharge efficiently and freely into the weighing hopper. Means of control shall be provided so that as the quantity desired in the weighing hopper is being approached, the material may be added slowly and shut off with precision. A port or other opening shall be provided for removing an overload of any one of the several materials from the hopper. Weighing hoppers shall be constructed so as to eliminate accumulations of tare materials and to discharge fully without jarring the scales. Partitions between compartments, both in bins and in hoppers, shall be ample to prevent spilling under any working conditions.

### C. Scales

1. The scales for weighing aggregates and cement shall be of either the beam type or the springless-dial type. They shall be accurate within 0.5 percent throughout the range of use. The value of the minimum graduation on the scale for weighing cement shall not be greater than 5 pounds. The value of the minimum graduation on the scale for weighing amounts of aggregates up to 10,000 pounds or more shall be not greater than 10 pounds. The value of the minimum graduation of scales used in weighing amounts of aggregate 10,000 pounds or more shall be not greater than 0.1 per cent of the nominal capacity of the scales but shall not exceed 50 pounds. When beam type scales are used, provision, such as a "tell-tale" dial, shall be made for indicating to the operator that the required load in the weighing hopper is being approached. The "tell-tale" device on weighing beams shall indicate critical position clearly. Poises shall be designed so that they cannot be easily removed from the beam and can be held firmly in place. The weigh beams and "tell-tale" device shall be in full view of the operator while charging the hopper, and he shall have convenient access to all controls.
2. Scales shall be tested no less than once monthly by a certified scale testing company. Testing shall meet the requirements of applicable City ordinances and State law. The Subcontractor shall have available not less than 10 standard 50 pound weights meeting the

requirements of the U.S. Bureau of Standards for calibrating and testing weighing equipment. The person dispensing weighed material shall certify that the amounts of materials used is in accordance with quantities shown on the delivery ticket.

D. Equipment for Structural Concrete

1. The requirements for batching plants shall be as prescribed above, except that when approved by the Purchaser, the requirement for storage compartments in addition to weigh bins, for fine and coarse aggregates may be waived, provided the batching tolerances specified in Specification Section 03050 Paragraph 5.02.A are maintained.
2. Ample and satisfactory equipment for conveying concrete from the mixer to final position in the forms shall be provided. Closed chutes or pipes shall be used when concrete is to be dumped or dropped for a distance greater than 5 feet. Where steep slopes are required, the chutes shall be equipped with baffle boards or shall be in short lengths that will enable the direction of movement to be reversed. Tremies for placing seal concrete under water shall consist of a water tight tube 10 inches to 14 inches in diameter. It shall be constructed so that the bottom can be sealed and opened after it is in place and fully charged with concrete. It shall be supported so that it can be easily moved horizontally to cover all the work area and vertically to control the concrete flow.

**2.12 MIXERS**

A. General

1. Concrete may be mixed at a central point or wholly or in part in truck mixers. Each mixer shall have attached in a prominent place a manufacturer's plate showing the capacity of the drum, in terms of mixing and agitating capacity, and the speed of rotation of the mixing drum or blades for both mixing and agitation.
2. Mixers shall be capable of combining the aggregates, cement, additives when specified, and water into a thoroughly mixed and uniform mass within the specified mixing period. They shall have a minimum capacity sufficient to comply with minimum production requirements.
3. Mixers shall be equipped with an approved device for accurately measuring water within a range of error of not more than one percent. The amount of water used in each batch shall be shown by an indicator which is accurately calibrated and easily read.
4. Central plant mixers shall be equipped with an approved batch meter and timing device which will automatically lock the discharge lever during the full time of mixing and release it at the end of the mixing period. This device shall be equipped with a bell or other suitable warning device that will give a clearly audible signal each time the lock is released. In case of failure of the timing device, the mixer may be used for the balance of the day while it is being repaired, providing the Subcontractor furnishes a satisfactory means of determining the mixing time.

B. Mixers at Site of Construction

1. Mixers at the site of construction will not be permitted, unless permitted by the Purchaser.

C. Truck Mixers and Truck Agitators

1. Truck mixers used for mixing and hauling concrete and truck agitators used for hauling central-mixed concrete shall meet all the applicable requirements under Paragraph A above, and in addition, the manufacturer's plate shall indicate the various uses for which the equipment is designed, the gross volume of the drum, and the minimum and maximum

speed of rotation of the drum or blades for charging, mixing and agitating. Trucks equipped for mixing shall be equipped with an approved device for recording the number of revolutions of the drum or blades. Mixers or agitators used to mix and transport paving concrete shall be of the hydraulic drum lift type or other especially designed types which will discharge low slump concrete (1 – 2 ½ inch) at a satisfactory rate without segregation.

D. Non-agitator Trucks

1. Bodies of non-agitator hauling equipment for concrete shall be smooth, mortar tight, metal containers, and shall be capable of discharging the concrete at a satisfactorily controlled rate without segregation. Covers shall be provided when needed for protection of the concrete. Nonagitator trucks may be used only with approval of the Purchaser.

E. Admixture Induction

1. A satisfactory method and equipment for setting the dosage for admixtures must be furnished and if admixtures other than air entraining agents are used, they shall be added in the manner and in the dosage recommended by the manufacturer.

F. Vibrators

1. Vibrators shall be of an approved type and design, and shall operate under load at the rate as recommended by the manufacturer and approved by the Purchaser. For concrete structures, all concrete to be vibrated shall be compacted by means of approved high frequency internal vibrators or other approved types of vibrators immediately after being deposited in the forms. At least two vibrators in good operating condition and tow sources of power shall be available at the site where more than 25 cubic yards of concrete are to be poured. The use of external vibrators for compacting concrete will be permitted where the concrete is inaccessible for adequate compaction, provided the forms are sufficiently rigid to prevent displacement or damage from external vibration and approved by the Purchaser. For concrete pavement, the frequency of surface vibrators shall not be less than 3,500 impulses per minute and the frequency of the internal type shall not be less than 5,000 impulses per minute for tube vibrators and not less than 7,000 impulses per minute for spud vibrators. When spud type internal vibrators, either hand operated or attached to spreader or finishing machines, are used adjacent to forms, they shall have a frequency not less than 7,000 impulses per minute. For prestressed concrete, all concrete shall be thoroughly compacted with approved high frequency vibrators operating at a minimum of 7,000 vibrations per minute.

**PART 3 EXECUTION**

**3.01 HANDLING, BATCHING AND MIXING**

A. Stockpiling Aggregates

1. Sites for aggregate stockpiles shall be grubbed and cleaned prior to storing aggregates, and the ground shall be firm and smooth and well drained. A cover of at least three inches of aggregate shall be maintained in order to avoid the inclusion of soil or foreign material. The stockpiles shall be built in layers not exceeding four feet in height, and each layer shall be completely in place before the next layer is started so as to prevent segregation. The material shall be deposited in such manner as to prevent coning, except in the case of aggregate composed essentially of material finer than the No. 4 sieve and base material.
2. Dumping, casting or pushing over sides of stockpiles will be prohibited, except in the case of aggregate for base material and fine aggregate materials.

3. Unless otherwise authorized, aggregates from different sources, different gradings or differing in specific gravity by more than 0.03 shall not be stockpiled together. Stockpiles of different types or sizes of aggregates shall be spaced far enough apart, or separated by suitable walls or partitions, to prevent the mixing of the aggregates.
4. When it is necessary to operate trucks or other equipment on a stockpile in the process of building the stockpiles, it shall be done in a manner approved by the Purchaser. Any method of stockpiling aggregate which allows the stockpile to become contaminated with foreign matter or causes excessive degradation of the aggregate will not be permitted. Excessive degradation will be determined by sieve tests of samples taken from any portion of the stockpile over which equipment has operated, and failure of such samples to meet all grading requirements for the aggregate shall be considered cause for discontinuance of such stockpiling procedure.
5. Stockpiles shall be maintained in a saturated surface dry condition to the extent possible.

### 3.02 HANDLING, MEASURING AND BATCHING MATERIAL

#### A. General

1. The batch plant site, layout, equipment and provisions for transporting material shall be such as to assure a continuous supply of material to the Work.
2. Aggregates shall be handled from stockpiles or other sources to the batching plant in such manner as to maintain a uniform grading of the material. Aggregates that have become segregated, or mixed with earth or foreign material, shall not be used. All aggregates produced or handled by hydraulic methods, and washed aggregates, shall be stockpiled or binned for draining at least 12 hours before being batched. Rail shipment requiring more than 12 hours will be accepted as adequate binning only if the car bodies permit free drainage. In case the aggregates contain high or non-uniform moisture content, storage or stockpile periods in excess of 12 hours may be required by the Purchaser. The Purchaser may require sprinkling of aggregate that has dried to the extent that it absorbs mixing water.
3. The fine aggregate and each size of coarse aggregate shall be separately weighed into the hopper or hoppers in the respective amounts set by the Subcontractor and approved by the Purchaser. Cement shall be measured by the sack or weight. Separate scales and hoppers shall be used for weighing the cement. The scales shall be equipped with a device to indicate positively the complete discharge of the batch of cement into the batch box or container. Ninety-four pounds of bulk cement shall be considered one sack. Batches involving fractional sacks will not be allowed except when bulk cement is used.
4. Batching plants equipped to proportion aggregates and bulk cement by weight by means of automatic and interlocked proportioning devices of approved type may be used.
5. Batching shall be so conducted as to result in the required weights of each material being within a tolerance of 1.0 percent for cement and 1.5 percent for aggregates.
6. Water may be measured either by volume or by weight. The accuracy of measuring the water shall be within a range of error of not over 1.0 percent. Unless otherwise permitted, calibrated tanks for measuring water shall include an auxiliary tank from which the measuring tank shall be filled. The measuring tank shall be equipped with an outside tap and valve to provide for checking the setting unless other means are provided for readily and accurately determining the amount of water in the tank. The volume of the auxiliary tank shall be at least equal to that of the measuring tank.

7. The use of chemical additives shall be as prescribed under Paragraph 3.06 of this Specification and they shall be added to the mix using the methods and at the time and in the manner recommended by the manufacturer of the additive, subject to approval by the Purchaser.
8. Unless specifically provided in the contract, the furnishing and use of approved additives or admixtures and the other precautions necessary to provide satisfactory concrete and concrete products shall be considered subsidiary to the furnishing and placement of the concrete and any and all additional costs related thereto and risks resulting there from shall be borne by the Subcontractor.
9. Different types of cement shall not be mixed, nor shall they be used alternately. Where it is necessary for the color of the concrete to be uniform, only those cements which will produce similar color in concrete may be used alternately. The Purchaser shall designate which cements may be used alternately.
10. Air entraining agents shall be added to the mix by an approved procedure and by the use of an approved dispenser to assure an accurate proportioning of the agent.
11. All admixtures shall be measured with an accuracy of plus or minus 3.0 percent.

B. Limitations on Concrete Operations

1. Mixing of concrete shall be discontinued in time to allow finishing to be completed in daylight hours, unless an adequate and approved artificial lighting system is provided and operated.
2. When concrete is being placed during hot weather, appropriate measures shall be taken to reduce the hazards of increased rate of cement hydration and high concrete temperatures. The temperature of the concrete at point of discharge shall not exceed 90<sup>o</sup> F. The Purchaser may require any or all, but not limited to, the following precautions to reduce the temperature of the concrete:
  - a. Sprinkle coarse aggregate stockpiles in a manner so as to distribute the water evenly and to prevent a variation of moisture within the stockpile.
  - b. Use crushed or chipped ice as a portion of the mixing water, or use water cooled by refrigeration or other means. If ice is used, it shall be substituted on a pound for pound basis for water and completely melted before the concrete is discharged from the mixer.
  - c. The Subcontractor may employ other means which he may have at his disposal if approved by the Purchaser. In order to minimize the number and extent of precautions as indicated during the production and use of concrete during hot weather, the Subcontractor may use approved chemical admixtures for set-retarding purposes, with the Purchaser's approval. However, the use of such approved set-retarding admixtures shall not relieve the Subcontractor of the necessity for other precautions deemed necessary to minimize variability of the physical characteristics, strength, and other requirements of the green concrete.
  - d. Unless authorized in writing by the Purchaser, mixing and concreting operations shall be discontinued when a descending air temperature in the shade and away from artificial heat reaches 40<sup>o</sup>F (if the temperature is expected to reach 35<sup>o</sup>F or below), and not resumed until an ascending air temperature in the shade and away from artificial heat reaches 35<sup>o</sup>F.

- e. When concreting at temperatures above 35°F, the aggregates or water shall be heated or cooled if necessary prior to being placed in the mixer so that the temperature of the resultant mixture will be not less than 50°F nor more than 90°F at the time of placement. If heating is required, the apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might injure the concrete.
- f. When concreting is authorized at temperatures 35°F or less, the Purchaser will require the water or the aggregates or both to be heated to not less than 70°F nor more than 150°F. The temperature of the mixed, heated concrete shall be not less than 50°F nor more than 100°F at the time of placement. No concrete shall be placed on frozen grade nor shall frozen aggregates be used in the concrete.
- g. When it is expected that the ambient temperature will drop below 35°F, the Subcontractor shall provide sufficient canvas and framework, other types of housing, or to enclose and protect the concrete in such a way that the air surrounding the fresh concrete can be maintained at a temperature of not less than 45°F and the temperature of the concrete shall not exceed 80°F. The above conditions shall be maintained for a period of 120 hours after the concrete is placed. The Subcontractor shall be responsible for the quality of concrete placed during cold weather, and any concrete injured by frost action or freezing shall be removed and replaced at the Subcontractor's expense. When impending weather conditions indicate the possibility of the need for such temperature protection, all necessary heating and covering material shall be on hand ready for use before the Purchaser's permission is granted to begin placement.

### 3.03 MIXING CONCRETE

#### A. General

1. The concrete may be mixed in a central mix plant or in truck mixers. The mixer shall be of an approved type and capacity, and shall comply with the applicable requirements of Paragraph 4.03 of this Specification Section. Mixers shall be cleaned at suitable intervals. Equipment having components made of aluminum or magnesium alloys which would have contact with plastic concrete during mixing, transporting or pumping of Portland cement concrete, shall not be used.
2. The batch shall be so charged into the drum that a portion of the mixing water shall enter in advance of the cement and aggregates. Mixing time shall be measured from the time all materials except water are in the drum. The flow of water shall be uniform, and all water shall be in the drum by the end of the first 15 seconds of the mixing period. The throat of the drum shall be kept free of such accumulations as may restrict the flow of materials into the drum.
3. When mixed in a central mixing plant, the mixing time shall not be less than 60 seconds nor more than 90 seconds. Mixing time ends when the discharge chute opens. Transfer time in multiple drum mixers shall be included in the mixing time. The contents of an individual mixer drum shall be removed before a succeeding batch is emptied therein.
4. The mixer shall be operated at the drum speed recommended by the manufacturer. Any concrete mixed less than the specified time shall be discarded and disposed of by the Subcontractor at his expense. Mixers for central mix plants shall not be operated at a capacity greater than the manufacturer's guaranteed mixing capacity.
5. Mixed concrete from the central mixing plant shall be transported in truck mixers, truck agitators or nonagitating trucks having special bodies. The time elapsing from the time water is added to the mix until the concrete is deposited in place at the site of the Work shall not



exceed 30 minutes when the concrete is hauled in nonagitating trucks, nor 60 minutes when hauled in truck mixers or truck agitators. When high early strength concrete is used, agitator trucks only shall be used and the concrete shall be deposited in place at the site of the Work within 30 minutes from the time water is added to the mix, regardless of the method of transportation, unless otherwise approved by the Purchaser.

6. Truck mixers and truck agitators used to transport concrete from a central mixing plant and truck mixers used to mix concrete in transit from a central batching plant shall meet all applicable requirements of Paragraph 4.03 of the Specification Section, and in addition, the mixing speed and agitating speed shall be those recommended by the manufacturer of the mixer and the total revolutions at mixing speed shall not be less than 70 nor more than 100. Truck mixers and truck agitators shall be operated within the capacity recommended by the manufacturer.
7. Retempering concrete by adding water or by other means will not be permitted. Concrete that is not within the specified slump limits at time of placement shall not be used. Admixtures for increasing the workability or for accelerating the set will be used only when provided for in the Contract, or permitted by the Purchaser. The addition of admixtures to the mix shall be in accordance with the provisions of Paragraph 5.02.A of this Specification Section.
8. Tests for air content shall be made on samples of fresh concrete when and as directed. The air content shall be that specified under Part 6 of this Specification Section and shall be determined in accordance with AASHTO T 152, T 196 or T 199.

**B. Ready Mixed Concrete.**

1. Ready mixed concrete shall fully comply with ASTM C 94 for Ready Mixed Concrete and to the requirements of these Specifications. Ready mixed concrete shall be discharged from the mixer within 1 hour after the introduction of water, provided the air temperature or the concrete temperature does not exceed 70°F. When the air temperature or concrete temperature exceeds 70°F, the elapsed time between the addition of water to the mix and discharge shall not exceed 30 minutes. The 30 minute time limit for temperatures exceeding 70°F may be extended to 1 hour, provided an approved admixture is used. The admixture shall be a water reducing and retarding agent meeting the requirements of Paragraph 3.06, Type D of this Specification Section and shall be used in accordance with the provisions of Paragraph 5.02.A of this Specification Section. The ready-mix plant furnishing the concrete shall have been inspected and approved for use as provided for in Part 4 of this Specification Section.
2. The delivery ticket accompanying each load of concrete shall show the class and quantity of concrete, the quantity of cement, aggregates, water, and additive used in the batch, and the time of batching. Materials used in the concrete shall be tested and approved.

**3.04 MIX DESIGN AND PROPORTIONING**

**A. General**

1. A Concrete Classification Table, Table 03 05 00.2 is provided hereinafter to indicate to the Subcontractor the five classes of concrete to be use. The table contains certain criteria to be met in the design of job mixes for the different classifications of concrete. Data included are the minimum 28 day compressive strength of the concrete (14 day strength for Class B concrete), the range of slum allowed, the minimum cement content of the concrete, and the maximum water allowed. The Subcontractor shall be responsible for design of the concrete mix to be used for each classification of concrete within the limits of Table 03050.2, and for

providing concrete to the Purchaser in accordance with the approved design mixes.

2. Unless otherwise specified in the Contract Documents all concrete shall contain an air entraining admixture. The concrete shall contain between 5 percent and 8 percent entrained air. Other admixtures may be used if specifically approved by the Purchaser. The use of calcium chloride will not be allowed.
3. The Purchaser may specify differing compressive strengths for the several classifications by notation on the Plans or in the Special Provisions, and those values shall govern over the values of these Specifications.



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**CONCRETE CLASSIFICATION TABLE**

**Table 03 05 00.2**

Minimum Class Of Concrete	28-Day Compressive Strength (psi)	Min. Slump In Inches	Min. Cement Factor-Sacks/CY		Limestone Course Aggregate		Min. Cement Factor-#/CY		Net Water Max. Gals./CY		Net Water Max-#/CY	
			Gravel Course Aggregate	5.5	Gravel Course Aggregate	564	Gravel Course Aggregate	36	Gravel Course Aggregate	300	Gravel Course Aggregate	275
A 3,000	3-5	6.0	5.5	564	517	36	33	300	275			
AS	4,000	3-5	(2)	6.2	(2)	583	(2)	37.2	(2)	310		
B 3,500 (1)	1-2 ½	6.2	5.8	583	545	34.1	31.9	284	266			
C 2,500	2-4	5.0	4.5	470	423	34	30.6	283	255			
P 5,000	1-3	(2)	7.0	(2)	658	(2)	35.0	(2)	292			

- (1) Minimum compressive strength @ 14 days. Minimum flexural strength @ 14 days of 550 psi per AASHTO T 22.
- (2) Gravel Coarse Aggregate no permitted.
- (3) Tabulated values are for Type I cement conforming to the requirements of AASHTO M 85 only.

### **3.05 MIX DESIGN**

- A. Prior to mixing any concrete for the project, the Subcontractor shall submit his proposed design mix and reports of tests for each classification of concrete to the Purchaser for approval. The design mix shall be submitted on a form that indicates the supplier and type of the concrete and materials to be used as well as the amounts of materials per cubic yard for at least the following items and units (based upon saturated surface dry aggregate):
1. Cement-Pounds
  2. Coarse Aggregate-Pounds
  3. Fine Aggregate-Pounds
  4. Air Entraining Admixture – Ounces
  5. Other Admixtures (if allowed) – Ounces
  6. Water – Pounds
  7. Fly Ash (if allowed) – Pounds

### **3.06 PROPORTIONING**

- A. Each class of concrete shall be manufactured by combining the several materials prescribed in the design mix in the proportions necessary to obtain the specified compressive strength for each class. Proportioning shall be based upon the specified cement content, and the amount of water for each class of concrete shall not exceed the quantity shown in Table 03050.2. Below this limit, the quantity of water shall be adjusted to meet the slump requirements. Aggregate weights shown in the Subcontractor's mix design(s) shall be based on saturated surface dry aggregate; batch weights shall be corrected to compensate for surface moisture on the aggregate in order to determine the amount of water to be added at the mixer.
- B. In addition to the requirements specified herein and on Table 03050.2, portland cement concrete for pavement, Class B, (Specification Section 02750) shall have a flexural strength at 14 days of not less than 550 pounds per square inch when tested in accordance with AASHTO T 22.

### **3.07 CHANGES IN MIX**

- A. When approved by the Purchaser, the ration of coarse and fine aggregate may be adjusted in order to assure better workability or to accommodate placement by pumping. However, in no case shall the fine aggregate exceed 44 percent of the total aggregate.
- B. If during the progress of the Work, the specific gravity of one or both of the aggregates change more than plus or minus 0.03 from those shown on the concrete design, the design weights shall be adjusted by a design change to conform to the new specific gravity.

### **3.08 HIGH-EARLY-STRENGTH CONCRETE**

- A. High-early-strength concrete may be required in the Plans and Specifications or substituted at the request of the Subcontractor, subject to the approval of the Purchaser. When high-early-strength cement concrete is authorized, it shall conform to the requirements of Table 03050.2 except that the 28 day strength (or 14 day strength for Class B concrete) shall be obtained in 7 days. The use of Type I or Type III cement for high-early-strength concrete in lieu of using Type III cement. When type I cement is used, the concrete shall have a minimum of 7.6 sacks (714 pounds) of cement per cubic yard of concrete. If admixtures are used to obtain high-early-

strength concrete, such admixtures may only be used if previously approved by the Tennessee Department of Transportation for similar uses of the concrete and if specifically approved for the project by the Purchaser.

- B. The gradation of fine and coarse aggregates shall be the same as that approved for the concrete for which the high-early-strength concrete is substituted. All materials entering into the high-early-strength concrete shall be of the same kind and class as the materials entering into the other part or parts of the facility constructed of the class of concrete for which high-early-strength is being substituted.
- C. No additional compensation will be made if the Subcontractor elects to substitute high-early-strength concrete for any class of concrete. The unit price for the class for which the substitution is made shall be full compensation for the concrete.

### **3.08 TESTING**

#### **A. Test Samples**

- 1. The Purchaser shall provide for all test cylinders. All samples shall be cast, cured and tested by the Purchaser at its expense. The Subcontractor will be required to assist the Purchaser in securing necessary materials for casting the required number of cylinders. Testing ages will be 7 days and 28 days unless otherwise determined by the Purchaser. Laboratory cylinders shall be used to determine the quality of concrete produced. The number of cylinders to be cast daily for any quantity of concrete and laboratory tested, shall be specified by the Purchaser. With prior consent of the Purchaser, the Subcontractor may prepare field cylinders. These cylinders may be used as a gauge for early safe removal of forms where the Subcontractor requests earlier removal than set out in the Specifications.

#### **B. Cement Testing**

- 1. All cement used in the Work shall be pre-tested before use. Cement may be used upon completion of a satisfactory 3 day physical test made in accordance with current ASTM Specifications. Cement shall be tested by an approved commercial testing laboratory at the Subcontractor's expense.

#### **C. Core Samples**

- 1. If the Purchaser's testing of cylinders indicates compressive strength less than required in Table 03050.2 for the class of concrete specified, the Subcontractor may, at his option, elect to drill core samples from the actual concrete placed. If the Subcontractor elects to drill (or is instructed by the Purchaser to drill) core samples from the hardened concrete, the costs of obtaining the cores and of repairing the core holes with nonshrinking grout shall be borne by the Subcontractor.
- 2. The cores shall be drilled as directed by the Purchaser, at the same approximate locations from which the test cylinder concrete was obtained. The locations of the drilled cores shall be selected so that the remaining structure will not be impaired or sustain permanent damage after the holes are repaired by the Subcontractor. The drilled samples shall be tested for compressive strength by the Purchaser, and the equivalent 28 day strength of the concrete placed and represented by the drilled core samples shall be determined. The Purchaser shall use the test results of the drilled cores to determine the acceptability of the concrete.

### **3.09 METHODS OF SAMPLING AND TESTING.**

- A. Test cylinders cast to determine acceptability for minimum AASHTO strength requirements shall be made and cured in accordance with AASHTO T 23 and tested in accordance with AASHTO T

22. Test cylinders cast to determine when a precast unit or a structure may be put into service or to determine when a tensioning load may be transferred shall be cured by methods identical to those used in curing the concrete member, and tested in accordance with AASHTO T 22.

- B. Drilled core samples shall be taken and tested in accordance with AASHTO T 24. Due to possible fracturing effect of the coring operation, drilled core samples having a compressive strength of 85 per cent or more of specified strength will be considered acceptable.
- C. Slump shall be determined in accordance with AASHTO T 119 on the job site during each placement.
- D. The amount of air entrained shall be determined by pressure or volumetric meters of approved design and in accordance with AASHTO Method T 152 or AASHTO Method T 196, except that AASHTO Method T 199 may be used after the accuracy of the Chace Air Indicator has been determined by comparison tests.

### **3.10 CONCRETE FAILING TO MEET STRENGTH REQUIREMENTS.**

- A. Concrete which has been mixed and placed in accordance with these Specifications, and which fails to meet the minimum 28 day strength requirements shall be removed and disposed of by the Subcontractor, at his expense, unless specifically authorized by the Purchaser, in writing, to remain in place. The removal shall be in such manner as will not cause damage to the remaining concrete or to other structural units or other facilities and property.
- B. The Purchaser may, at his discretion, allow concrete which fails to meet the minimum strength requirement to remain in place. Payment for this concrete will be at a reduced price, to compensate the Purchaser for loss of durability. The amount of the reduction shall be determined by the Purchaser and shall be based on the particular circumstances.

### **3.11 MISCELLANEOUS**

- A. Concrete Mixed and/or Batched Off Project Site
  - 1. Concrete may be mixed and/or batched off the immediate project site, subject to specific approval of the Purchaser and under the direct supervision of the Subcontractor. A delivery ticket (certified by the batch plant) showing mix, quantity of cement, quantity of fine and coarse aggregate, moisture content, total water and gallons per cubic yard of concrete shall be furnished to the Purchaser with each delivery of concrete and the Subcontractor shall show to the satisfaction of the Purchaser that the plant is so located and equipped as to produce and deliver concrete fully meeting the specification requirements.

## **PART 4 MEASUREMENT AND PAYMENT**

- A. The methods of measurement and payment for concrete shall be as specified in Divisions 2 and 3 of these Specifications for each particular item constructed by the Subcontractor.

**END OF SECTION 03050**