



**Request for Bid
Stream Crossing Stabilization Construction Pkg A
Addendum No. 2 to
RFB No. 405569.71.0410
August 13, 2020**



The following information encompasses Addendum No. 2 for the above referenced RFB. Bidders shall fully consider and acknowledge this Addendum in the preparation and submittal of its formal Bid. Failure to do so may result in the rejection of the Bid.

Section 1 – Notes, Additional Bidder Questions Received to Date

Section 2 – Updated RFB Sections 00170.1, 00170.6, 00170.16

Section 3 – Updated 00370.3 Bid Pricing Information

Section 4 – Updated RFB Section 00672.4

Section 5 – Updated Specification Section 02950

Section 6 – Addition of Specification Special Instructions

All other conditions and requirements remain unchanged.

**Section 1
Notes, Additional Bidder Questions Received to Date**

Note: The full resolution drawings will be uploaded to the SARP10 website and available for viewing and/or downloading, by close of business 8/13/2020.

Q1: 00575.5, Safety and Health Representative, requires that a qualified person be identified to fill this role. May that representative have other duties such as project superintendent, etc.?

SARP10: Yes, unless otherwise specified by SARP10.

Q2: The bid form lists two-line items identified as “Allowances (Curb/Gutter, Pavement, Sidewalk).” Can we get a more definitive description of what these line items are intended to cover, and how much of an allowance we are to include?

SARP10: That line item has been removed from the bid form as part of this Addendum.

Q3: The RFB states that full resolution drawing files will be available on the SARP10 website. As of this writing they are not. When will these be available?

SARP10: There will be a link to the full resolution drawings on the SARP10 website (<http://www.sarp10.com/projects>) by the close of business on 8/13/20.



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**Section 2
Updated RFB Sections 00170.1, 00170.6, and 00170.16**

00170 - Request for Bid

00170.1 Introduction

Sealed bids will be received at the SARP10 Office located at 845 Crossover Lane, Suite 120, Memphis, TN 38117, until **3:00 p.m. local time, ~~August 27~~ September 3, 2020** for furnishing the City of Memphis with the following:

FOR THE DIVISION OF: PUBLIC WORKS FOR THE CONSTRUCTION OF:
SARP10 Program **Stream Crossing Stabilization Construction Pkg A**

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. **405569.71.0410** (dated July 9, 2020). Registration information must be submitted by **August 6, 2020**.

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 project includes sewer improvements and the stabilization of open channels at sanitary sewer pipe crossings. This includes grading, the installation of sewer pipe, riprap, concrete block mats, turf reinforcement mats, etc. Other items include, but are not limited to, erosion control, site prep and restoration, bypass pumping, installation of access roads, and asphalt removal and replacement.

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.

SARP10 ~~Overall~~ DBE Participation Goal: **30%**

<u>MBE minimum</u>	<u>13%</u>
<u>WBE minimum</u>	<u>2%</u>

(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.



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, Integrated Circles Technologies, Tamco, Carter-Malone Group, Rohadfox Construction Control Services Corporation, 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. There is a local contractor preference of 5%. For evaluation purposes the 5% will be applied to the Total Estimated Unit Price Value.

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.

Event	Completed By
Advertising Date	July 9, 2020
Pre-Bid Meeting	July 23, 2020
Registration Information submitted per 405569.71.0410 Advertisement	August 6, 2020
Last Date for Bidder Questions	August 6, 2020
Issue Addendum for answers to questions	August 13 August 20, 2020
Receive all Bids	August 27 September 3, 2020 by 3:00 pm local time
Public Opening	August 27 September 3, 2020 immediately following receipt of bids
Public Notice of Intent to Award	September 10, 2020
Preconstruction Meeting with Subcontractor	September 17, 2020
Tentative Notice to Proceed	September 24, 2020

00170.17 Mandatory Pre-Bid Meeting

A mandatory pre-bid meeting will be held at **9:30 A.M** (local time) via Microsoft Teams Meeting, on **July 23, 2020**. A dial-in number and PIN information will be posted to the SARP10 website, by July 22, 2020.





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**Section 3
Updated 00370.3 Bid Pricing Information**

Table 00370.3.1 - Unit Price 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.					
Bid Submitted by: (Company Name)					
00370.3 Bid Pricing Information					
00370.3.1 Unit Pricing					
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.					
00370.3.1.1 Unit Prices Breakdown				Bidder Response Columns	
Item Number	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Extension Price
71.0410 Stream Crossing Stabilization Construction Pkg A					
Fletcher Creek East					
00000-01	Mobilization	Lump Sum	1		\$ -
00000-02	Construction Stakes, Lines And Grades	Lump Sum	1		\$ -
01560-01	Geotextile (Type Iii) Erosion Control	Square Yard	1,200		\$ -
01560-02	Sediment Filter Bag (15' X 10')	Each	1		\$ -
01560-03	Temporary Silt Fence (With Backing)	Linear Foot	470		\$ -
01560-04	High-Visibility Construction Fence	Linear Foot	640		\$ -
01560-05	Construction Exit	Each	1		\$ -
<u>02631-01</u>	Mineral Aggr, Ty A Base, Grading D (2.03 Tons/Cy)	Ton	300		\$ -
01560-06	Temporary Crossing	Each	1		\$ -
01560-07	Stream By-Pass Pumping	Lump Sum	1		\$ -
01560-08	Sandbags	Each	6,000		\$ -
	Allowances (Curb/Gutter, Pavement, Sidewalk)	Allowance	4		\$ -
02370-01	Machined Rip-Rap (Class A-1) W/ Grout	Cubic Yard	400		\$ -
02370-02	Soil Compaction Test	Each	2		\$ -
02371-01	Reinforced Turf (Armormax)	Square Foot	7,200		\$ -
02382-01	Concrete Block Mat (Armorflex 50)	Square Foot	14,200		\$ -
02530-6.01	Locate And Expose Mainline Terminus	Each	1		\$ -
02530-6.06	Bypass Pumping	Lump Sum	1		\$ -
02530-6.11	Class A Concrete (Encasements/Supports)	Cubic Yard	70		\$ -
02630-4.01.A	Site Preparation And Restoration	Lump Sum	1		\$ -
02631-04	Unlined Channel	Linear Foot	150		\$ -
02632-07	Drainage Structure Removal	Each	1		\$ -
02920-4.01	Stripping And Replacing Topsoil	Cubic Yard	300		\$ -
02920-5.01	Seeding (With Mulch)	Unit	20		\$ -
02920-5.02	Seeding (Without Mulch)	Unit	20		\$ -
02950-4.01.A-1	Asphalt Pavement Removal/Replacement	Square Yard	30		\$ -
02950-4.01.B	Concrete Sidewalk Removal/Replacement	Square Yard	17		\$ -
02950-4.01.C	Concrete Curb & Gutter Removal/Replacement	Square Yard Linear Foot	45 100		\$ -
Fletcher Creek East - Subtotal Estimated Unit Price Value					\$ -

Item Number	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Extension Price
Cypress Creek					
00000-01	Mobilization	Lump Sum	1		\$ -
00000-02	Construction Stakes, Lines And Grades	Lump Sum	1		\$ -
01560-01	Geotextile (Type Iii) Erosion Control	Square Yard	550		\$ -
01560-02	Sediment Filter Bag (15' X 10')	Each	1		\$ -
01560-03	Temporary Silt Fence (With Backing)	Linear Foot	200		\$ -
01560-04	High-Visibility Construction Fence	Linear Foot	350		\$ -
01560-05	Construction Exit	Each	1		\$ -
<u>02631-01</u>	Mineral Aggr, Ty A Base, Grading D (2.03 Tons/Cy)	Ton	110		\$ -
01560-07	Stream By-Pass Pumping	Lump Sum	1		\$ -
01560-08	Sandbags	Each	1,000		\$ -
	Allowances (Curb/Gutter, Pavement, Sidewalk)	Allowance	4		\$ -
02370-01.01	Machined Rip-Rap (Class A-1) (1.75 Tons/Cy)	Ton	400		\$ -
02370-02	Soil Compaction Test	Each	2		\$ -
02530-6.01	Locate And Expose Mainline Terminus	Each	1		\$ -
02530-6.03.02	24" Dip	Linear Foot	110		\$ -
02530-6.06	Bypass Pumping	Lump Sum	1		\$ -
02530-6.10	36" Steel Casing	Linear Foot	70		\$ -
02530-6.11	Class A Concrete (Encasements/Supports)	Cubic Yard	5		\$ -
<u>02550-01</u>	24" Harness Restraint	Each	2		\$ -
<u>02551-01</u>	24" Coupling	Each	6		\$ -
02630-4.01.A	Site Preparation And Restoration	Lump Sum	1		\$ -
02632-07	Drainage Structure Removal	Each	2		\$ -
02920-4.01	Stripping And Replacing Topsoil	Cubic Yard	150		\$ -
02920-5.01	Seeding (With Mulch)	Unit	10		\$ -
02950-4.01.A-1	Asphalt Pavement Removal/Replacement	Square Yard	30		\$ -
02950-4.01.C	Concrete Curb & Gutter Removal/Replacement	Square Yard Linear Foot	15 100		\$ -
Cypress Creek - Subtotal Estimated Unit Price Value					\$ -
71.0410 Stream Crossing Stabilization Construction Pkg A - TOTAL Estimated Unit Price Value					\$ -



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**Section 4
Section 4 – Updated RFB Section 00672.4**

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 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").

SARP10 ~~Overall~~ DBE Participation Goal: ~~30%~~

<u>MBE minimum</u>	<u>13%</u>
<u>WBE minimum</u>	<u>2%</u>

(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.

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:

Joann Massey
City of Memphis, Contract Compliance Office
125 North Main Street, Suite 546
Memphis, TN 38103
Phone: (901) 576-6210
Fax: (901) 576-6560
Email: joann.massey@memphistn.gov

MINORITY/WOMEN BUSINESS ENTERPRISE COMPLIANCE FORM

SUBCONTRACT TITLE: Stream Crossing Stabilization Construction Pkg A

Project Participation Goal: ~~DBE minimum 30%~~
MBE minimum 13%
WBE minimum 2%

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

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

\$ _____ % _____ = Total M/WBE and/or DBE

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





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**Section 5
Updated Specification Section 02950**

CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS
Modified by SARP10 Program

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.

4.03 PAYMENT WILL BE MADE UNDER:

Item No.	Pay Item	Pay Unit
02950-4.01.A-1	ASPHALTIC CONCRETE PAVEMENT REMOVAL AND REPLACEMENT	SQUARE YARD
02950-4.01.B	CONCRETE SIDEWALK REPAIR	SQUARE YARD
02950-4.01.C	CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	SQUARE YARD LINEAR FOOT

END OF SECTION 02950



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**Section 6
Addition of Specification Special Instructions**

SPECIAL INSTRUCTIONS

1. MODIFICATIONS AND ADDITIONS TO TECHNICAL SPECIFICATIONS:

- A. In the event of conflict between the TECHNICAL SPECIFICATIONS Construction Drawings, the General Provisions or Special Conditions contained herein, and/or product manufacturer's specifications the more stringent shall apply. However, all conflicts shall be brought to the attention of the INSPECTOR for approval.
- B. The cost of all required material inspections and testing, including, but not limited to earthwork and concrete testing, shall be paid for by the CONTRACTOR.

Item No. 00000-01, Mobilization

- 1. This work consists of mobilizing and demobilizing the prime Contractor's and all Subcontractors' forces, supplies, equipment, and incidentals at the Project site. It shall include all Contractor and Subcontractor costs associated with obtaining performance bonds, insurance, and other preconstruction costs incurred after Contract award that are necessary costs to the Project and are of a general nature rather than directly attributable to other pay items. Include all necessary preconstruction costs not attributable to a specific pay item in the lump sum price for Mobilization and not in any other pay item.
- 2. The Owner will make partial payments for Mobilization with the first and second partial pay estimates paid on the Contract. Payment will be made at the rate of 50% of lump sum price for Mobilization on each of these partial pay estimates provided the amount bid for Mobilization does not exceed 5% of the total amount bid for the Contract. If the amount bid for the item of Mobilization exceeds 5% of the total amount bid for the Contract, the Owner will pay 2-1/2% of the total amount bid on each of the first partial payment estimates, and that portion exceeding 5% on the last partial pay estimate.

Item No. 00000-02, Construction stakes, lines and grades

- 1. The Contractor shall locate utilities, edges of pavement or similar features, make all calculations involved, and provide and place all layout stakes to accomplish the work shown on the plans. Work shall be performed in accordance with Standard Specification Section 01720 of the City of Memphis Standard Construction Specifications.
- 2. The Contractor shall provide all necessary personnel, engineering equipment and supplies, materials, transportation, and work incidental to the accurate and satisfactory completion of this work.
- 3. The Owner will make partial payments for Construction stakes, lines and

grades with the first and second partial pay estimates paid on the Contract. Payment will be made at the rate of 50% of lump sum price for Construction stakes, lines and grades on each of these partial pay estimates

Item No. 02631-01, Mineral Aggregate, Type A Base, Grading D

1. This work consists of furnishing and placing one or more courses of aggregates, and additives if required, on a prepared subgrade. Mineral aggregates base shall be Type A as called for in the bid schedule.
2. The Contractor shall provide all necessary personnel, equipment and supplies, materials, transportation, and work incidental to the accurate and satisfactory completion of this work.
3. Work shall be performed in accordance with Standard Specification Section 02720 of the City of Memphis Standard Construction Specifications.
4. Payment for Type A, Grading D aggregate base shall be a the unit price per ton as shown on the Bid Form. This shall be full compensation for hauling, placement of rip rap, and for all labor, materials and equipment required to complete the item in accordance with the Drawings and Specifications.

Item Nos. 02550-01, Harness Restraint

1. The Contractor shall include all work required to install a restraint system at the joint location shown in the plans. In the event of conflict between the TECHNICAL SPECIFICATIONS Construction Drawings, the General Provisions or Special Instructions contained herein, and/or product manufacturer's specifications the more stringent shall apply. However, all conflicts shall be brought to the attention of the INSPECTOR for approval.
2. Provide harness rods only where a restraint is specifically shown on the Drawings. Harness rods shall be manufactured in accordance with ASTM A 449 and shall have an allowable tensile stress of no less than 39,600 psi. Harness rods shall be hot dip galvanized or field coated with bitumastic before backfilling. Where possible, harness rods shall be installed through the mechanical joint bolt holes. Where it is not possible, provide 90 degree bend eye bolts. Eye bolts shall be of the same diameter as specified in AWWA C111 for that pipe size. The eye shall be welded closed. Where eye bolts are used in conjunction with harness rods, an appropriate size washer shall be utilized with a nut on each end of the harness rod. Eye bolts shall be of the same material and coating as the harness rods.
3. Payment shall be made for each harness restraint installed.

Item Nos. 02551-01, Coupling

1. The Contractor shall include all work required to install ductile iron couplings for use in connecting of smooth end joints of cast iron, ductile iron, asbestos cement, steel, PVC or other types of pipe must be capable of fitting this variety of pipes with one set of follower flanges or end rings. Sleeve shall be of Ductile Iron ASTM A536. Ends shall have a smooth inside taper to provide uniform gasket seal. Sleeve shall be given a shop coat of oil-modified urethanes, corrosion-resistant paint, or epoxy coating. Follower flanges or end rings shall be of the thickness determined by the coupling size, and shall be ductile iron, ASTM-536. Flanges shall be identified by a color-coded shop coat finish. Gaskets shall be compression – type, formed with Virgin Styrene Butadiene Rubber (SBR,) ASTM D2000 3 BA715, and compounded with ingredients to produce permanence and resistance to set after installation. O.D. range shall be imprinted/molded on the gasket in permanent ink (Minimum.) Bolts and Nuts shall be of high-strength, low-alloy steel, with nominal coarse thread, and hex nuts with black finish. Dimensions and minimum stress values shall be in accordance with AWWA/ANSI C111/A21.11.

Manufacturers and Products:

- a. Smith-Blair, Inc. 441
 - b. JCM Industries 210
 - c. Romac Industries, Inc. 501
 - d. Or Approved Equal.
2. After becoming familiar with all details of the work, verify all dimensions in the field, and advise the Engineer of any discrepancy before performing the work. Pipe and equipment openings shall be closed with caps or plugs during installation. Equipment shall be protected from dirt, water, and chemical or mechanical damage. Obtain manufacturer's technical assistance for Contractor training, installation inspection, start up, and owner operating and maintenance training. Follow manufacturer's instructions for installation.
 3. Payment shall be made for each coupling installed.