

Bidding Requirements, Contract Forms and Conditions of the Contract
ADDENDUM
Section 00900

ADDENDUM No. 2

Date July 29, 2015

City of Austin

Project Name Harris Branch Interceptor Lower A and Siphon Line Decommission

C.I.P. No. 4769.010

This Addendum forms a part of Contract and clarifies, corrects or modifies original Bid Documents, dated June 15, 2015. Acknowledge receipt of this addendum in space provided on bid form. Failure to do so may subject bidder to disqualification.

A. Project Manual Revisions:

Addendum to Table of Contents

Remove current Table of Contents and replace with revised Table of Contents.

Addendum to Specifications

Add Specification 501S and Special Provision to 501S.

B. Drawing Revisions:

None.

This addendum consists of 12 page(s)/sheet(s).



Approved by OWNER



Approved by ENGINEER/ARCHITECT



END

Document Number	Title
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VOLUME 1

INTRODUCTORY INFORMATION

05/06/11	Title Page
06/12/15	Table of Contents

BIDDING REQUIREMENTS, CONTRACT FORMS, & CONDITIONS OF THE CONTRACT

Pre-Bid Information

00020	02/04/15	Invitation for Bids
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Instructions to Bidders

00100	02/04/15	Instructions to Bidders
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Information Available to Bidders

00220	05/06/11	Geotechnical Data
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Bid Forms

00300U	03/06/14	Bid Form (Unit Price)
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Supplements to Bid Forms

00400	04/22/13	Statement of Bidder's Experience
00405	09/25/05	Certificate of Non-Suspension or Debarment
00410	05/06/11	Statement of Bidder's Safety Experience
00425	05/06/11	Insurance Cost Form {ROCIP projects only}
00440	05/06/11	Affidavit - Prohibited Activities
00475	05/11/15	Nonresident Bidder Provisions

Agreement Form

00500	03/12/12	Agreement
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Bonds and Certificates

00610	02/23/10	Performance Bond
00620	02/23/10	Payment Bond
00630	05/11/15	Nondiscrimination Certificate
00631	03/06/14	Title VI Assurances Appendix A
00650	07/30/12	Certificate of Insurance
00670	03/20/14	Sales Tax Exemption Certificate
00680	06/05/06	Non-Use of Asbestos Affidavit (Prior to Construction)
00681	06/05/06	Non-Use of Asbestos Affidavit (After Construction)

General Conditions

00700	02/04/15	General Conditions
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Supplementary Conditions

00810	05/11/15	Supplemental General Conditions
00810C	09/16/10	Easements
00820	03/12/12	Modifications to Bidding Requirements and Contract Forms
00830	02/04/15	Wage Rates and Payroll Reporting
00830HH	01/05/15	Wage Rates Highway Heavy

**Document
Number**
Title**Addenda**

00900 02/23/10 Addendum {If any addendum is issued, it will be bound in the front of Contract sets following contract execution.}

SPECIFICATIONS**Division 1 - General Requirements**

01010 04/22/13 Summary of Work
01050 02/04/15 Grades Lines & Levels
01095 07/21/03 Reference Standards and
01096 05/06/11 Stormwater Pollution Prevention Plan (SWPPP)
01200 08/09/12 Project Meetings
01300 04/22/13 Submittals
01353 08/09/12 Construction Equipment Emissions Reduction Plan
01380 08/09/12 Construction Photography & Videos
01500 08/09/12 Temporary Facilities
01505 04/22/13 Construction and Demolition Waste Management
01550 08/09/12 Public Safety and Convenience
01900 03/12/12 Prohibition of Asbestos Containing Materials
01900a 06/05/06 Statement of Non-Inclusion of Asbestos Containing Material (E/A Prior to Design)
01900b 06/05/06 Statement of Non-Inclusion of Asbestos Containing Material (E/A After Design)

City Standard Technical Specifications

Item No.	Date	Description
101S	1/4/2011	Preparing Right of Way
102S	8/20/2007	Clearing and Grubbing
111S	9/26/2012	Excavation
120S	9/26/2012	Channel Excavation
132S	8/20/2007	Embankment
401S	9/26/2012	Structural Excavation and Backfill
402S	11/13/2007	Controlled Low Strength Material
403S	9/26/2012	Concrete for Structures
406S	9/26/2012	Reinforcing Steel
410S	9/26/2012	Concrete Structures
501S	09/26/2012	Jacking or Boring Pipe
505S	2/24/2010	Concrete Encasement and Encasement Pipe
506	3/15/2011	Manholes
509S	9/26/2012	Excavation Safety Systems
510	10/3/2013	Pipe
591S	12/31/2013	Riprap for Slope Protection
604S	12/30/2014	Seeding for Erosion Control
605S	6/21/2007	Soil Retention Blanket
606S	6/21/2007	Fertilizer
608S	9/26/2012	Planting
609S	8/18/2010	Native Grassland Seeding and Planting for Erosion Control
628S	12/31/2013	Sediment Containment Dikes
639S	8/18/2010	Rock Berm

Document Number	Title
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641S	6/21/2007	Stabilized Construction Entrance
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Item No.	Date	Description
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642S	9/1/2011	Silt Fence
700S	9/26/2012	Mobilization
701S	9/26/2012	Fencing
702S	5/20/2002	Removal and Relocation of Existing Fences
703	9/22/1988	Fencing for Excavations
802S	9/26/2012	Project Signs
803S	11/15/2011	Barricades, Signs and Traffic Handling

Special Provisions to City Standard Technical Specifications

Item No.	Date	Description
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SP501S	07/27/2015	Jacking or Boring Pipe
SP505S	2/24/2010	Concrete Encasement and Encasement Pipe
SP608S	9/26/2012	Planting
SP641S	6/21/2007	Stabilized Construction Entrance

Special Specifications

Item No.	Date	Description
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SS1000	9/29/2014	Coffer Dam Dewatering System
SS1050	12/8/2014	Manholes
SS1100	10/22/2014	Siphon Line Decommission
SS1540	1/22/2013	By-pass Pumping
SS01070	9/23/2014	Tunneling Definitions
SS01510	9/23/2014	Interim Tunnel Mechanical Systems
SS01520	9/23/2014	Construction Power and Interim Electrical Systems
SS02400	9/23/2014	Access Shafts
SS02420	9/23/2014	Tunnel Excavation by Microtunnel Boring Machine
SS02430	9/23/2014	Tunnel Excavation by Tunnel Boring Machine
SS02440	9/23/2014	Tunnel Ground Support
SS02450	9/23/2014	Installation of Pipe in Tunnel
SS02460	9/23/2014	Groundwater Control
SS03330	9/23/2014	Low Density Cellular Concrete

VOL. 2 10/09/00 **MBE/WBE Procurement Program**

VOL. 3 04/04/14 **ROCIP Project Safety Manual**

END

Item No. 501S
Jacking or Boring Pipe

501S.1 Description

This item shall govern furnishing and installing of encasement pipe by methods of jacking or boring as indicated on the Drawings and in conformity with this specification. This item shall also include, but not be limited to other constructions activities such as traffic control measures, excavation, removal of all materials encountered in jacking or boring pipe operations, disposal of all material not required in the work, grouting, end seal installation, backfilling and re-vegetation.

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text and accompanying tables, the inch-pound units are given preference followed by SI units shown within parentheses.

501S.2 Submittals

The submittal requirements for this specification item shall include:

- A. Shop drawings identifying proposed jacking or boring method complete in assembled position
- B. Excavation Safety Plan including pits, trenches and sheeting or bracing if necessary,
- C. Design for jacking or boring head,
- D. Installation of jacking or boring supports or back stop,
- E. Arrangement and position of jacks and pipe guides, and
- F. Grouting plan,

501S.3 Materials

- A. Pipe

Carrier pipe and encasement pipe shall conform to Standard Specification Item Nos. 505S, "Concrete Encasement and Encasement Pipe" and 510, "Pipe" and shall be size, type materials, thickness and class indicated on the Drawings, unless otherwise specified.

- B. Grout

Grout for void areas shall consist of 1 part Portland cement and 4 parts fine, clean sand mixed with water.

501S.4 Construction Methods

- A. General

The Contractor is responsible for:

1. Adequacy of jacking and boring operations,
2. Installation of support systems as indicated on the Drawings,
3. Provision of encasement and carrier pipe, and
4. Execution of work involving the jacking operation, the wet or dry method of boring and the installation of encasement pipe simultaneously.

The Contractor shall have sole responsibility for the safety of the jacking and boring operations and for persons engaged in the work. The Contractor's attention is directed to the Construction Industry Occupational Safety and Health Administration (OSHA) Standards (29 FR 1926/1920) as published in U.S. Department of Labor publication OSHA 2207, latest revision, with particular attention to Subpart S. The Contractor shall conform to the requirements in accordance with Standard Specification Item 509S, "Excavation Safety System" and shall provide an appropriate Trench Safety Plan.

When the grade of the pipe at the jacking or boring end is below the ground surface, suitable pits or trenches shall be excavated to provide sufficient room to conduct the jacking or boring operations and for placement of end joints of the pipe. In order to provide a safe and stable work area, the excavated area shall be securely sheeted and braced to prevent earth caving in accordance with the Trench Safety Plan.

The location of the work pit and associated traffic control measures required for the jacking or boring operations shall conform to the requirements of the City of Austin Transportation Criteria Manual and TxDOT Manual on Uniform Traffic Control Devices.

Where installation of pipe is required under railroad embankments, highways, streets, or other facilities by jacking or boring methods, construction shall be undertaken in such a manner that it will not interfere with operation of any railroad, street, highway, utility or other facility and shall not weaken or damage any embankment or structure. All appropriate permits shall be acquired prior to the initiation of the work.

During construction operations, and until the work pits are backfilled and fill material compacted, traffic barricades and warning lights to safeguard traffic and pedestrians shall be furnished and maintained by the Contractor. The Contractor shall submit the proposed pit location and traffic control plan for review by the Engineer or designated representative. The Review by the Engineer or designated representative, however, will not relieve the Contractor of the responsibility to obtain specified results in a safe, professional manner.

When grade of pipe at jacking or boring end is below ground surface, suitable pits or trenches shall be excavated for the purpose of conducting the jacking or boring operations and for joining pipe. Work shall be securely sheeted and braced as indicated on the Excavation Safety Plan to prevent earth caving and to provide a safe and stable work area.

The pipe shall be jacked or bored from the low or downstream end, if possible. Minor lateral or vertical variation in the final position of pipe from line and grade established by Engineer or designated representative will be permitted at the

discretion of Engineer or designated representative provided that such variation is regular and occurs only in one direction and that the final grade of the flow line conforms to the specified direction.

When conforming to details indicated on the drawings, but the bottom of the work pit is unstable or excessively wet or the installation of water and wastewater pipe will result in less than 30 inches (750 mm) of cover, the Contractor shall notify the Engineer or designated representative. The Engineer or designated representative may require the Contractor to install a concrete seal, cradle, cap or encasement or other appropriate action.

Immediately after jacking or boring is complete and the encasement pipe is accurately positioned and approved for line and grade, the clear space between the pipe and the surrounding excavated material shall be completely filled by pressure grouting for entire length of installation if the encasement pipe is 36 inches or larger in diameter.

After placement of the carrier pipe is complete, the ends of the encasement pipe shall be sealed with end seals meeting SPL WW-575A.

As soon as possible after the carrier pipe(s) and end seals are completed, the work pits or trenches, which are excavated to facilitate these operations, shall be backfilled. The backfill in the street ROW shall be compacted to not less than 95 percent of the maximum density conforming to TxDOT Test Method Tex-114-E, "Laboratory Compaction Characteristics & Moisture-Density Relationship of Subgrade & Embankment Soil". Field density measurements will be made in accordance with TxDOT Test Method Tex-115-E, "Field Method for Determination of In-Place Density of Soils and Base Materials".

Where the characteristics of soil, size or size of proposed pipe dictate that tunneling is more satisfactory than jacking or boring, a tunneling method may be submitted for acceptance by Engineer or designated representative

B. Jacking

Heavy duty jacks suitable for forcing the pipe through the embankment shall be provided. In operating the jacks, an even pressure shall be applied to all jacks used so that the pressure will be applied to the pipe uniformly around the ring of the pipe. A suitable jacking frame or back stop shall be provided. The pipe to be jacked shall be set on guides properly braced together, to support the section of the pipe and to direct it in the proper line and grade. The complete jacking assembly shall be placed in order to line up with the direction and grade of the pipe. In general, the embankment material shall be excavated just ahead of the pipe, the material removed through the pipe and the pipe forced through embankment by jacking, into the space thus provided.

The excavation for the underside of the pipe, for at least 1/3 of the circumference of the pipe, shall conform to the contour and grade of the pipe. A clearance of no more than 2 inches (50 mm) may be provided for the upper half of the pipe. This clearance shall be tapered to zero at the point where excavation conforms to contour of pipe.

The distance that excavation shall extend beyond the end of the pipe depends on the character of material encountered, but it shall not exceed 2 feet (0.6 meter) in any case. This distance shall be decreased, when directed by the Engineer or designated representative, if the character of the material being excavated makes it desirable to keep the advance closer to the end of the pipe.

The Contractor may use a cutting edge of steel plate around head end of the pipe extending a short distance beyond the end of pipe with inside angles or lugs to keep cutting edge from slipping back onto the pipe.

When jacking of the pipe is begun, all operations shall be carried on without interruption, insofar as practical, to prevent the pipe from becoming firmly set in the embankment.

Any pipe damaged in jacking operations shall be removed and replaced by the Contractor at its entire expense.

C. Boring

The boring shall proceed from a work pit provided for the boring equipment and workers. Excavation for the work pits and the installation of shoring shall be as outlined in the Trench Safety Plan. The location of the pit shall be approved by the Engineer or designated representative. The boring shall be done mechanically using either a pilot hole or the augur method.

In the pilot hole method an approximate 2 inch (50 mm) pilot hole shall be bored the entire length of the crossing and shall be checked for line and grade on the opposite end of the bore from the work pit. This pilot hole shall serve as the centerline of the larger diameter hole to be bored.

When the augur method is used, a steel encasement pipe of the appropriate diameter equipped with a cutter head to mechanically perform the excavation shall be used. Augurs shall be of sufficient diameter to convey the excavated material to the work pit.

Excavated material will be removed from the working pit and disposed of properly. The use of water or other fluids in connection with the boring operation will be permitted only to the extent to lubricate cuttings. Water jetting will not be permitted.

In unstable soil formations, a gel-forming colloidal drilling fluid, that consists of at least 10 percent of high grade carefully processed bentonite, may be used to consolidate the drill cuttings, seal the walls of the hole and furnish lubrication to facilitate removal of the cuttings from the bore.

D. Tunneling

Where the characteristics of the soil, the size of the proposed pipe, or the use of monolithic sewer would make the use of tunneling more satisfactory than jacking or boring; or when indicated on the drawings, a tunneling method may be used, with the approval of the Engineer or designated representative.

E. Joints

If reinforced concrete pipe is used, the joints shall be in accordance with TxDOT Specification Item 464, "Reinforced Concrete Pipe".

501S.5 Measurement

Jacking or boring pipe will be measured by the linear foot (meter: 1 meter equals 3.281 feet) of pipe complete in place. Such measurement will be made between the ends of the pipe along the central axis as installed.

501S.6 Payment

The work performed and materials furnished as prescribed by this item and measured as provided under "Measurement" will be paid for at the unit bid price per linear foot for "Jacking or Boring Pipe" as the case may be, of type, size and class of encasement pipe indicated on the Drawings. The price shall include full compensation for furnishing, preparing, hauling and installing required materials, encasement pipe, end seals, for grouting and for labor, tools, equipment and incidentals necessary to complete work, including excavation, backfilling and disposal of surplus material.

The Carrier pipe shall be paid at the unit price bid for Standard Specification Item 510, "Pipe".

Payment when included as a contract pay item, will be made under one of the following:

Pay Item No. 501S: Jacking or Boring ___ In. Pipe, Class ___ Per Linear Foot.

End

<i>SPECIFIC</i> Cross Reference Materials
Specification Item 501S, "Jacking or Boring Pipe"

City of Austin Standard Specification Items

<u>Designation</u>	<u>Description</u>
Item No. 505S	Concrete Encasement and Encasement Pipe
Item No. 509S	Excavation Safety Systems
Item No. 510	Pipe

TxDOT Standard Specifications For Construction And Maintenance Of Highways, Streets, And Bridges

<u>Designation</u>	<u>Description</u>
Item 464	Reinforced Concrete Pipe

TxDOT Testing Procedures

<u>Designation</u>	<u>Description</u>
Tex-114-E	Laboratory Compaction Characteristics & Moisture Density Relationship of Subgrade & Embankment Soil

Tex-115-E Field Method for Determination of In-Place Density of Soils and Base Materials

TxDOT Manual on Uniform Traffic Control Devices (MUTCD)

<u>Designation</u>	<u>Description</u>
MUTCD Part VI	Traffic Controls for Street and Highway Construction, Maintenance, Utility and Incident Management Operations
MUTCD Section 6C	Channelizing Devices
MUTCD Section 6C-8	Barricade Design
MUTCD Section 6C-9	Barricade Application
MUTCD Section 6E	Lighting Devices
MUTCD Section 6F	Control of Traffic Through Work Areas

City of Austin Transportation Criteria Manual

<u>Designation</u>	<u>Description</u>
Section 8	Traffic Control
Section 8.5.5.E	Typical Applications/Bore Pits

<i>RELATED</i> Cross Reference Materials
Specification Item 501S, "Jacking or Boring Pipe"

City of Austin Standard Details

<u>Designation</u>	<u>Description</u>
Detail 501S-1	Encasement Detail w/ Casing Spacers

TxDOT Standard Specifications

<u>Designation</u>	<u>Description</u>
Item 476	Jacking, Boring or Tunneling Pipe
Item 502	Barricades, Signs and Traffic Handling

ROCIP Project: Withhold insurance cost. Please refer to sections 00425 & 00810 for information.

**SPECIAL PROVISION To
Standard Specification Item 501S (Version September 26, 2012)
Jacking and Boring Pipe**

For this project, Item No. 501S, Jacking and Boring Pipe, dated 09/26/2012, of the City of Austin Standard Technical Specifications is hereby amended with respect to the clauses cited below. No other clauses or requirements of this Section of the City of Austin Standard Specifications are waived or changed.

501S.2 Submittals

Delete the paragraphs and replace with the following:

- A. All documentation, calculations and drawings needed to clearly demonstrate that proposed equipment is adequate to excavate the material types and conditions indicated in the GDR and GBR.
- B. Shop drawings, schedule of design, manufacture, and delivery of jack or boring equipment. Include detailed descriptions and data for the proposed equipment and facilities, spoil handling system.
- C. Layout of each jacking or boring work area, including pipe storage, and material handling;
- D. Methods of controlling line and grade, and survey protocols;
- E. Excavation Safety Plan including pits, trenches and sheeting or bracing if necessary;
- F. Design for jacking or boring head;
- G. Installation of jacking or boring supports or back stop;
- H. Arrangement and position of jacks and pipe guides;
- I. Breakout plans indicating type of support installed to transfer loads and maintain excavation support and stability of the excavation;
- J. Provisions for protecting adjacent facilities and utilities
- K. Grouting plan;
- L. Qualifications of jacking or boring staff: qualifications and experience of individuals to be involved in jacking or boring construction including the proposed Project Manager, Engineer, and Operators;
- M. Name of Contractors site Safety Officer. The Safety Officer shall administer an accident prevention program, and shall prepare a code of safe practices and an emergency plan.
- N. Code of safe practices and emergency plan.
- O. Documentation:

ROCIP Project: Withhold insurance cost. Please refer to sections 00425 & 00810 for information.

1. Permits for the disposal of excavated material: The Contractor shall obtain and submit written permits from the owners of property where excavated material (spoil) will be deposited off-site. Permits shall absolve the Engineer and the Engineer's subcontractors from responsibility in connection with disposal of such material.
2. Maintain and submit daily shift records, including starting and ending stations for each shift; starting and ending clock reading for each shift; crew size and allocations for each shift; survey results; records of water inflows; any unusual occurrences, including falls, unstable ground, groundwater problems, equipment malfunction, power outages, and the location and time of each such occurrence; other pertinent data as necessary.
3. Maintain and submit weekly a progress chart showing advance on a time scale, annotated with significant events and activities, including details of all down time to account for 24 hours of each day from the first day of excavation.

501S.5 Measurement

Delete the paragraphs and replace with the following:

Jacking and Boring will be subsidiary to Special Specification 002450 "Installation of Pipe in Tunnel".

501S.6 Payment

Delete the paragraphs and replace with the following:

No Separate payment shall be made for work described in this section. Work described in this Section shall be paid for subsidiary to the bid item as specified in SS02450 "Installation of Pipe in Tunnel". All cost for the specified equipment, ground support, maintenance services, and all other requirements either herein or subsidiary to this Section shall be included in bid price as specified in SS02450 "Installation of Pipe in Tunnel".

End