

**SAN ANTONIO WATER SYSTEM
2013 REHABILITATION WORK ORDER CONSTRUCTION CONTRACT
SAWS JOB NO. 13-4504
SAWS SOLICITATION NO. B-13-014-DB**

ADDENDUM NO. 1
January 8, 2013

This addendum, applicable to work designed above, is an amendment to the bidding and specification documents and as such shall be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the addendum number and issue date in the spaces provided on all submitted copies of the proposal.

Addenda Purpose:

1.0 CLARIFICATION:

This project will include the construction of approximately 20,000 linear feet of 8-inch through 60-inch diameter sewer mains installed by various methods of construction such as pipe bursting, cured-in-place pipe and sliplining. References to any other approximations of linear feet as part of this solicitation are hereby clarified.

2.0 MODIFICATION TO BID PROPOSAL, SPECIAL CONDITIONS, AND SPECIFICATIONS:

Please replace previous Bid Proposal, Special Conditions, Specification 851, Specification 855, Specification 868, and Specification 900 with attached.

3.0 TO ANSWER QUESTIONS SUBMITTED IN WRITING:

- Q1. Section 900.1. Do you happen to have the exact footages of HDPE Pipe for the different depths, so we know what SDR to quote whether SDR-19 or SDR-17? 8", 10", 12", 16", 18", 21", 24", 27", 30", 33" & 36"
- A1. Projects are unspecified. Linear footages and depths are not known at this time.
- Q2. Section 900.2 Material. Pipe Color: Light color exterior & interior will not have the ultraviolet protection since the material will not have the 2% Black Carbon UV Protection, Black exterior with Light interior is a very difficult product to manufacturer and not every HDPE Pipe Manufacturer offers this dual color product.
- A2. Please refer to the specification for acceptable pipe material.

- Q3. Pipe Diameter: DIPS or IPS? Green Stripe Pipe or No Stripe?
- A3. IPS. No stripe.
- Q4. Electro fusion PE Saddles: Do we know the sizes needed (Base & Outlets)
- A4. Projects are unspecified. Sizes needed are not known at this time.
- Q5. Would Electro Fusion PE Couplings be allowed to extend PE Pipe back to manholes from within insertion pits?
- A5. No, Electro Fusion PE Couplings cannot be used. Please refer to the specification for acceptable heat fusion joining.
- Q6. Section 1100 (Slip Lining) Would HDPE Pipe be consider?
- A6. Liner pipe will need to be FRP. HDPE will not be considered.

4.0 NON-MANDATORY PRE-BID MEETING:

Meeting Notes are attached for information only. The pre-bid meeting sign-in sheet has been posted previously on the SAWS website.

ACKNOWLEDGEMENT BY BIDDER

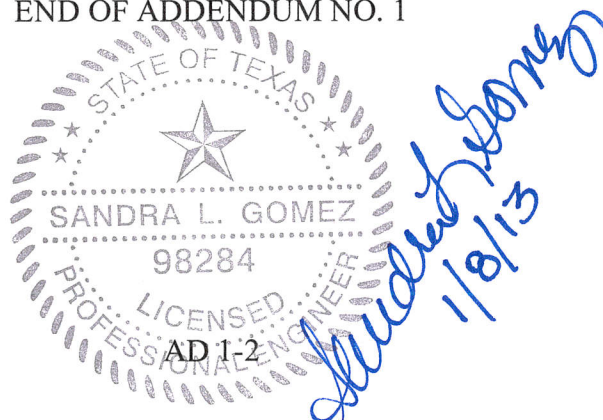
Each bidder is requested to acknowledge receipt of this Addendum No. 1 by his/her signature affixed hereto and to file same and attach with his/her bid.

The undersigned acknowledges receipt of this Addendum No. 1 and the bid submitted herewith is in accordance with the information and stipulations set forth.

DATE

SIGNATURE

END OF ADDENDUM NO. 1



Addendum 1

PROPOSAL

PROPOSAL OF _____, a corporation a
 partnership consisting of _____
 and an individual doing business as _____

TO THE SAN ANTONIO WATER SYSTEM:

Pursuant to Instruction and Invitations to Bidders, the undersigned proposes to furnish all labor and materials as specified and perform the work required for the rehabilitation of sanitary sewer mains by pipe bursting, cured-in-place pipe, and sliplining methods and required appurtenances for San Antonio Water System (SAWS) in accordance with the Plans and Specifications for the 2013 Rehabilitation Work Order Construction Contract, Job No. 13-4504. The undersigned acknowledges and understands that all projects are unspecified at the time of bidding, all quantities are estimated, and it is the intent of this proposal and quantities herein to establish a unit price for various line items to be paid the Contractor by SAWS on an annual basis. No change in the unit price will be made, regardless of the actual quantity of the item of work performed. The work will be performed for the following prices to wit:

| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|---|------|----------|-------------------------|--------------------------|
| 103.1 | Remove Concrete Curb _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 103.3 | Remove Sidewalks and Driveways _____ Dollars | | | | |
| | and _____ Cents | SF | 25 | _____ | _____ |
| 200.1 | Flexible Base (6" Compacted Depth, Type A) _____ Dollars | | | | |
| | and _____ Cents | SY | 100 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|--|------|----------|-------------------------|--------------------------|
| 202.1 | Prime Coat _____ Dollars and _____ Cents | GAL | 20 | _____ | _____ |
| 203.1 | Tack Coat _____ Dollars and _____ Cents | GAL | 20 | _____ | _____ |
| 205.2 | Hot Mix Asphaltic Pavement, Type B (6" Pavement Thickness) _____ Dollars and _____ Cents | SY | 20 | _____ | _____ |
| 205.2 | Hot Mix Asphaltic Pavement, Type B (8" Pavement Thickness) _____ Dollars and _____ Cents | SY | 20 | _____ | _____ |
| 205.3 | Hot Mix Asphaltic Pavement, Type C (1.5" Pavement Thickness) _____ Dollars and _____ Cents | SY | 20 | _____ | _____ |
| 205.3 | Hot Mix Asphaltic Pavement, Type C (2" Pavement Thickness) _____ Dollars and _____ Cents | SY | 20 | _____ | _____ |
| 205.4 | Hot Mix Asphaltic Pavement, Type D (1.5" Pavement Thickness) _____ Dollars and _____ Cents | SY | 100 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|---|------|----------|-------------------------|--------------------------|
| 205.4 | Hot Mix Asphaltic Pavement, Type D (2" Pavement Thickness) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | SY | 100 | _____ | _____ |
| 206.1 | Asphalt Treated Base (10" Compacted Depth) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | SY | 100 | _____ | _____ |
| 208.1 | Salvaging, Hauling, and Stockpiling Reclaimable Asphaltic Pavement (1.5" Depth) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | SY | 100 | _____ | _____ |
| 208.1 | Salvaging, Hauling, and Stockpiling Reclaimable Asphaltic Pavement (2" Depth) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | SY | 100 | _____ | _____ |
| 247 | Flexible Base - Type A, Grade I with 2% Cement (TxDOT Spec.) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | CY | 50 | _____ | _____ |
| 340 | HMAC Pavement Type "C" (10" Compacted Depth, TxDOT Spec.) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | CY | 15 | _____ | _____ |
| 500.1 | Concrete Curb | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |

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|----------|--|------|----------|-------------------------|--------------------------|
| 500.4 | Concrete Curb and Gutter _____ Dollars and _____ Cents | LF | 10 | _____ | _____ |
| 502.1 | Concrete Sidewalks – Conventionally Formed _____ Dollars and _____ Cents | SY | 25 | _____ | _____ |
| 503.1 | Portland Cement Concrete Driveway _____ Dollars and _____ Cents | SY | 15 | _____ | _____ |
| 503.2 | Portland Cement Concrete Driveway - Commercial _____ Dollars and _____ Cents | SY | 15 | _____ | _____ |
| 503.4 | Asphaltic Concrete Driveway _____ Dollars and _____ Cents | SY | 15 | _____ | _____ |
| 504.1 | Concrete Median _____ Dollars and _____ Cents | SY | 5 | _____ | _____ |
| 504.2 | Concrete Directional Island _____ Dollars and _____ Cents | SY | 5 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|--|------|----------|-------------------------|--------------------------|
| 505.1 | Concrete Riprap (5" Thick) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | SY | 10 | _____ | _____ |
| 506.1 | Concrete Retaining Walls - Combination Type | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | CY | 5 | _____ | _____ |
| 508.1 | Relocating Wire Fence | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | LF | 5 | _____ | _____ |
| 509.1 | Metal Beam Guard Rail | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | LF | 5 | _____ | _____ |
| 511.3 | Replacing with Hot Mix Asphaltic Concrete Pavement (2" Type D & 10" Type B) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | SY | 50 | _____ | _____ |
| 511.3 | Replacing with Hot Mix Asphaltic Concrete Pavement (3" Type D & 10" Type B); | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | SY | 25 | _____ | _____ |
| 515 | Topsoil | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | CY | 15 | _____ | _____ |

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|----------|---|------|----------|-------------------------|--------------------------|
| 516.1 | Bermuda Sodding _____ Dollars and _____ Cents | CY | 15 | _____ | _____ |
| 516.2 | St. Augustine Sodding _____ Dollars and _____ Cents | SY | 15 | _____ | _____ |
| 518.1 | Shrubs _____ Dollars and _____ Cents | EA | 5 | _____ | _____ |
| 518.2 | Landscaping/Flower Beds _____ Dollars and _____ Cents | SY | 15 | _____ | _____ |
| 520.1 | Hydromulching (Residential or Commercial) _____ Dollars and _____ Cents | SY | 15 | _____ | _____ |
| 530.1 | Barricades, Signs and Traffic Handling _____ Dollars and _____ Cents | EA | 15 | _____ | _____ |
| 550.1 | Trench Excavation Safety Protection _____ Dollars and _____ Cents | LF | 50 | _____ | _____ |

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|----------|--|------|----------|-------------------------|--------------------------|
| 553 | Storm Water Pollution Prevention Plan (SW3P) _____ Dollars and _____ Cents | EA | 5 | _____ | _____ |
| 805 | Traffic Control Plan (1 per work order, if required) _____ Dollars and _____ Cents | EA | 15 | _____ | _____ |
| 850 | Sanitary Sewer Structure, Type B Structure (0'-6') _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 850 | Extra Depth, Type B Structure (>6' Depth) _____ Dollars and _____ Cents | VF | 1 | _____ | _____ |
| 850 | Sanitary Sewer Structure, Type C Structure (0'-6') _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 850 | Extra Depth, Type C Structure (>6' Depth) _____ Dollars and _____ Cents | VF | 1 | _____ | _____ |
| 851 | Adjusting Existing Manholes _____ Dollars and _____ Cents | EA | 10 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|---|------|----------|-------------------------|--------------------------|
| 852.1 | Sanitary Sewer Manhole (0'-6') | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | EA | 10 | _____ | _____ |
| 852.2 | Sanitary Sewer Drop Manhole (0'-6') | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | EA | 1 | _____ | _____ |
| 852.3 | Extra Depth Manholes (>6') | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | VF | 5 | _____ | _____ |
| 853 | Sanitary Sewer Manholes, Glass-fiber reinforced polyester (FRP) | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | EA | 1 | _____ | _____ |
| 854 | Sanitary Sewer Laterals | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | LF | 50 | _____ | _____ |
| 854.1 | Two-Way Sanitary Sewer Clean-out | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | EA | 10 | _____ | _____ |
| 855 | Reconstruction of Existing Manhole | | | | |
| | _____ Dollars | | | | |
| | and _____ Cents | EA | 10 | _____ | _____ |

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|----------|---|------|----------|-------------------------|--------------------------|
| 858 | Concrete Encasement, Cradles, Saddles and Collars _____ Dollars | | | | |
| | and _____ Cents | CY | 20 | _____ | _____ |
| 865 | Sewer Main Television Inspection (8" through 15" Diameter) _____ Dollars | | | | |
| | and _____ Cents | LF | 10,000 | _____ | _____ |
| 865 | Sewer Main Television Inspection (18" through 24" Diameter); _____ Dollars | | | | |
| | and _____ Cents | LF | 250 | _____ | _____ |
| 865 | Sewer Main Television Inspection (27" through 36" Diameter) _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 865 | Sewer Main Television Inspection (42" through 48" Diameter) _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 865 | Sewer Main Television Inspection (54" through 60" Diameter) _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 868.1 | Sewer Main Cleaning - Normal (8" through 15" Diameter) _____ Dollars | | | | |
| | and _____ Cents | LF | 5,000 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|--|------|----------|-------------------------|--------------------------|
| 868.1 | Sewer Main Cleaning - Normal (18" through 24" Diameter) _____ Dollars and _____ Cents | LF | 250 | _____ | _____ |
| 868.1 | Sewer Main Cleaning - Normal (27" through 36" Diameter) _____ Dollars and _____ Cents | LF | 25 | _____ | _____ |
| 868.1 | Sewer Main Cleaning - Normal (42" through 48" Diameter); _____ Dollars and _____ Cents | LF | 25 | _____ | _____ |
| 868.1 | Sewer Main Cleaning - Normal (54" through 60" Diameter) _____ Dollars and _____ Cents | LF | 25 | _____ | _____ |
| 868.1 | Sewer Main Cleaning - Mechanical (8" through 15" Diameter) _____ Dollars and _____ Cents | LF | 1,500 | _____ | _____ |
| 868.1 | Sewer Main Cleaning - Mechanical (18" through 24" Diameter) _____ Dollars and _____ Cents | LF | 250 | _____ | _____ |
| 868.1 | Sewer Main Cleaning - Mechanical (27" through 36" Diameter); _____ Dollars and _____ Cents | LF | 25 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|--|------|----------|-------------------------|--------------------------|
| 868.1 | Sewer Main Cleaning - Mechanical (42" through 48" Diameter) _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 868.1 | Sewer Main Cleaning - Mechanical (54" through 60" Diameter) _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 900.1 | Pipe Bursting 8" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 7,500 | _____ | _____ |
| 900.1 | Pipe Bursting 10" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 2,000 | _____ | _____ |
| 900.1 | Pipe Bursting 12" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 3,000 | _____ | _____ |
| 900.1 | Pipe Bursting 15" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 500 | _____ | _____ |
| 900.1 | Pipe Bursting 18" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 50 | _____ | _____ |

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|----------|---|------|----------|-------------------------|--------------------------|
| 900.1 | Pipe Bursting 21" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 900.1 | Pipe Bursting 24" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 900.1 | Pipe Bursting 27" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 900.1 | Pipe Bursting 30" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 900.1 | Pipe Bursting 33" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 900.1 | Pipe Bursting 36" Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 900.5 | Upsizing of Main by Pipe Bursting (Greater than One Size), all sizes, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |

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|----------|---|------|----------|-------------------------|--------------------------|
| 901.1 | Install 8" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 1,000 | _____ | _____ |
| 901. | Install 10" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 1,000 | _____ | _____ |
| 901.1 | Install 12" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 1,000 | _____ | _____ |
| 901.1 | Install 15" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 901.1 | Install 18" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 901.1 | Install 21" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 901.1 | Install 24" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |

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|----------|---|------|----------|-------------------------|--------------------------|
| 901.1 | Install 27" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 25 | _____ | _____ |
| 901.1 | Install 30" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 901.1 | Install 33" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 901.1 | Install 36" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 901.1 | Install 42" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 5 | _____ | _____ |
| 901.1 | Install 48" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 5 | _____ | _____ |
| 901.1 | Install 54" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 5 | _____ | _____ |

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|----------|--|------|----------|-------------------------|--------------------------|
| 901.1 | Install 60" CIPP Sanitary Sewer Pipe, all depths _____ Dollars | | | | |
| | and _____ Cents | LF | 5 | _____ | _____ |
| 910.1 | Manhole Rehabilitation (Standard Manholes 4 ft. in Diameter) _____ Dollars | | | | |
| | and _____ Cents | VF | 1,000 | _____ | _____ |
| 910.2 | Sewer Structure Rehabilitation (Non-circular Manholes, and Manholes greater than 4 ft in diameter) _____ Dollars | | | | |
| | and _____ Cents | SF | 500 | _____ | _____ |
| 1001 | Flow Management (24" diameter) including up to 1,000 linear feet of piping per Each (up to 1 per work order) _____ Dollars | | | | |
| | and _____ Cents | EA | 1 | _____ | _____ |
| 1001 | Flow Management (27" diameter) including up to 1,000 linear feet of piping per Each (up to 1 per work order) _____ Dollars | | | | |
| | and _____ Cents | EA | 1 | _____ | _____ |
| 1001 | Flow Management (30" or 33" diameter) including up to 1,000 linear feet of piping per Each (up to 1 per work order) _____ Dollars | | | | |
| | and _____ Cents | EA | 1 | _____ | _____ |
| 1001 | Flow Management (36" diameter) including up to 1,000 linear feet of piping per Each (up to 1 per work order) _____ Dollars | | | | |
| | and _____ Cents | EA | 1 | _____ | _____ |

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|----------|--|------|----------|-------------------------|--------------------------|
| 1001 | Flow Management (42" diameter) including up to 1,000 linear feet of piping per Each (up to 1 per work order) _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1001 | Flow Management (48" diameter) including up to 1,000 linear feet of piping per Each (up to 1 per work order) _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1001 | Flow Management (54" diameter) including up to 1,000 linear feet of piping per Each (up to 1 per work order) _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1001 | Flow Management (60" diameter) including up to 1,000 linear feet of piping per Each (up to 1 per work order) _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1001.1 | Flow Management (24" Diameter) Piping per Linear Foot Over 1000 LF; per Linear Foot _____ Dollars and _____ Cents | LF | 15 | _____ | _____ |
| 1001.1 | Flow Management (27" Diameter) Piping per Linear Foot Over 1000 LF; per Linear Foot _____ Dollars and _____ Cents | LF | 15 | _____ | _____ |

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|----------|---|------|----------|-------------------------|--------------------------|
| 1001.1 | Flow Management (30" or 33" Diameter) Piping per Linear Foot Over 1000 LF; per Linear Foot _____ Dollars and _____ Cents | LF | 15 | _____ | _____ |
| 1001.1 | Flow Management (36" Diameter) Piping per Linear Foot Over 1000 LF; per Linear Foot _____ Dollars and _____ Cents | LF | 5 | _____ | _____ |
| 1001.1 | Flow Management (42" Diameter) Piping per Linear Foot Over 1000 LF; per Linear Foot _____ Dollars and _____ Cents | LF | 5 | _____ | _____ |
| 1001.1 | Flow Management (48" Diameter) Piping per Linear Foot Over 1000 LF; per Linear Foot _____ Dollars and _____ Cents | LF | 5 | _____ | _____ |
| 1001.1 | Flow Management (54" Diameter) Piping per Linear Foot Over 1000 LF; per Linear Foot _____ Dollars and _____ Cents | LF | 5 | _____ | _____ |
| 1001.1 | Flow Management (60" Diameter) Piping per Linear Foot Over 1000 LF; per Linear Foot _____ Dollars and _____ Cents | LF | 5 | _____ | _____ |

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|----------|--|------|----------|-------------------------|--------------------------|
| 1100 | Sliplining Existing Sanitary Sewer, 36" Diameter (all depths) _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 1100 | Sliplining Existing Sanitary Sewer, 42" Diameter (all depths) _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 1100 | Sliplining Existing Sanitary Sewer, 48" Diameter (all depths) _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 1100 | Sliplining Existing Sanitary Sewer, 54" Diameter (all depths) _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 1100 | Sliplining Existing Sanitary Sewer, 60" Diameter (all depths) _____ Dollars | | | | |
| | and _____ Cents | LF | 10 | _____ | _____ |
| 1103.1 | Point repairs for 8" or 10" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars | | | | |
| | and _____ Cents | EA | 25 | _____ | _____ |
| 1103.1 | Point repairs for 8" or 10" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars | | | | |
| | and _____ Cents | EA | 10 | _____ | _____ |

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|----------|--|------|----------|-------------------------|--------------------------|
| 1103.1 | Point repairs for 8" or 10" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 5 | _____ | _____ |
| 1103.1 | Point repairs for 12" or 15" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 5 | _____ | _____ |
| 1103.1 | Point repairs for 12" or 15" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 2 | _____ | _____ |
| 1103.1 | Point repairs for 12" or 15" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 2 | _____ | _____ |
| 1103.1 | Point repairs for 18" or 21" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 2 | _____ | _____ |
| 1103.1 | Point repairs for 18" or 21" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 2 | _____ | _____ |
| 1103.1 | Point repairs for 18" or 21" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|--|------|----------|-------------------------|--------------------------|
| 1103.1 | Point repairs for 24" or 27" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 24" or 27" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 24" or 27" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 30" or 33" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 30" or 33" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 30" or 33" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 36" or 42" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|--|------|----------|-------------------------|--------------------------|
| 1103.1 | Point repairs for 36" or 42" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 36" or 42" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 48" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 48" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 48" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 54" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 54" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|---|------|----------|-------------------------|--------------------------|
| 1103.1 | Point repairs for 54" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 60" Diameter, (0'-10' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 60" Diameter, (10'-15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.1 | Point repairs for 60" Diameter, (>15' depth) including up to 10 LF of piping _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.2 | Extra length point repair, 8" or 10" Diameter, all depths _____ Dollars and _____ Cents | LF | 50 | _____ | _____ |
| 1103.2 | Extra length point repair, 12" or 15" Diameter, all depths _____ Dollars and _____ Cents | LF | 25 | _____ | _____ |
| 1103.2 | Extra length point repair, 18" or 21" Diameter, all depths _____ Dollars and _____ Cents | LF | 15 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|---|------|----------|-------------------------|--------------------------|
| 1103.2 | Extra length point repair, 24" or 27" Diameter, all depths _____ Dollars and _____ Cents | LF | 5 | _____ | _____ |
| 1103.2 | Extra length point repair, 30" or 33" Diameter, all depths _____ Dollars and _____ Cents | LF | 5 | _____ | _____ |
| 1103.2 | Extra length point repair, 36" or 42" Diameter, all depths _____ Dollars and _____ Cents | LF | 5 | _____ | _____ |
| 1103.2 | Extra length point repair, 48" Diameter, all depths _____ Dollars and _____ Cents | LF | 2 | _____ | _____ |
| 1103.2 | Extra length point repair, 54" Diameter, all depths _____ Dollars and _____ Cents | LF | 2 | _____ | _____ |
| 1103.2 | Extra length point repair, 60" Diameter, all depths _____ Dollars and _____ Cents | LF | 2 | _____ | _____ |
| 1103.3 | Obstruction Removal by Excavation, 8" or 10" Diameter, all depths _____ Dollars and _____ Cents | EA | 5 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|--|------|----------|-------------------------|--------------------------|
| 1103.3 | Obstruction Removal by Excavation, 12" or 15" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Excavation, 18" or 21" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Excavation, 24" or 27" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Excavation, 30" or 33" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Excavation, 36" or 42" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Excavation, 48" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Excavation, 54" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|---|------|----------|-------------------------|--------------------------|
| 1103.3 | Obstruction Removal by Excavation, 60" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Remote Device, 8" or 10" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Remote Device, 12" or 15" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Remote Device, 18" or 21" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Remote Device, 24" or 27" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Remote Device, 30" or 33" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Remote Device, 36" or 42" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|---|------|----------|-------------------------|--------------------------|
| 1103.3 | Obstruction Removal by Remote Device, 48" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Remote Device, 54" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Remote Device, 60" Diameter, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1103.3 | Obstruction Removal by Person Entry, all depths _____ Dollars and _____ Cents | EA | 1 | _____ | _____ |
| 1109 | Service Reconnection, all depths (w/ remote control cut device) _____ Dollars and _____ Cents | EA | 50 | _____ | _____ |
| 1109 | Service Reconnection, (w/ open cut excavation, 0'-10' depth, including up to 10 LF of lateral) _____ Dollars and _____ Cents | EA | 100 | _____ | _____ |
| 1109 | Service Reconnection, (w/ open cut excavation, 10'-15' depth, including up to 10 LF of lateral) _____ Dollars and _____ Cents | EA | 50 | _____ | _____ |

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| Item No. | Description (Unit Price to be written in Words) | Unit | Quantity | Unit Price (Figures) | Total Price (Figures) |
|----------|---|------|----------|-------------------------|--------------------------|
| 1109 | Service Reconnection, (w/ open cut excavation, >15' depth, including up to 10 LF of lateral) _____ Dollars | | | | |
| | and _____ Cents | EA | 10 | _____ | _____ |
| 1109 | Service Reconnection, all depths (person entry) _____ Dollars | | | | |
| | and _____ Cents | EA | 2 | _____ | _____ |
| 4438 | Flowable Fill _____ Dollars | | | | |
| | and _____ Cents | CY | 100 | _____ | _____ |

Bid Summary

TOTAL SAWS JOB NO. 13-4504 (SEWER): \$ _____

 BIDDER'S SIGNATURE & TITLE

 FIRM'S NAME (TYPE OR PRINT)

 FIRM'S ADDRESS

 FIRM'S PHONE NO. /FAX NO.

 FIRM'S EMAIL ADDRESS

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The Contractor herein acknowledges receipt of the following:
Addendum Nos. _____

OWNER RESERVES THE RIGHT TO ACCEPT THE OVERALL MOST RESPONSIBLE BID.

The bidder offers to construct the Project in accordance with the Contract Documents for the contract price, and to complete the Project within **365** calendar days from notice to proceed date or until funds are exhausted from the contract. **The bidder understands and accepts the provisions of the contract Documents relating to liquidated damages of the project if not completed on time.**
Complete the additional requirements of the Proposal which are included on the following pages.

SC-1.0 SCOPE OF WORK

I. General

The San Antonio Water System (hereinafter referred to as “SAWS” or “the System”) is soliciting Bids for the purpose of retaining an organization to provide construction services for the rehabilitation of existing SAWS sanitary sewer facilities using pipe bursting, cured-in-place pipe (CIPP), and sliplining methods on a work order construction contract basis.

Contractor shall anticipate a period of careful planning in close coordination with SAWS prior to beginning any work to fully develop procedures and standards for the work that will be performed. Employee safety, workmanship standards, and maintaining the integrity of SAWS operations with minimal disruption will be the key areas to be addressed prior to beginning work.

II. Terms and Conditions

Term of Contract: The Sewer Rehabilitation Construction Contract term will be for 365 calendar days from the notice to proceed, or until funds are exhausted from the contract, subject to funding and approval by the System’s Board of Trustees.

Bid Proposal: The Contractor shall include in his Bid Proposal all labor, equipment, material, tools, supplies and incidentals necessary to complete all work required by this Contract in accordance with the following current specifications: San Antonio Water System (SAWS) Specifications for Water and Sanitary Sewer Construction; Texas Department of Transportation (TxDOT) Standard Specifications for Construction of Highways, Streets and Bridges; the City of San Antonio (CoSA) Standard Specification for Public Works Construction; and any specifications and special conditions specified herein.

Instructions to Bidders:

1. Item 5(f) on page IB-2 of the Instructions to Bidders shall be removed and replaced with the following:

“The Bidder is required to submit as part of the bid a letter from the insurance provider stating provider’s commitment to insure the Contractor for the types of coverage’s or an Insurance Certificate to be in conformance with the types of coverage’s noted in General Conditions Section 5.7 – Contractor’s Insurance Requirements, if awarded the contract.”

2. Item 23 on page IB-7 of the Instructions to Bidders shall be removed and replaced with the following:

“To assist the San Antonio Water System in performing the bidder evaluation and subsequent recommendation of award, each and every bidder **must submit the following with their bid**. Failure to provide the required information may result in determining a non-responsive bidder:

- (a) A complete financial statement for your organization that was prepared within the past 12 months, by an independent Certified Public Accountant, and a point of contact for your banking institution.
- (b) An information packet on company showing experience, organization and equipment.
- (c) A statement regarding ability to complete the project within the schedule taking into account existing commitments.
- (d) Record of performance submittals as required by Special Conditions Section SC-3.1.”
- (e) A completed and signed W-9 Request for Taxpayer Identification Number and Certification form.

Contract Requirements:

1. CONTRACTOR shall make available up to four (4) independent crews able to work simultaneously on work orders.
2. CONTRACTOR will name one individual as coordinator or primary contact to resolve all problems that may arise during the term of the Contract. This individual shall be highly experienced and knowledgeable of the functionality of their company’s sewer rehabilitation work, and shall be available two (2) weeks prior to the starting date of the Contract to assure smooth transition between contractors, if necessary.
3. CONTRACTOR will provide adequate internal control procedures to protect SAWS from financial loss, resulting from any aspect of administering this Contract.
4. CONTRACTOR shall be available to attend meetings and make presentations as requested by SAWS.
5. At the pre-construction meeting, Contractor shall provide SAWS with an emergency 24 hour telephone number for evenings, weekends, and holidays.

SC-2.0 CONSTRUCTION MATERIALS

Unless otherwise specified herein, the Contractor shall furnish all construction materials in accordance with the current San Antonio Water System Specifications for Water and Sanitary Sewer Construction; Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges; the City of San

Antonio Standard Specifications for Public Works Construction; the latest revision of the San Antonio Water System Material Specifications; and specifications herein necessary for the execution and completion of this contract.

SC-3.0 PROJECT REQUIREMENTS

SC-3.1 Record of Performance Submittals: Information required in this section **must be submitted with the bid**. Any bid package that does not include this information may be determined to be non-responsive. The Bidder shall meet the following minimum qualifications for performing sewer rehabilitation work:

1. The Bidder shall have completed a minimum of five (5) trenchless Work Order type projects where Bidder has performed a minimum of fifty percent (50%) of the rehabilitation work.
2. The Bidder shall have successfully completed all of the following:
 - A. Successful rehabilitation of a minimum of 20,000 linear feet of 18-inch diameter or greater sewer pipe AND a minimum of 5,000 linear feet of 24-inch diameter or greater sewer pipe by utilizing similar pipe bursting/crushing methods as is required to accomplish the work on this project. The Bidder shall also have experience in the pipe bursting/crushing method to upsize an existing sewer pipe diameter to a larger diameter. Proof of at least five (5) projects that involved upsizing sewer mains by pipe bursting/crushing method are required.
 - B. Successful rehabilitation of a minimum of 10,000 linear feet of 48-inch diameter or greater sewer pipe utilizing similar CIPP methods as is required to accomplish the work on this project.
 - C. Successful rehabilitation of a minimum of 1,000 linear feet of 42-inch diameter or greater sewer pipe utilizing similar sliplining methods as is required to accomplish the work on this project.

To verify Bidder's experience information, provide a list of individuals familiar with the above referenced projects who can verify, as the owner or engineer, the above information is true and correct. Provide verified telephone numbers, project names, project size and scope, project cost, project start and stop dates, pipe materials and sizes installed, and the equipment and methods utilized on the project.

The Bidder shall be required to have at least one crew and one superintendent that is qualified in the method of rehabilitation being performed on each work order job site during rehabilitation activities

SC-3.2 Performance Time. The Construction Time (Calendar Days) for each individual work order will be determined by SAWS and discussed between

SAWS and the Contractor for concurrence prior to project commencement. SAWS has the final approval over the duration of the construction schedule. No work orders will be issued prior to the notice to proceed. It is the Contractor's responsibility to provide enough work force to accomplish the work orders and workload assigned and complete the work in accordance with the provided schedule. Work orders issued during the term of this contract that have not been completed prior to the expiration of the term shall remain in effect until they are completed.

- SC-3.3 Specifications. All work performed in connection with the job plans and specifications shall be in accordance with the current San Antonio Water System Specifications for Water and Sanitary Sewer Construction, these Special Conditions, the current Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges, the current City of San Antonio Standard Specifications for Public Works Construction any Railroad Permit requirements, and any requirements or specifications specified herein.
- SC-3.4 Schedule of Operations. For each individual work order, Contractor shall furnish to the Engineer a construction progress schedule setting forth the information required by the General Conditions of the Contract. Contractor shall send the construction progress schedule along with written notification to the Engineer and SAWS representative and obtain approval prior to starting work. In addition, Contractor shall submit an updated construction progress schedule weekly to the Engineer and to SAWS Inspector.
- SC-3.5 Cleanup. The Contractor shall maintain at all times during the course of work a neat and orderly area of construction operations. Unless otherwise specified herein, complete cleanup behind construction operations shall be as established in the field by the Construction Inspector. The final acceptance inspection shall not be conducted until the Contractor has completed final cleanup operations. The governing right-of-way entities Inspector/Representative shall accompany the San Antonio Water System Construction Inspector during the final acceptance inspection.
- SC-3.6 Special Risk Exposure(s) Necessitating Additional Requirements: SAWS GCCC-Section 5.7. Contractor's Insurance Requirements adequately specifies the lines of insurance coverage in keeping with the above Assessment results with one exception: please waive Section 5.7.1.1.8 – Builder's Risk line of coverage.

SC-4.0 CONSTRUCTION OPERATIONS

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SC-4.1 Permits. SAWS is responsible for obtaining all necessary City of San Antonio (CoSA) street cut and CoSA right-of-way permits. The Contractor is solely responsible for obtaining all other necessary permits and inspections. Cost of obtaining and fulfilling these permits are the responsibility of the Contractor and are subsidiary to various items in the project, unless a separate bid item for such is included in the bid proposal.

- A. City of San Antonio Right-of-Way Use Permits. SAWS will pay only for the first permit of each project that is within the right-of-way of COSA. If a permit extension is required, the Contractor must notify SAWS a minimum of 10 working days prior to the expiration date of the permit. If the permit expires and needs to be reapplied for, the Contractor will be required to reimburse SAWS for the cost of the permit. In addition, the Contractor is responsible to reimburse SAWS for all permit fines or fees that are associated with improper traffic control, barricades, safety issues, or violations issued by the COSA under the approved permit. SAWS retains the right to withhold future work orders until all permit fines and/or expired permit fees are reimbursed to SAWS.
- B. Railroad Permits. The Contractor shall be aware that portions of the work being performed may be within the Union Pacific Railroad's ('the Railroad') right-of-way (ROW). The Contractor must submit a written scheduling request to the Railroad's scheduling agent. The Contractor's written request must be delivered to the Railroad's scheduling agent:

Mr. John Van Gelder
Assistant Manager
Real Estate Department
Union Pacific Railroad Company
1400 Douglas Street, Stop 1690
Omaha, NE 68179-1690
Fax: 402-544-8532

The Railroad may provide, at the Contractor's expense, an inspector and flagman to oversee the work within the railroad ROW. No payment shall be made for the efforts expended by the Contractor with the Railroad. The Contractor is responsible for meeting all requirements of the Railroad. The costs for services described herewith shall not be paid separately, but shall be included in the relevant bid items established in the bid proposal.

The Contractor shall at all times abide by the conditions outlined in the Pipeline Crossing Agreement between SAWS and the Railroad. SAWS will furnish a copy of the Pipeline Crossing Agreement to the Contractor upon execution or at the pre-construction meeting, whichever comes first.

SAWS will pay for the License Fee, as well as obtain the License from the Railroad.

At all times during construction, installation and repair or removal of a pipeline or wire line the Contractor must obtain and maintain Railroad Protective Liability Insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of the Railroad as named insured, with a limit of \$2,000,000.00 per occurrence and an aggregate of \$6,000,000.00. A binder stating that the policy is in place must be submitted to the Railroad, as well as the SAWS' Risk Manager before the work may be commenced and until the original policy is forwarded to the Railroad.

SC-4.2 General Notes. The following general notes shall be adhered to.

1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the following as applicable.
 - A. Current Texas Commission on Environmental Quality (TCEQ) Design Criteria for Sewerage Systems [30 TAC 217.1-217.17, 30 TAC 217.51-217.58, , and 30 TAC 217.59-217.68 and 30 TAC 213].
 - B. Current TXDOT "Standard Specifications for Construction of Highways, Streets and Drainage."
 - C. Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction."
 - D. Current City of San Antonio "Standard Specifications for Public Works Construction."
 - E. Current Bexar County Specifications.
 - F. Current City of San Antonio "Right-of-Way Ordinance and Criteria Manual".
 - G. Any governing jurisdiction's laws and regulations.
2. The Contractor/Superintendent is to notify and make arrangements with the SAWS, COSA, TxDOT or other jurisdiction's representative and involve the home resident and/or property owners 48 hours prior to excavation or start of project. *For projects located within the Edwards Aquifer Recharge Zone, the Contractor must contact the local TCEQ representative at 210-403-4073 to coordinate project schedule and issues.*
3. The existence and location of underground utilities indicated on the plans are taken from the best records available and are not guaranteed to be accurate. The Contractor/Superintendent is responsible for maintaining,

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supporting, and protecting the integrity of underground utilities and power poles during construction, and is required to call the following numbers 48 hours before beginning any excavation.

| | |
|-----------------------------------|----------------|
| San Antonio Water System | 233-2010 |
| COSA Drainage | 207-8048 |
| COSA Traffic Signal Operations | 207-7720 |
| Texas State Wide one Call Locator | 1-800-545-6005 |
| Bexar Metropolitan Water District | 354-6536 |

Where High Voltage Overhead Power Lines are in close proximity to the work, the Contractor shall be in accordance with the requirements of Chapter 752 of the Texas Health & Safety Code.

4. If damaged, the Contractor shall be responsible for restoring existing features at the project site, including but not limited to existing utilities, concrete rip-rip, concrete drainage structures, curbs, streets, driveways, sidewalks, signs, pavements, sprinkler systems, fences, vegetation, landscaping, etc. to its original or better condition. (No Separate Pay Item)
5. Trench excavation protection shall be accomplished as required by the provisions of Part 1926, Subpart P-Excavation, Trenching, and Shoring of The Occupational Safety and Health's Standards and Interpretations. The Contractor shall also comply with the provisions included in Item 550, Trench Excavation Safety Protection, of the current San Antonio Water System Specifications for Water and Sanitary Sewer Construction.
6. Contractor shall adhere to the requirements of the latest City of San Antonio Tree Ordinance. Adherence to the City of San Antonio Tree Ordinance will not be measured and paid for separately, but shall be considered subsidiary to other bid items.

SC-4.3 Barricades, Signs and Traffic Handling. Payment for line Item 530 Barricades, Signs and Traffic Handling will be made by the contract unit bid price of "Each". Contractor shall be compensated for one (1) barricades, signs and traffic handling item per work order. If off duty police officers are required, payment for off duty police officers shall be considered subsidiary to Item 530 Barricades, Signs, and Traffic Handling (no separate pay item).

SC-4.4 Traffic Control Plan. Payment for line item 805 Traffic Control Plan will be made by the contract unit bid price of "Each". If a traffic control plan is required, Contractor may be compensated for up to one (1) traffic control plan per each work order.

SC-4.5 Wheelchair Ramps. All work associated with the construction of wheelchair ramps shall be in accordance with the requirements of Item 502.1 Concrete

Sidewalks and/or Item 500 Concrete Curbing of the City of San Antonio Standard Specifications for Public Works Construction. In addition, these items shall include the construction of all wheelchair ramps in accordance to the details that are attached herein. The measurement and payment of wheelchair ramps shall be inclusive as stated within these specific items of Concrete Sidewalks and Concrete Curbing/ machine Laid Curb. All payment shall include full compensation for preparing the subgrade; furnishing and placing all material, joints, backfill, excavation, concrete, reinforcement, expansion joints, form work, tools, labor, equipment, and any incidentals necessary, to complete the work.

SC-5.0 Work Orders.

- I. All work order projects that will be issued under this contract are unspecified at the time of bidding, all quantities are estimated in the proposal, and it is the intent of the proposal and quantities to establish a fixed unit price for various line items to be paid to the Contractor by SAWS during the term of this contract. No change in the unit price will be made, regardless of the actual quantity of the item or complexity of work performed during the initial term of the contract.
- II. SAWS does not guarantee that each bid item in this contract will be used on the assigned work orders.
- III. A work order is defined as a document authorizing the completion of an individual project or specific task. The work order includes specific line items and quantities that the contractor will perform which will be charged against the contract.
- IV. SAWS does not guarantee that a work order will be given within any specific timeline. SAWS also reserves the right to limit the number of work orders given out at any time.
- V. The volume of work orders provided to the contractor will be at SAWS sole determination and among other things, be dependent on the completion of previous work orders. If previous work orders are not completed to the satisfaction of SAWS or work orders currently under construction are behind schedule, additional work orders may not be assigned to the contractor until all other work is completed or back on schedule.
- VI. Meetings
 1. A mandatory pre-construction meeting or conference may be held by SAWS for each work order issued. This meeting or conference may be required to plan and discuss the scope of the work order.

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2. A mandatory project coordination meeting may be held with project inspector and affected entities such as CoSA Right of Way Dept., Railroad, TxDOT, etc.
- VII. The Contractor will be responsible for the development of the Storm Water Pollution Prevention Plan and an approved Traffic Control Plan, if required for the work order. The Contractor will also be responsible for providing SAWS with an approved Flow Management plan for each work order.
- VIII. Work orders shall be submitted by the owner representative. It is the intent of the owner to include up to three individual projects within each work order, but the Owner is not limited to this amount. Work Orders due to urgency may be issued individually.
- IX. Payment will be made on a work order basis. No payment will be made prior to the City of San Antonio (or other regulatory body) and San Antonio Water System final approvals.
- X. A 48-hour mobilization response time will be required for each work order issued under this contract. Contractor shall mobilize within 48 hours of receiving a written work order under this contract. Mobilization will not be paid for separately and shall be considered subsidiary to other bid items.
- XI. Contractor shall provide owner with an emergency 24 hour telephone number for evenings, weekends, and holidays by the first working day of the project. This telephone number must be a commercial answering service. The answering service must be able to contact the Contractor and the Contractor must respond back to the owner within two hours of the initial contact.
- XII. The Contractor shall submit pre and post-construction videos in accordance to SAWS Standard Specification Item 866 and special specification 865 sewer main pre-television inspection.
- XIII. Contractor shall submit to the owner the schedule of operations as set forth in SC-3.4 and in SAWS Standard Specification Item 1110 Progress Schedule. A schedule of operation and progress is needed for each work order.
- XIV. All Quality Assurance testing services (material proctor tests, density tests, concrete tests) required shall be performed by a third party under the direction of SAWS. Such testing should be coordinated with SAWS, Contractor, and the SAWS Representative. Such testing does not relieve the Contractor from responsibility for quality control of the project work.
- XV. The Contractor shall comply with this specification documentation.
- XVI. The Contractor shall submit all record drawings as required to SAWS inspections.
- XVII. Completion Report:
 1. Contractor shall submit a completion report to SAWS when each work order is completed.
 2. The completion report shall include but not limited to the following:

- Pre and post MPEG-1 format and written to CD/DVD video and video logs.
- Complete invoices including all sub contractors identifying all unit price items utilized (quantity, description, and unit price and total dollar amount) on each respective project within the work order. The quantity must be agreed on with the SAWS inspector.
- Any test and/or submittals specified in this contract documents such as density tests, structural properties, etc. that are required.

XVIII. Except where bid items are specifically provided in the Proposal, payment to the Contractor to accommodate the requirements specified herein shall be included in the unit price costs for the items bid and shall be considered to be subsidiary to the various items of work under this contract if so specified in the Standard or Special Specifications.

SC-6.0 ARTICLE V. CONTRACT RESPONSIBILITIES

SC-6.1 Contractor's Insurance Requirements, Page GC-18; The following sentence is to be added at the end of Section 5.7.1.1.5 Contractor's Insurance Requirements - Umbrella Liability:

*“(Specifically state which coverage form is being used for this Excess/Umbrella Liability insurance - please include whether the coverage form is Excess **or** Umbrella in the Description of Operations on the Certificate of Insurance.)”*

SC-6.2 Contractor's Insurance Requirements, Page GC-18; The following sentence is to be added at the end of Section 5.7.1.1.7 Contractor's Insurance Requirements - Contractor's Pollution Liability

*“(Specifically state which coverage form is being used for this Contractor's Pollution Liability insurance - please include whether the coverage form is on an Occurrence Basis **or** Claims Made form in the Description of Operations on the Certificate of Insurance which accompanies your bid/response. If the coverage form is Claims Made also include the “Retro-date” of the policy coverage.)”*

SC-6.3 Construction Stakes, Page GC-23; Replace paragraph 5.16.1 with the following:

“The Contractor will be supplied with the appropriate benchmark information, but construction staking will be the responsibility of the Contractor. Detailed transfers of elevation, line and grades to structures and other features of the

Work shall be the responsibility of the Contractor. The Contractor shall be responsible for providing SAWS with a copy of cut sheets for sanitary sewer lines prior to excavation.”

SC-7.0 ARTICLE VIII. CONTRACT TIME COMPLETION

SC-7.1 Commencement of Work, Page GC-31; Replace paragraph 8.1 with the following:

“The Work called for in each Work Order of this Contract shall be commenced by Contractor within 48 hours after issuance of each Work Order by SAWS. SAWS reserves the right to change this time frame if a special situation shall arise on a work order. Under no circumstances shall the Work commence prior to Contractor's receipt of a SAWS issued Work Order. Computation of Work Order Time will begin 48 hours after issuance of a Work Order unless specified otherwise in the Work Order.

Prior to commencement of work and before the 48 hour period as referenced above, a project pre construction meeting will be held for each work order that is issued. Commencement of work on a work order prior to a project preconstruction meeting will not be allowed.”

SC-7.2 Liquidated Damages for Failure to Complete on Time, Page GC-32; Replace paragraph 8.6 with the following:

“The Contractor agrees that time is of the essence on this Contract and that for each day of delay beyond the number of days agreed upon for the completion of the work order, after due allowance for such extension of time as is provided for under the provisions of the preceding paragraph 8.5, the Owner may withhold permanently from the Contractor’s total compensation, not as a penalty but as liquidated damages, the sum per day given in the following schedule. For purpose of assessing liquidated damages, the amount of the contract noted on the table below is defined as the original contract sum awarded.”

ITEM NO. 851
ADJUSTING EXISTING MANHOLES

Item No. 851, “Adjusting Existing Manholes” of the SAWS standard specification shall be replaced with the following:

851.1 DESCRIPTION: This item shall consist of the adjustment of all existing manholes, to include the replacing of existing manhole covers and rings regardless of type shown on the plans and in conformity with the provisions of these specifications. All manholes shall be watertight and upon completion of adjustment, the interior walls coated with a SAWS approved sewer structural coating under Item 910 – Manhole Rehabilitation.

851.2 CONSTRUCTION: Manholes shall be lowered below street subgrade before placing base materials, and openings shall be protected by hatch covers.

Existing manhole rings and covers which are determined by the SAWS Inspector to be in an unacceptable condition, will be removed and replaced with new rings and covers. If cone section is removed the contractor is to upgrade to a 30” opening as required by 30 TAC 217. Removal and replacement of cone section if necessary shall be completed and paid for in accordance with Specification Item No. 855 - Reconstruction of Existing Manholes. Contractor shall take all necessary measures to prevent damage to existing or new rings, cover, or cone from equipment and materials used in or taken through the work area. If an existing or new manhole cover, ring, or cone is damaged by the Contractor, it shall be replaced (as directed by SAWS inspector) by the Contractor at his expense. If concrete throat rings are to be installed they must be used in conjunction with a UV stabilized polyethylene liner and I/I barrier. I/I barrier must meet the following ASTM standards: ASTM D-790/1505 Density of Polyethylene Materials, ASTM D1238 Melt Flow index, ASTM 638 Tensile Strength @ Yield (50mm/mm), ASTM 790 Flexural Modulus, ASTM 648 Heat Deflection temperature @ IGEPAL, ASTM 1693 EsCR, 100% IGEPAL/10% IGEPAL.

Manholes shall be adjusted after street the base material has been laid and before placing of the surface course. Manholes that are going to be adjusted on an existing surface course not being replaced will be in accordance to the City of San Antonio Utility Excavation Criteria Manual Standard Drawing No. 8.8. All manholes shall then be raised, or lowered a sufficient height so as to be level with the finished surface course. Adjustment in height will be made by addition or removal of “throat rings” above the manhole “cone” where feasible. A minimum of two and a maximum of six throat rings may be used at each adjusted manhole. Note: *All new manhole installation shall not exceed four throat rings.*

All manholes shall be watertight and upon completion of adjustment, the interior walls coated with a SAWS approved sewer structural coating under Item 910 – Manhole Rehabilitation. Note: *Check SAWS website for updates on approved materials.*

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Material excavation from around the manholes shall be replaced with flowable concrete in accordance with Standard Drawings, and select materials from the excavation (as shown on the plans or specified by the SAWS). All excess materials shall be disposed of by the Contractor at his own expense and in an approved location.

Manhole Ring Encasement: All manhole rings shall be encased per SAWS Standard Detail DD-852-03.

851.3 MEASUREMENT: Manholes completely adjusted, as prescribed above, will be measured by the unit of each manhole adjusted. The excavation and the amount of concrete or reinforced concrete as necessary to fill the area excavated will not be measured for payment. Coating of existing manholes will be measured separately under Item 910- Manhole Rehabilitation.

851.4 PAYMENT: The work performed as prescribed by this item will be paid for at the contract unit price bid per manhole for “Adjusting Existing Manholes” which price shall be full compensation for the replacement of existing manhole covers and rings, all excavation, including saw cutting of surfaces as required, manhole ring encasement, reinforced concrete and disposal of material excavated; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

*Note: Coating of existing manholes will be paid for separately under Item 910 – Manhole Rehabilitation.

ITEM NO. 855
RECONSTRUCTION OF
EXISTING MANHOLES

Item No. 855, "Reconstruction of Existing Manholes" of the SAWS standard specification shall be replaced with the following:

855.1 DESCRIPTION: This item shall consist of the reconstruction of all existing manholes, all types and sizes, to include the replacement of manhole rings and covers, the replacing of existing cone, manhole section or sections required regardless of type shown on the plans and in conformity with the provisions of these specifications. All manholes shall be watertight and upon completion of reconstruction, the interior walls shall be coated with a SAWS approved sewer structural coating under Item 910 – Manhole Rehabilitation.

855.2 CONSTRUCTION: Manholes shall be raised or lowered by replacing the existing cone and manhole section or sections as required for installation to the finished surface course. All manholes that are reconstructed shall have a minimum 30 inch diameter opening as required by 30 TAC 217. All openings shall be protected by hatch covers or the necessary steel plates. The Contractor shall be required to backfill all manholes with an approved flowable backfill in accordance with the requirements of the right-of-way owner having jurisdiction up to 1 foot above the cone section.

Reconstructed Manholes shall also be cleaned of any debris as required by SAWS Inspector. If a new manhole cover, ring, or reconstructed manhole is damaged by the Contractor, it shall be replaced (as directed by SAWS Inspector) by the Contractor at his expense. If concrete throat rings are to be installed they must be used in conjunction with a UV stabilized polyethylene liner and I/I barrier. I/I barrier must meet the following ASTM standards: ASTM D-790/1505 Density of Polyethylene Materials, ASTM D1238 Melt Flow index, ASTM 638 Tensile Strength @ Yield (50mm/mm), ASTM 790 Flexural Modulus, ASTM 648 Heat Deflection temperature @IGEPAL, ASTM 1693 EsCR, 100% IGEPAL/10% IGEPAL.

Material excavation from around the manholes shall be replaced with concrete in accordance with Standard Drawings, and select materials from the excavation (as shown on the plans or specified by the SAWS). All excess materials (of any type) shall be disposed of by the Contractor at his own expense and in an approved location.

Manhole Ring Encasement: All manhole rings shall be encased per SAWS Standard Detail DD-852-03.

All manholes shall be watertight and upon completion of reconstruction, the interior walls shall be coated with a SAWS approved sewer structural coating as specified in Item

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910 – Manhole Rehabilitation. *Note: Check SAWS website for updates on approved materials.*

855.3 MEASUREMENT: Manholes completely reconstructed, as prescribed above, will be measured by the unit of each manhole (any type or size) regardless of the type shown on the plans. Coating of existing manholes will be measured separately under Item 910- Manhole Rehabilitation.

855.4 PAYMENT: The work performed as prescribed by this item will be paid for at the contract unit price bid per manhole for “Reconstruction of Existing Manholes”, which price shall be full compensation for all excavation, backfill material including select backfill, flowable fill, saw cutting of surfaces as required, reinforced concrete/concrete, manhole ring encasement, diversion of flow, bypass pumping, trench protection, special shoring and disposal of material excavated; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

*Note: Coating of existing manholes will be paid for separately under Item 910 – Manhole Rehabilitation.

ITEM NO. 868
SEWER MAIN CLEANING

Item No. 868, "Sewer Main Cleaning" of the SAWS standard specification shall be replaced with the following:

868.1 **SCOPE:**

The Contractor shall furnish all labor force, equipment, appliances, and materials necessary for cleaning the sewer system including the removal of all debris, solids, sand, grease, grit, etc. from the sewer and manholes to facilitate television inspection and sanitary sewer rehabilitation.

868.2 **DESCRIPTION:**

The Contractor shall be required to have all materials, equipment, and labor necessary to complete the cleaning of the sanitary sewer main and manholes on the jobsite prior to isolating the sewer manhole or line segment and beginning the cleaning process.

The Contractor shall only use the type of cleaning material which will not create hazards to health or property or affect treatment plan processes.

The sanitary sewer lines and structures shall be cleaned using mechanical, hydraulically propelled, and/or high velocity sewer cleaning equipment. The cleaning process shall remove all grease, sand, silts, solids, rags, debris, etc. from each sewer segment, including the manhole(s). Selection of cleaning equipment and the method for cleaning shall be based on the condition of the sanitary sewer mains at the time work commences and will be subject to SAWS approval. All cleaning equipment and devices shall be operated by experienced personnel. Satisfactory precautions shall be taken to protect the sanitary sewer mains and manholes from damage that might be inflicted by the improper use to the cleaning process or equipment. **Any damage done to a sewer by the Contractor shall be repaired by the Contractor at no additional cost and to the satisfaction of SAWS.** Cleaning shall also include the manhole wall washing by high-pressure water jet.

1. Hydraulic Cleaning:

Hydraulic-propelled devices, which require a head of water to operate, must utilize a collapsible dam. The dam must be easily collapsible to prevent damage to the sewer main, property, etc. When using hydraulically-propelled devices, precautions shall be taken to insure that the water pressure created does not cause damage or flooding to public or

private property. The Contractor shall not increase the hydraulic gradient of the sanitary sewers beyond the elevation that could cause overflow of sewage into area waterways or laterals. The flow of wastewater present in the sanitary sewer main shall be utilized to provide necessary fluid for hydraulic cleaning devices whenever possible.

2. High Velocity Cleaning:

Cleaning equipment that uses a high velocity water jet for moving debris shall be capable of producing a minimum volume of 50 gallons per minute (gpm), with a pressure of 1,500 psi, for the sanitary sewer line and 3,500 psi for the (manhole) structure at the pump. Any variations to this pumping rate must be approved, in advance, by SAWS. To prevent damage to older sewer mains and property, a pressure less than 1,500 may be used. A working pressure gauge shall be used on the discharge of all high-pressure water pumps. The Contractor shall use, in addition to conventional nozzles, a nozzle which directs the cleaning force to the bottom of the pipe for sewers 18" and larger. The Contractor shall operate the equipment so that the pressurized nozzle continues to move at all times. The pressurized nozzle shall be turned off or reduce anytime the hose is hold or delayed in order to prevent damage to the line.

3. Mechanical Cleaning:

Mechanical cleaning, in addition to normal cleaning when required, shall be with approved equipment and accessories driven by power winching devices. The Contractor shall submit the equipment manufacturer's operational manual and guidelines to Engineer, which shall be followed strictly unless modified by Engineer. All equipment and devices shall be operated by experienced operators so that they do not damage the pipe in the process of cleaning. Buckets, scrappers, scooters, porcupines, kites, heavy duty brushes, metal pigs, and other debris-removing equipment/accessories shall be used as appropriate and necessary in the field, in conjunction with the approved power machines. The use of cleaning devices such as rods, metal pigs, porcupines, root saws, snakes, scooters, sewer balls, kites, and other approved equipment, in conjunction with hand winching device, and/or gas, electric rod propelled devices, shall be considered normal cleaning equipment.

868.3 GENERAL REQUIREMENTS:

In addition to the requirements herein, the Contractor shall maintain the cleanliness of the work and surrounding premises within the work limits so as to comply with Federal, State, and local environmental and anti-pollution laws, ordinances, codes, and regulations when cleaning and disposing of waste materials, debris, and rubbish. The Contractor shall also keep the work and

surrounding premises within work limits free of accumulations of dirt, dust, waste materials, debris, and rubbish. Suitable containers for storage of waste materials, debris, and rubbish shall be provided until time of disposal. It is the responsibility of the Contractor to secure a licensed legal dump site for the disposal of this material. Under no circumstances shall sewage or solids removed from the main or manhole be dumped onto streets or into ditches, catch basins, storm drains, or sanitary sewers. Cost for this item shall be included in the price bid for sanitary sewer manhole and mainline cleaning.

The Contractor may be required to demonstrate the performance capabilities of the cleaning equipment proposed for use on the project. If the results obtained by the proposed sanitary sewer cleaning equipment are not satisfactory, the Contractor shall use different equipment and/or attachments, as required, to meet specifications. More than one type of equipment/attachments may be required at a location. When hydraulic or high velocity cleaning equipment is used, a suitable sand trap, weir, dam or suction shall be constructed in the downstream manhole in such a manner that all the solids and debris are trapped for removal.

Whenever hydraulically-propelled cleaning tools, those which depend upon water pressure to provide their cleaning force, or any tool which retard the flow of water in the sanitary sewer lines are used, precautions shall be taken to insure that the water pressure created does not cause any damage or flooding to public or private property being served by the manhole section involved. Any damage of property, as a result of flooding, shall be liability and responsibility of the Contractor. The flow of wastewater present in the sanitary sewer main shall be utilized to provide necessary fluid for hydraulic cleaning devices whenever possible. When additional quantities of water from fire hydrants are necessary to avoid delay in normal working procedures, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed or used when there is a fire in the area. The Contractor shall be responsible for obtaining the water meter and all related charges for the set-up, including the water usage bills from respective water purveyor agency. All expenses shall be considered incidental to the cleaning of the existing sanitary sewer mains.

868.4 **MEASUREMENT AND PAYMENT:**

The Contractor shall be fully responsible and shall be paid for sewer system cleaning as part of Item No. 868.1, "Sewer Main Cleaning-Normal" (for Hydraulic and High Velocity Cleaning) and/or Item No, 868.2, "Sewer Main Cleaning-Mechanical" by linear feet for pipe diameter specified and for furnishing all labor forces, hauling, materials, equipment, tools, debris, inspection and incidentals necessary to complete the work.

ITEM NO. 900
RECONSTRUCTION OF SANITARY SEWER BY
PIPE BURSTING/CRUSHING REPLACEMENT PROCESS

Item No. 900, "Reconstruction of Sanitary Sewer by Pipe Bursting/Crushing Replacement Process" of the SAWS standard specification shall be replaced with the following:

900.1 DESCRIPTION: This specification includes requirements to rehabilitate existing sanitary sewers by the pipe bursting/crushing method. The pipe bursting/crushing process is defined as the reconstruction of existing sanitary sewers by the simultaneous insertion (breaking and expanding the old pipe) of liner pipe within the bore of the existing pipe. Also covered in this specification is pipe, pipe joining, manhole connections, connection of service laterals and stubs, point repairs, obstruction removal, television requirements, testing requirements, by-pass pumping criteria, site restoration, erosion control requirements, and warranty requirements.

The pipe bursting/crushing process involves the rehabilitation of deteriorated gravity sewer pipe by installing new pipe material within the enlarged bore created by the use of a static, hydraulic, or pneumatic hammer "moling" device, suitably sized to break the existing pipe or by using a modified boring "knife" with a flared plug that crushes the existing sewer pipe. Forward progress of the "mole" or the "knife" may be aided by hydraulic equipment or other apparatus. Replacement pipe is either pulled or pushed into the bore. Sewer services are reconnected to the new pipe through small excavations from the surface. Sewage flows from the upstream lines/services are pumped as required to prevent overflows and provide continual service. All excavations required for reconnecting and pumping service flows, entry pits, exit pits, obstruction removal, point repairs, among others, are to be kept to a minimum and all damage to surface and underground features, facilities, utilities and improvements are to be repaired.

PRODUCT MANUFACTURER/INSTALLER QUALIFICATION REQUIREMENTS:

Sewer products are intended to have a 50-year design life, and in order to minimize SAWS' risk, only proven products with substantial successful long term track records will be approved.

900.2 MATERIALS

1. HIGH DENSITY POLYETHYLENE PIPE (HDPE) related to pipe bursting or pipe crushing for a sanitary sewer or related pipe line rehabilitation:

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- a. Solid wall HDPE pipe referred to as Drisco 1000, Drisco 8600, Quail Pipe, Poly Pipe, and Plexco Pipe that is in conformance with ASTM F714 and ASTM requirements stated herein are considered approved for this project. HDPE pipe on this project will further be required to have a minimum pipe stiffness of 46 psi for 12" to 48" diameter pipe and 115 psi for 8" to 10" diameters as required by SAWS and TCEQ.
PIPE MANUFACTURER: All pipe and fittings will be high density polyethylene pipe and made of virgin material. No rework except that obtained from the manufacturer's own production of the same formulation will be used. The liner material will be manufactured from a High Density High Molecular weight polyethylene compound which conforms to ASTM D 1248 and meets the requirements for Type III, Class C, Grade P-34, Category 5, and has a PPI (Plastics Pipe Institute) rating of PE 3408.
- b. The pipe produced from this resin will have a minimum cell Classification of 345434C (Inner wall will be light in color) under ASTM D 3350. A higher number cell classification limit which gives a desirable higher primary property, per ASTM D 3350 may also be accepted by the Engineer at no extra cost to SAWS. The value for the Hydrostatic Design basis will not be less than 1600 PSI (11.03 MPA) per ASTM D 2837. Pipe will have ultraviolet protection.
- c. Pipe Color and Quality: For television inspection purposes, the polyethylene pipe will have light-colored interior achieved with a homogenous, light-colored material throughout or with a fully bonded light-colored interior liner meeting specifications above indicated. All pipes shall be free of visible cracks, holes, foreign material, foreign inclusions, blisters, or other deleterious or injurious faults or defects. Pipe and fittings shall be as uniform as commercially practical in color, opacity, density, and other physical properties.

For interior lined pipe, the liner will be a minimum of 10 mils thick and co-extruded. The bond between the layers will be strong and uniform. It will not be possible to separate the two layers with a probe or point of a knife blade so the layers separate cleanly at any point, nor will separation of the bond occur, between layers, during testing performed under the requirements of this specification.

- d. PIPE DIAMETER: Polyethylene Plastic Pipe will meet the applicable requirements of ASTM F 714 Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter, ASTM D 1248, and ASTM D 3035. Internal diameter of the pipe indicated on the plans will be the minimum allowable pipe size.
- e. PIPE DIMENSION RATIOS: The minimum wall thickness of the polyethylene pipe will meet the following, as based on the deepest portion of a particular pipe

pull, typically between manholes:

| <u>Depth of Cover (Feet)</u> | <u>Minimum SDR of Pipe</u> |
|------------------------------|----------------------------|
| 0 – 16.0 | 19 |
| >16.1 | 17 |

Wall thickness shall be as indicated on the plans and/or in accordance with Chevron Plexco Industrial Piping System Pipe Data and Pressure Ratings Bulletin 301, or approved equal.

- f. HEAT FUSION JOINING: Solid wall pipe shall be produced with plain end construction for heat-joining (butt fusion) conforming to ASTM D 2657.

The polyethylene pipe will be assembled and joined at the site using the thermal butt-fusion method to provide a leak proof and structurally sound joint. Threaded or solvent-cement joints and connections are not permitted. All equipment and procedures used will be used in strict compliance with the manufacturer's recommendations. Fusing will be accomplished by personnel certified as fusion technicians by a manufacturer of polyethylene pipe and/or fusing equipment. The contractor shall provide a certification of training for each member. In addition, training must have taken place not more than 12 months before commencing construction.

The butt-fused joint will be true alignment and will have uniform roll back beads resulting from the use of proper temperature and pressure. The joint surfaces will be smooth. The fused joint will be watertight and will have tensile strength equal to that of the pipe. All joints will be subject to acceptance by the Engineers or his representative prior to insertion. All defective joints will be cut out and replaced at no cost to SAWS. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault greater in depth than ten percent (10%) of the wall thickness, will not be used and must be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated above. In addition, if in the opinion of the Engineers and/or his representative any section of pipe has other defects, including those hereinafter listed, that may indicate damaged, improperly manufactured, faulty, or substandard pipe, said pipe will be discarded and not used. Defects warranting pipe rejection include the following: concentrated ridges, discoloration, excessive spot roughness, and pitting; insufficient or variable wall thickness; pipe damage from bending, crushing, stretching or other stress; pipe damage that impacts the pipe strength, the intended use, the internal diameter of the pipe, internal roughness characteristics; or any other defect of manufacturing or handling.

Clamps and Gaskets: Clamps shall be stainless steel, including bolts and lugs as manufactured by JCM Industries Type 108 or equal. Furnish full circle, universal clamp couplings with a minimum 3/16 inch thick neoprene, grid-

type gasket. Select clamps to fit outside diameter of pipe. Use minimum clamp length of 30 inches for replacement pipes O.D. of 10.75" (10" nominal) or greater and 18 inches for replacement pipe O.D. less than 10.75".

Terminal sections of pipe that are joined within the insertion pit will be connected with a full circle pipe repair clamp. The butt gap between pipe ends will not exceed ½ inch.

- g. **SERVICE CONNECTIONS:** A service connection to the installed liner/pipe shall be made using a mechanical strap-on saddle, or an Inserta-Tee. Saddle fusion or electrofusion branch saddles may also be used for smaller sized mains. The service lateral shall be reconnected by installing a new section of lateral service pipe (up to ten linear feet in length) to the liner service saddle, and connecting it to the existing service lateral pipe with elastomeric tube connectors secured with stainless steel band clamps, or with a "Fernco Coupling", or approved equal. All adapters used to connect the new section of the service lateral to the existing section of the service line shall be concrete encased at the point of connection. The connection to the existing service lateral shall be within the ROW or easement and up to 10 linear feet from the main.
- i. **FORCE MAINS:** Where applicable, solid wall pipe for sanitary sewer force mains shall have a minimum working pressure rating of 150 psi, and an inside diameter equal to or greater than the nominal pipe size indicated on the Drawings.
- j. **AUGERING PIPE:** HDPE pipe is not approved in applications requiring augering of sewer pipe.
- k. **PIPE MARKING:** Each standard and non-standard length of pipe or fitting shall be clearly marked with pipe size, pipe class, production code, material designation and other relevant identifying information.
- l. **PIPE INSPECTIONS:** The Engineer reserves the right to inspect pipes or witness pipe manufacturing. Such inspection shall in no way relieve the manufacturer of the responsibilities to provide products that comply with the applicable standards and these Specifications. Should the Engineer wish to witness the manufacturing of specific pipes, the manufacturer shall provide the Engineer with adequate advance notice of when and where the production of those specific pipes will take place. Approval of the products or tests is not implied by the Engineer's decision not to inspect the manufacturing, testing, or finished pipes.

900.3 CONSTRUCTION

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1. **PUBLIC NOTIFICATION:** The Contractor shall make every effort to maintain continuous service usage throughout the duration of the project. In the event that service is interrupted, extent of the outage shall not exceed 8 hours for any property served by the sanitary sewer system. During any service outage, the Contractor shall provide an alternate method of sanitary sewer service or diversion of the flow. A public notification program shall be implemented, and shall as a minimum, require the Contractor to be responsible for contacting each home or business connected to the sanitary sewer, informing them of the work to be conducted, when the sewer will be off-line, and any alternative methods of service that may be provided. The Contractor shall also provide the following:
 - a. Written notice to be delivered to each home or business the day prior to the beginning of work being conducted on the section, and a local telephone number of the Contractor they can call to discuss the project or any problems which could arise.
 - b. Personal contact with any home or business which cannot be reconnected within the time stated in the written notice.
 - c. Inform San Antonio Water System (SAWS) Inspection department 48 hours before action takes place.

2. **SEWAGE BYPASS/DIVERSION:** The Contractor, when required, shall provide for the flow of sewage around the section, sections or individual sewer services of pipe designated for repair or replacement. The bypass shall be made by plugging the line at an existing upstream manhole and pumping or diverting the flow into a downstream manhole or adjacent system. If required, the installation of cleanouts as a point for pumping for individual sewer services shall be included in the bypass-pumping plan as a method to prevent backups for individual services if service is to be cut off for an extended period of time. It is the Contractors responsibility to maintain the flows and any back ups are at the Contractors cost.

The pump and bypass lines shall be of adequate capacity and size to handle the flow. A detail of the flow management plan shall be submitted prior to being given the notice to proceed by SAWS. In addition, the work shall conform to Specification Item 1001 and shall be considered subsidiary to the project (No Separate Pay Item) unless a separate bid item is included in the proposal.

3. **CLEANING AND TELEVISION INSPECTION:** Before installing the new pipe, the existing sewer shall be cleaned and inspected. The Contractor shall remove all internal debris out of the sewer line that will interfere with the installation of the new pipe. Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by close circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the pipe, and it

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shall be noted so that these conditions can be corrected. An MPEG-1 format and written to CD/DVD video and suitable log shall be submitted to the SAWS. The Contractor shall be responsible for confirming the locations of all branch service connections prior to installing the pipe. In addition, the Contractor shall inform SAWS of these connections.

4. **POINT REPAIRS AND OBSTRUCTION REMOVAL:** To the extent required to facilitate the pipe rehabilitation process when normal cleaning of the line will not work, the contractor may have to make point repairs or obstruction removals on sanitary sewer lines and service lines. The Contractor shall make a point repair (excavation) to uncover and remove or repair the obstruction that the pre-installation inspection reveals such as a protruding service connection, dropped joint, or a collapse that will prevent the rehabilitation process. Completing point repairs will be required before rehabilitating the sanitary sewer line between adjacent manholes. Any point repairs necessary to remove broken or jammed equipment shall be incidental and not compensated for by SAWS. All excavating, trenching and backfilling shall conform to SAWS specification Item 804. Furthermore, the pipe used to complete this process shall conform to ASTM D-3034 and ASTM F-679. SAWS shall be notified and shall approve any point repair or obstruction removal before it is constructed.
5. **PIT LOCATION:** Location and number of insertion or launching pits will be chosen by the contractor, and will typically be located near existing or proposed manholes, P.I.'s in the line, at logical breaks in the construction phasing, or at locations to comply with access or maintenance requirements. The ends of the insertion excavation pit shall be sloped 2:1 or flatter, or proper shoring devices shall be used.

Pits shall be placed and located to minimize the total number of pulls and maximize the length of pipe replaced per pull, within the constraints of maintaining service and access and other requirements. Use excavations at point repair locations for insertion pits where possible. When excess ground water is encountered, it shall be removed by the contractor as being incidental to the project.

6. **OPERATIONS:** The contractor shall provide equipment, planning, and job execution necessary to accomplish the work in an efficient manner and consistent with the objectives of these specifications, including preventing damage to existing infrastructure, maintaining pedestrian and vehicle access, and providing continual sewer service to customers.

Pipe shall be assembled and fused on the ground in sections equivalent to the length of the anticipated pull. During installation, all bending and loading of the pipe shall be in conformance with manufacturers recommendations and shall not damage pipe.

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Manholes shall be prepared so as to provide pipe installation at the lines and grades indicated on the plans. The invert in the manholes shall be removed as required to allow for pipe installation activities and to accommodate invert replacement. Manhole inverts shall be restored upon completion with 3000 psi non-shrink grout so as to establish a minimum 4 inch thick bottom on the manhole after shaping per drawings.

7. **EQUIPMENT:** The Contractor shall utilize pipe bursting/crushing equipment with adequate pulling/pushing force to complete pulls in a timely manner. The contractor shall provide equipment on the pulling mechanism to verify the pulling/pushing force exerted on the pipe does not exceed the manufacturer's recommendation for allowable pulling/pushing force to prevent damage to the pipe. The Contractor shall keep, record, and submit a written log to SAWS owner of the pulling/pushing forces exerted on the pipe. Any invalid forces shall be cause for rejection of work and the Contractor will have to remove and replace the pipe at no cost to SAWS.

The pulling force may not exceed the following: 6 tons for 8.625" O.D.; 10 tons for 10.75" O.D.; 17 tons for 14" O.D.; 23 tons for 16" O.D.; 28 tons for 18" O.D. Allowable pulling force for all diameters shall be determined by the contractor depending on the pipe size, wall thickness, manufacturer, field conditions, pull distance, manhole integrity, bearing capacity of soils, adjacent infrastructure, related equipment and cable strength, and related considerations.

Equipment shall be configured with adequate knives or other appropriate devices to minimize interruptions in the installation process due to obstruction removal and other problems. Pipe shall be secured to the pulling/pushing device in accordance with standard practice. The diameter of the pulling/pushing head shall be equal or slightly greater than the pipe OD.

8. **MINIMIZE NOISE IMPACT:** Equipment used to perform the work will be located away from buildings to extent possible so as not to create a noise impact. Provide silencers or other devices to reduce machine noise as required to meet requirements.
9. **PROTECTION:** The Contractor shall provide for the general safety of workers, pedestrians and traveling public throughout this project. Existing surface features and underground facilities and utilities shall also be protected. Damage caused by the Contractor shall be repaired at his own expense. Protection to be provided includes:
 - a. Provide barricades, warning lights and signs for excavations created by point repairs and/or excavation pits. Conform to requirements of Texas Department of Transportation (TxDOT), City of San Antonio (CoSA), and of contract documents.

- b. Protection of Manholes: The Contractor will install all pulleys, rollers, bumpers, alignment control devices and other equipment required to protect existing manholes, and to protect the pipe from damage during installation. Lubrication may be used as recommended by the manufacturer. Under no circumstances will the pipes be stressed beyond their elastic limit.
- c. Do not allow sand, debris, or runoff to enter sewer system.
- d. Verify location of all underground utilities and facilities potentially impacted by rehabilitation related or other project activities and take necessary precautions to provide protection from damage. Damage caused by the Contractor shall be his responsibility and repaired at no additional cost to SAWS.
- e. Protect the new pipe and components during all phases of work including, but not limited to hauling, installation, entry into the entry pit, and prevention of scarring or gouging of the pipe or components.

10. SEALING LINER IN MANHOLE:

- a. Allow liner pipe to normalize to ambient temperatures as well as recover from imposed stretch before cutting to fit between manholes, sealing at manholes, and manhole invert shaping. Normalization usually takes at least 12 hours for polyethylene.
- b. Cut liner so that it extends four inches into manhole. Make a smooth, vertical cut and slope area over top of exposed liner using non-shrink grout.
- c. Seal the annular space between liner and sanitary sewer main at each manhole with a chemical seal and non-shrink grout. Place strips of oakum soaked in sealer (Scotchseal 5600 as manufactured by 3M Corporation, or equal) in a band to form an effective water-tight gasket in the annular space between liner and existing opening in manhole. Make width of the sealing band a minimum of eight inches or the thickness of the manhole wall, whichever is greater.
- d. Finish seal with a non-shrink grout placed around annular space from inside manhole. Apply grout in a band not less than six inches wide.
- e. Reshape and smooth the manhole invert. Form a smooth transition with a reshaped invert and a raised manhole bench to eliminate sharp edges of liner pipe, concrete bench, and channeled invert. Build up and smooth invert of manhole to match flow line of new liner.

11. SERVICE LATERAL/INSTALLATION AND EXCAVATION: Existing service lateral or connection points are determined from the pre-television line inspection. Excavate to expose the existing service connection, remove the old connection and the broken existing pipe to expose the new pipe or liner. Cut a hole in the new pipe and install a strap on saddle, Inserta-Tee, electronic fusion saddle or any approved connections. Contractor shall replace up to 10 linear feet of each service lateral with PVC pipe. All adapters used to connect the new portion of the service lateral to the existing portion of the service line shall be concrete encased (at a point up to 10 linear feet from the main). Complete the service lateral connection per 900.2.1.h. All service connections shall be concrete encased and installed per SAWS Standard Specification No. 854.

12. FIELD TESTING

- a. After the existing sewer is completely replaced, internally inspect with television camera and video as required. The finished tape will be continuous over the entire length of the sewer between two manholes and to be free from visual defects.
- b. Defects which may affect the integrity or strength of the pipe in the opinion of the Engineer will be repaired or the pipe replaced at the Contractor's expense.
- c. If required, the Contractor shall smoke test to verify all sewer service connections.
- d. Compliance with Texas Commission on Environmental Quality (TCEQ) Chapter 217 requirements for gravity sewer construction testing (30 TAC §217.57) is required unless the contractor obtains and provides written authorization from the TCEQ authorizing alternative testing and compliance procedures.

900.4 WARRANTY

1. All work performed or repaired under this Contract will be warranted to be free from defects in material and workmanship for a period of two (2) years, unless otherwise noted, from the date of final acceptance of the individual work order. If the Engineer determines that the process has failed during the warranty period, the Contractor will perform any and all repairs at no additional cost to SAWS.
2. Submittals such as specifications, drawings, test results, and other data showing details of the installation of the new pipe shall be submitted to SAWS and shall be considered incidental to this project. The drawings and data shall include, but not be limited to, the following:

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- Specifications for pipe.
- Location of insertion point or pit.
- Staging area and Traffic Maintenance Plan showing barricades, traffic cones, etc.
- Bypass pumping or diversion plan (locations, pump sizes, discharge pipe sizes and arrangement for backup plan).
- Hydraulic flow capacity calculation with a copy of certification verifying manning's roughness "n" value for the liner.
- Pulling/pushing forces.
- Pre and post video tapes and logs
- Schedule of Operation
- Any testing or submittals specified in this document.

900.5 MEASUREMENT AND PAYMENT: Measurement and payment for items included in this specification shall be in accordance with the pay items listed below. Work included in these items shall include the price provided by the Contractor which will be considered as full compensation for furnishing and placing of all materials, labor, tools, equipment, cleaning, preparation, repairs, obstruction removals such as the cost for dislodgment of the pipe bursting/pipe crushing tool or any other situation that develops after having exhausted all other options which prevents or blocks the proper insertion of the pipe, inspection, phasing, protection, work execution and any other work necessary to complete the project.

Payment will be made under the following:

PAY ITEM 900.1 PIPE BURSTING SEWER: The inserted pipe will be paid for at the contracted bid price per linear foot of pipe installed from MH centerline to MH centerline using the pipe-bursting/pipe crushing method complete in place for the type and size constructed. Said price shall be full compensation for furnishing all materials, all submittals, sealing materials at manholes and annulus (if required), launching pits and receiving pits (including but not limited to all excavation, backfill, and replacement of base material and pavement structures), pumping, bedding, trenching, trench protection, backfilling, tamping, heat fusion joints, bypass pumping/diversion unless a separate item is included in the proposal, post-television inspection, site restoration due to vibration or heaving of the soil (re-compaction and leveling), cutting pavement and surface structures of whatever type encountered and replacement of pavement and surface structures with whatever type specified and all necessary, corresponding, and related work specified herein. Site restoration (including but not limited to replacement of pavement, sidewalks, driveways, curbing, landscaping, sodding, etc.) will not be paid for separately and shall be considered subsidiary to the rehabilitation bid items.

PAY ITEM 900.5 UPSIZING OF MAIN (GREATER THAN ONE SIZE): All upsizing shall be based on the Upsizing Schedule Chart (USC) that is attached. When a main has been determined to be upsized from one size to another, the USC shall be used as a

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method to determine the number of sizes the existing pipe will be upsized. All upsizing from one size to the next (i.e. 6" to 8" or 10" to 12") is inclusive to pay Item 900.1. All upsizing greater than one size (i.e. 6" to 10" or 8" to 12") shall be at an additional cost to the pipe bursting installation line Item 900.1.

Upsizing of mains (greater than one size) shall be paid by the linear foot corresponding to line Item 900.1, which will indicate the size of pipe for installation. Item 900.5 is intended to compensate the Contractor for additional cost and liability for the upsizing of mains greater than one pipe size. Said price shall include all expenses and liability for the additional upsizing of a main, which shall include all materials, equipment, liability, and all necessary, corresponding, and related work necessary to complete the work.

| Upsizing Schedule Chart (inches) |
|---|
| 6 |
| 8 |
| 10 |
| 12 |
| 16 |
| 18 |
| 20 |
| 24 |
| 26 |
| 30 |
| 36 |

SERVICE RECONNECTION: Measurement and payment for Sanitary Sewer Service Connections shall be made in accordance with Specification Item No. 1109.

POINT REPAIRS AND OBSTRUCTION REMOVAL: Measurement and payment for point repairs and obstruction removals shall be in accordance with Specification Item No. 1103.

EXTRA LENGTH POINT REPAIR, ALL DEPTHS: Measurement and payment for extra length point repairs shall be in accordance with Specification Item No. 1103.

**NON-MANDATORY PRE-BID MEETING NOTES
SAN ANTONIO WATER SYSTEM
2013 REHABILITATION WORK ORDER CONSTRUCTION CONTRACT
SAWS JOB NO. 13-4504
SAWS SOLICITATION NO. B-13-014-DB**

I. MEETING TIME/PLACE

- Thursday, January 3, 2013, 10:00 a.m.
- SAWS, Tower II, Conference Room CR-C137

II. PROJECT DISCUSSION

1. This is an emergency type contract so 48-hour response is expected on all work orders. 48- Hour mobilization will not be paid separately and shall be considered subsidiary to other bid items.
2. The intent of this contract is to rehabilitate sanitary sewer lines using trenchless methods.
3. All work orders shall be designed trenchless and the contractor that wins this work order contract is expected to perform a majority of the work.
4. The contractor is expected to maintain work on each work order until it's complete and multiple work orders may be issued at one time.
5. Work orders can be issued on any side of town. Projects are unspecified.
6. There will be work orders for a variety of diameters and we will be rehabbing large diameter mains.
7. All work hours may be necessary for this contract. This includes restricted hours, night work, and weekend work.
8. Please be familiar with SAWS standard specs and the specs for this contract.
9. Flow Management such as bypass pumping is subsidiary to other bid items for mains smaller than 24-inches. 24-inches and large, payment will be measured by length of rehabbed main, not bypass discharge main.
10. Please be sure to read the special conditions. If you do not meet all the criteria, your bid will be rejected.