

ADDENDUM NO. ONE

**BULL CANAL RELOCATION,
PROJECT NO. 19-747A
AND
WASHINGTON STREET WIDENING,
150TH AVENUE TO 152ND AVENUE,
PROJECT NO. 19-237**

COLLECTIVELY PROJECT NO. 19-237

CITY OF THORNTON, CO

TO: Prospective Bidders and all others concerned

DATE: November 17, 2021

PURPOSE: To provide additional information and clarification to the solicitation documents for the above-referenced Project.

1. The following shall Add to, Modify, and/or Delete portions of the Project Manual and Drawings for the Project-noted above.

A. The Project Manual shall be modified as follows:

a. The first paragraph of the Invitation for Bid Proposals is deleted in its entirety and replaced with the following:

“Sealed Bid Proposals for Bull Canal Relocation, Project 19-747A, and Washington Widening, 150th Avenue to 152nd Avenue, Project No. 19-237 (collectively, known as, the “Washington Widening, 150th Avenue to 152nd Avenue, Project No. 19-237”) will be received in the Contract Administration Office at the City of Thornton (Thornton) City Hall (2nd floor), 9500 Civic Center Drive, until 2:00 p.m., December 3, 2021. At that time, Bids will be publicly opened and read aloud.”

The intent of the above paragraph is to change the bid due date to December 3, 2021 at 2:00 p.m. Any reference to the Bid Due date within the Invitation for Bids shall be considered to be changed as indicated above.

b. The Project Bid Sheets are updated with this addendum and provided for convenience. Prospective Bidders shall use the Project Bid Sheets revised by this addendum and attached hereto.

B. The Project Drawings and Technical Specifications shall be modified as follows:

- a. Project Technical Specification Section 420 is deleted in its entirety and replaced with the attached Technical Specification Section 420 – Addendum No. 1.
- b. Project Drawings Planset B – Washington Street Widening are modified as follows:
 - i. Sheets 3, 7, 8, and 9 are modified as indicated on the drawings.
 - ii. New sheets are hereby included to provide cross sections for the following:
 1. Washington Street stations 190+00 to 198+50
 2. 152nd Avenue stations 113+00 to 114+50

2. The following questions and answers are provided for additional clarification to the Contract Documents.

Question 1: “Bid Item: 506-00237 – Riprap (36 Inch) (Special) – Mustang Run profile on sheet 97 shows 128 cy of Type M Soil Riprap 36” Depth and 193 CY of Type VH Soil Riprap 36” Depth. Mustang Run Structural detail sheet 112 shows 192 CY of Type M Soil Riprap and 221 CY of Type M Soil Riprap 36” Depth. What size riprap shall be used for both locations of Riprap 36” Special at Mustang Run?”

Answer 1: Install per sheet 97.

Question 2: “Storm Sewer Profile DP16 shows 39.20 LF of 12” RCP, yet there is no pay item for 12” RCP. Will a pay item be added?”

Answer 2: The pay item as been added to the revised Project Bid Sheets.

Question 3: “Sanitary Sewer tabulation sheet on plan sheet 164 shows 243 LF of 8” Sanitary Line being installed on Plan sheet 166. The sanitary sewer shown on plan sheet 166 is noted as 12” PVC. What size sanitary sewer line shall be installed on plan sheet 166?”

Answer 3: The Sanitary Sewer shown on sheet 166 shall be 12-Inch PVC.

Question 4: “Bid Item 210-00050 Reset Fire Hydrant: Where shall the fire hydrant be relocated to shown on Washington Plan sheet 16?”

Answer 4: A new fire hydrant shall be installed at approximately STA 164+10 on the east side of road. The existing waterline shall be abandoned to the east of the fire hydrant. All work will be paid under Reset Fire Hydrant.

Question 5: "Bid Item 210-00001 Reset (Utility) Structure: Shall the existing Utility Structures on the Demo plans be relocated outside of the proposed Washington prism?"

Answer 5: Contractors shall coordinate with applicable utility companies while they relocate their utility outside of the proposed Washington Street prism.

Question 6: "Pipe Bedding Note #3 on the Storm Sewer Plan & Profile Sheets states "Pipe Bedding shall conform to City of Thornton construction standards and specifications. Squeegee or mixtures containing squeegee shall not be used". City of Thornton Standard Spec for Construction Procedure 105.4 O Pipe Bedding states "The bedding material shall be squeegee, non-fractured, rounded and shall conform to the following limits when tested by means of laboratory sieves". What material shall be used for bedding of Storm Sewer?"

Answer 6: For the Storm Sewer bedding, Contractors shall comply with detail 400-2 on sheet 168.

Question 7: "What material type, product, and strength is required for Geogrid Pavement Reinforcement? Additionally, is the geogrid install under, over, or within the 12" ABC Section?"

Answer 7: The pay item Geogrid Pavement Reinforcement has been removed and a pay item Geotextile (Reinforcement) has been added to the Project Bid Sheets. The Geotextile (Reinforcement) shall be RS380i or approved equal. The Geotextile (Reinforcement) shall be installed below the ABC section. The applicable Project Drawing Sheets have been updated and included as part of this Addendum. The contractor shall provide submittals demonstrating all specifications of the Geotextile (Reinforcement) to ensure product meets RS380i requirements.

Question 8: "Stabilized Staging Area is shown on Sheet 17 of the Bull Canal Box Plans, how is this work measured and paid?"

Answer 8: Stabilized Staging Area is incidental to the project and not paid separately.

Question 9: "Is water proofing membrane required for the entire length of the FRICO Box?"

Answer 9: No.

Question 10: "Bull Canal Plan Sheet 44 – Please confirm how and which item the Trickle Channel shown on Sheet 44 is paid?"

Answer 10: A line item has been to the revised Project Bid Sheets.

Question 11: "Please confirm the water stop detail for the slab, walls and lid structure and type of water stop required for the FRICO Box Culvert Joints."

Answer 11: Contractor shall install the water stop per details on Bull Canal drawing set sheet 48.

Question 12: "Typical Cross Section Page 9 shows 36-inches of over excavation how is this measured and paid?"

Answer 12: Over excavation is not needed. Please see the revised drawing sets issued with this addendum.

Question 13: "Please provide a detail for utility sleeving through FRICO Box per Utilities Specification Page 140."

Answer 13: The contractor shall coordinate with the utility companies on the type on the sleeving they will install. There will be no sleeving within the box structure.

Question 14: "Please confirm how Structure Excavation and Structure Backfill for the FRICO box are to be paid."

Answer 14: Structure Excavation and Structure Backfill are incidental to the project and are not paid separately.

Question 15: "What is the expected shop drawing turn around by FRICO?"

Answer 15: Fourteen calendar days as defined in section 31 of the Special Conditions.

Question 16: "Please advise how the management of FRICO "Winter Flows" will be measured and paid."

Answer 16: A pay item for Winter Flows has been added to the Project Bid Sheets. The contractor shall submit a shop drawing detailing how they will maintain the required 20 cfs flow associated with the winter shutdown period.

Question 17: Would the City be open to allowing polypropylene pipe as an alternate to reinforced concrete pipe?"

Answer 17: Yes, under the conditions of the product approval letter dated February 28, 2020 (attached).

Question 18: "I cannot find any specifications for item 36 Ref 420 Geogrid. There does not seem to be any information about specific products or product specifications to determine what product is needed. Please clarify."

Answer 18: The pay item Geogrid Pavement Reinforcement has been removed and a pay item Geotextile (Reinforcement) has been added to the Project Bid Sheets. The Geotextile (Reinforcement) shall be RS380i or approved equal. The Geotextile (Reinforcement) shall be installed below the ABC section. The applicable Project Drawing Sheets have been updated and included as part of this Addendum. The contractor shall provide submittals demonstrating all specifications of the Geotextile (Reinforcement) to ensure product meets RS380i requirements.

Question 19: "How will the structure excavation be paid for bull canal box culvert?"

Answer 19: Structure Excavation and Structure Backfill are incidental to the project and will not be paid separately.

Question 20: "Can FRICO ditch be channeled into a temporary diversion without being subject to FRICO liquidated damages during the Irrigation Season?"

Answer 20: Yes. A pay item for Bypass Flows has been added to the Project Bid Sheets. The contractor shall submit a shop drawing detailing how the required flows (20 CFS for winter and 150 CFS during the irrigation season) throughout the entire project limits. The Bypass design will need to be approved by FRICO prior to installation.

Question 21: "What is the flow rate in the FRICO ditch that has to be maintained during the Irrigation Season?"

Answer 21: 150 CFS

Question 22: "The 4 Inch waterline lowering under the FRICO ditch does not seem constructible the way the 10 in steel casing is shown in the JR Engineering Plans. The standard FRICO design detail shows the lowered constructed a different way. Can the City provide clarification on the 10 in casing installation based on the conflict with the FRICO standard and the plans shown?"

Answer 22: Contractors shall use Planset C – Washington Street Widening –

Waterline Relocation, which are approved by FRICO, to complete the waterline lowering under the Bull Canal.

Question 23: "Can the City specify the material that will be required for the trench stabilization material?"

Answer 23: Trench Stabilization Material for the Bull Canal Culvert shall consist of 6 inches of ABC (Class 6) as shown on Sheet 47 of the Bull Canal Plans while the Trench Stabilization Material for the Mustang Run shall conform to the City of Thornton Construction Standards and Specifications. Refer to detail 400-2 on sheet 168.

Question 24: "What lift of HMA will require the Geogrid Pavement Reinforcement?"

Answer 24: The pay item Geogrid Pavement Reinforcement has been removed and a pay item Geotextile (Reinforcement) has been added to the Project Bid Sheets. The Geotextile (Reinforcement) shall be RS380i or approved equal. The Geotextile (Reinforcement) shall be installed below the ABC section. The applicable Project Drawing Sheets have been updated and included as part of this Addendum. The contractor shall provide submittals demonstrating all specifications of the Geotextile (Reinforcement) to ensure product meets RS380i requirements.

Question 25: "Where will the relocate fire hydrant be place since it is not in the new roadway alignment?"

Answer 25: A new fire hydrant shall be installed at approximately STA 164+10 on the east side of road. The existing waterline shall be abandoned to the east of the fire hydrant. All work will be paid under Reset Fire Hydrant.

Question 26: "Plan sheet 46 states there is a total quantity of ABC CL 6 of 70695 however the bid quantity is 41500 ton. Please clarify?"

Answer 26: The bid quantity of 41,500 tons is correct.

Question 27: "Will the City add a pay item for temporary striping and striping removal for the project instead of making it incidental?"

Answer 27: Temporary striping and striping removal are incidental to the project. Additionally, costs associated with installation, maintenance and removal of detour pavement is considered incidental to the project.

Question 28: "How will the temporary water service be paid for during the

installation of the new waterline?”

Answer 28: Costs for temporary water services shall be Incidental to installation of the Waterline.

Question 29: “Demolition Plans state that the existing asphalt is 8 to 18 inches in depth. Project Special Provision 202 states the existing asphalt is between 5 to 8 inches. Which is correct?”

Answers 29: Contractors should assume the 8 to 18 inches reference is correct.

Question 30: “If both Bull Canal and Washington Street are both awarded will similar bid items be deleted or will both be paid? (Examples traffic control, surveying, mobilization)”

Answer 30: Both will be paid. Contractors should keep these costs separate withing their bid.

Question 31: “For the above-referenced project, is the City planning to change the striping material for line items 109-112 FROM preformed plastic TO preformed thermoplastic material as you did on the 144th Avenue Widening project? If not, please clarify that the City is requesting 270 ES striping material for the lane line AND the word / symbol AND crosswalk / stop line items?”

Answer 31: In accordance with project specifications section 627, Materials section, Item 1.C “Symbols, legends, long lines, skips, stop bars and crosswalks shall be 3M Series 270 ES or approved equal. For concrete pavement, long lines and skips shall be 3M Series 380I-5ES or approved equal.

Question 32: “The plans call for a geogrid under the base course but the specs are for geogrid pavement reinforcement. Which one is required? Please provide the type and specs for the material you are requesting.”

Answer 32: The pay item Geogrid Pavement Reinforcement has been removed and a pay item Geotextile (Reinforcement) has been added to the Project Bid Sheets. The Geotextile (Reinforcement) shall be RS380i or approved equal. The Geotextile (Reinforcement) shall be installed below the ABC section. The applicable Project Drawing Sheets have been updated and included as part of this Addendum. The contractor shall provide submittals demonstrating all specifications of the Geotextile (Reinforcement) to ensure product meets RS380i requirements.

3. The Pre-Bid Conference Minutes as well as the Project Manager’s notes are attached for additional information.

4. This Addendum becomes part of the Contract Documents. All other conditions and requirements of the Contract Documents will remain unchanged. Receipt of this Addendum must be acknowledged in the space provided on the Bid Proposal Form in the Project Manual.

END OF ADDENDUM NO. ONE

DocuSigned by:
Jim Jensen 11/17/2021
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Jim Jensen Date
Contracts Manager

BID PROPOSAL

**To: City of Thornton
Attention: Contracts and Purchasing Director
9500 Civic Center Drive
Thornton, Colorado 80229**

The undersigned Bidder, having examined the Specifications, Drawings, and all other documents contained in the Contract Documents, and having examined the Project site where the Work is to be performed, and having familiarized itself with all local conditions affecting the Work and having knowledge of the cost of Work, hereby proposes to execute and perform the Contract set forth in these Contract Documents, of which this Bid Proposal forms a part, and shall do the Work therein described in accordance with the terms and conditions therein set forth, and shall furnish all required labor, Materials, Equipment, tools, Construction Equipment, transportation and services for said Work, and shall pay all applicable fees, permits, taxes, and other incidental costs, all in strict conformity with the Contract Documents, for an amount computed upon the basis of the quantity of Work actually performed at the Bid Proposal prices provided below.

It is understood that any listed quantities of Work to be performed at Unit Prices, except those items specified to be paid at plan quantity, are approximate only and are intended principally to serve as a guide in evaluating Bid Proposals, and the Work will be paid by measuring actual quantities and multiplying the actual quantity by the agreed upon Unit Price. Listed quantities of Work specified to be paid at plan quantity are given as a convenience to assist the Bidder during the bid process and are approximate only, and both Bidder and Thornton agree that regardless of the actual final in place quantity the items of Work specified to be paid at plan quantities will not be measured for payment, and payment will be made based on the plan quantity specified multiplied by the agreed upon Unit Price.

It is further agreed that any quantities of Work to be performed and Material to be furnished at Unit Prices may be increased or decreased as may be considered necessary, in the opinion of Thornton, to complete the Work fully as planned and contemplated and that all quantities of Work or Materials, whether increased or decreased, are to be performed at the Unit Prices set forth in the Bid Proposal, except as provided for in the General Conditions.

It is further agreed that any Lump Sum Prices may be increased to cover Changed or Extra Work ordered by Thornton, but not shown on the Drawings or required by the Specifications, in accordance with the provisions of the General Conditions. Similarly, they may be decreased to cover deletion of Work so ordered.

It is further agreed that any combination of Unit Prices and Lump Sum Prices contained in the Bid Proposal, as applicable, may be used by Thornton to price Changed or Extra Work regardless of the scope or quantity of the change, except as may be otherwise provided for in the General Conditions.

By submitting this Bid Proposal, the Bidder acknowledges its understanding that the Bid process is solely intended to serve the public interest, in achieving the highest quality of services and goods at the lowest price and that no right, interest, or expectation shall vest or inure to the benefit of a Bidder as a result of any reliance or participation in the process. In submitting this Bid Proposal, it is understood that the right is reserved by Thornton to reject any or all Bid Proposals and waive informalities or irregularities in Bid Proposals.

The undersigned further agrees, if awarded the Contract for the Work included in this Bid Proposal, to begin and to complete the Work contemplated in accordance with all the conditions set forth in the Contract Documents.

The undersigned has carefully checked the Unit Prices, Lump Sum Prices, and Extended Prices inserted by it and understands that they are the Bidder's sole responsibility and that Thornton will not be responsible for any errors or omissions on the part of the undersigned Bidder in preparing this Bid Proposal.

The undersigned certifies that this Bid Proposal is genuine, not collusive, or made in the interest or behalf of any person not named as provided in the Instruction to Bidders and that the undersigned has not, directly or indirectly, induced or solicited any other Bidder, or induced any other person, firm or corporation to refrain from submitting a Bid Proposal, and the undersigned has not in any manner sought by collusion to secure for itself an advantage over any other Bidder.

The undersigned has attached a certified check without endorsement or conditions, payable to the City of Thornton, in the sum of five percent (5%) of the Bid Proposal, drawn on a bank which is a member of Federal Reserve System or which is a member of the Federal Deposit Insurance Corporation, or attach a cashier's check for five percent (5%) of the total Bid Proposal amount, or attach a Bid Bond written by a surety company approved by Thornton and listed in the most recent Federal Register Circular 570 or having a current Best's rating of A or better for five percent (5%) of the total Bid Proposal amount.

It is expressly understood that the check or bond is given as security and as a guarantee that the Bidder will, if awarded the Contract, timely execute the Contract, furnish an acceptable Performance Bond and Labor and Material Payment Bond on the forms included in the Contract Documents if required, furnish the required insurance, and furnish the other documents required by the Contract. The undersigned expressly acknowledges that the amount thereof represents the agreed damages that Thornton will sustain if the Bidder fails or refuses to execute and deliver within ten (10) Calendar Days from and including the date of the Notice of Award, the Contract, the required Performance Bond and Labor and Material Payment Bond, the required insurance, and the other documents required by the Contract, in which event said check or bond shall be immediately payable to and retained by Thornton.

The Bidder grants Thornton the right to hold the lowest three (3) Bid Proposals received, together with the accompanying Bid Proposal securities, for a period of sixty (60) Calendar Days after the date of submission of the Bid Proposals and to delay Notice of Award until the end of such time period.

The undersigned Bidder further grants Thornton the right to award this Contract on the basis of any possible combinations of base Bid Proposal and add or deduct alternate(s), if any, that best suits Thornton's needs.

The undersigned Bidder further agrees to comply with Colorado's statutes. Pursuant to Colorado law, if Bidder's form of business is a sole proprietor or individual, Bidder hereby agrees that upon receipt of Notice of Award, Bidder will complete and file with Thornton a sworn Affidavit, the form of which will be provided by Thornton, affirming that Bidder is lawfully present in the United States and to provide acceptable identification as described in the Affidavit. Furthermore, if Bidder's Work involves provision of a service and not provision of a specific end product, Bidder, upon being awarded the Work, hereby certifies the following:

1. Bidder, as of the date of Notice of Award, does not and shall not knowingly employ or contract with a worker without authorization, who will perform Work under this Contract.
2. Bidder shall participate in either the Employment Verification Program (E-Verify Program) created in Public Law 104-208, as amended and expanded in Public Law 108-156, as amended, and jointly administered by the United States Department of Homeland Security and the Social Security Administration, or its successor program, or the Department Program, which is the employment verification program established by the Colorado Department of Labor and Employment (the "Department") pursuant to C.R.S. §§ 8-17.5-102(5)(c) in order to confirm the employment eligibility of all employees who are newly hired for employment to perform work under the Agreement.
3. Bidder has confirmed the employment eligibility of all employees who are newly hired for employment to perform Work under the Contract through participation in either the E-Verify Program or the Department Program.
4. Bidder shall not enter into a contract with a Subcontractor that fails to certify to Bidder that the Subcontractor shall not knowingly employ or contract with a worker without authorization, to perform Work under this Contract.
5. Bidder shall not use either the E-Verify Program or the Department Program procedures to undertake pre-employment screening of job applicants while this Contract is being performed.
6. If Bidder obtains actual knowledge that a Subcontractor performing Work under this Contract employs or contracts with a worker without authorization, Bidder shall:
 - a. Notify the Subcontractor and Thornton within three (3) Calendar Days that Bidder has actual knowledge that the Subcontractor is employing or contracting with a worker without authorization; and

- b. Terminate the subcontract with the Subcontractor if within three (3) Calendar Days of receiving the notice required pursuant to this subparagraph, the Subcontractor does not stop employing or contracting with a worker without authorization; except that Bidder shall not terminate the subcontract with the Subcontractor if during such three (3) Calendar Days the Subcontractor provides information to establish that the Subcontractor has not knowingly employed or contracted with a worker without authorization.
- 7. Bidder shall comply with any reasonable request by the Colorado Department of Labor and Employment made in the course of an investigation that the Department is undertaking pursuant to the authority established by C.R.S. § 8-17.5-102(5).
- 8. If Bidder violates any provision of this certification, Thornton may terminate this Contract for breach of Contract. If this Contract is so terminated, Contractor shall be liable for actual and consequential damages suffered by Thornton.

The Bidder's attention is directed to the fact that all applicable state and federal laws, county and city ordinances, licenses and regulations of all authorities having jurisdiction over the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

The undersigned Bidder acknowledges that the City of Thornton Charter Section 7.4 prohibits Thornton from making Contracts with firms which employ certain relatives of Thornton employees unless the City Council determines that the making of such a Contract is in Thornton's best interest. For the purposes of this Charter Section, relative shall include domestic partners. The undersigned Bidder attests to the following:

No City Council Member, member of a board or commission, Municipal Judge, City Manager, City Attorney, or employee of the City of Thornton or any such person's family member, domestic partner, or person assuming a relationship being the substantial equivalent of the above, has an existing or pending, direct or indirect, financial, pecuniary or personal interest in the Bidder or with this Invitation for Bid Proposals, except as follows (list, if none state "None"): _____

The undersigned Bidder acknowledges the following Addenda (if none, so state):

Addendum #	Dated	Initial
<u>One</u>	<u>11/17/2021</u>	_____
_____	_____	_____
_____	_____	_____

The undersigned Bidder expressly agrees to the following provisions:

- A. That the Bid Proposal stated shall include the utilization of the Subcontractor(s) and Supplier(s) listed in the List of Subcontractors/Suppliers below.
- B. That the Subcontractor(s) and Supplier(s) listed below shall not be changed by the Bidder unless the Subcontractor(s) or Supplier(s) are unable to perform due to bankruptcy, labor strikes, or termination of business by the Subcontractor(s) or Supplier(s).
- C. That any Subcontractor(s) and Supplier(s) shall be subject to Thornton's approval.

List below any Subcontractor(s) and Supplier(s) whose contract(s) exceeds ten thousand dollars (\$10,000).

	SUBCONTRACTOR/SUPPLIER	TYPE OF WORK
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____

Attach additional sheet if more space is needed.

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**SCHEDULE OF CONTRACT PAY ITEMS AND PRICES
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237**

BASE BID – BULL CANAL RELOCATION						
No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
Demolition						
1	201	Clearing and Grubbing	1	LS	\$	\$
2	202	Removal of Concrete Canal	5,730	SY	\$	\$
3	202	Removal of Bridge	2	EA	\$	\$
4	202	Removal of Gravel Driveway (6 Inches)	650	SY	\$	\$
5	202	Removal of Asphalt Mat [Full Depth]	404	SY	\$	\$
6	202	Removal of Pipe	119	LF	\$	\$
7	202	Removal of Irrigation Structure	3	EA	\$	\$
8	210	Reset Fence	1,829	LF	\$	\$
9	210	Reset Mailbox Structure	6	EA	\$	\$
Earthwork						
10	203	Unclassified Excavation (CIP)	2,432	CY	\$	\$
11	203	Borrow	3,023	CY	\$	\$
12	203	Over-Excavation	500	CY	\$	\$
Erosion Control						
13	208	Silt Fence	3,825	LF	\$	\$
14	208	Vehicle Tracking Pad	1	LS	\$	\$
15	208	Concrete Washout	1	LS	\$	\$
16	212	Seeding (Native)	3	AC	\$	\$
17	216	Soil Retention Blanket (Coconut) (Biodegradable Class 1)	19,528	SF	\$	\$
Roadway						
18	304	Aggregate Base Course (Class 6) (Driveways, 6" Depth)	258	TON	\$	\$
19	304	Aggregate Base Course (Class 6) (Access Roads, 6" Depth)	2,042	TON	\$	\$
20	304	Aggregate Base Course (Class 6) (Subgrade, Under HMA)	236	TON	\$	\$
21	403	HMA (Grading S) (75) (PG 64-22)	89	TON	\$	\$
22	403	HMA (Grading SX) (75) (PG 64-22)	44	TON	\$	\$
23	403	4" Temporary HMA (Grading S) (75) (PG 64-22)	352	TON	\$	\$
24	627	Temporary Pavement Marking	2	GAL	\$	\$

SCHEDULE OF CONTRACT PAY ITEMS AND PRICES (CONT.)
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237

No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
NWWUA Water Line						
25	619	Connect to Existing Waterline	2	EA	\$	\$
26	619	4 Inch PVC Water Line	808	LF	\$	\$
27	619	4 Inch HDPE Water Line	398	LF	\$	\$
28	619	Air Vent	2	EA	\$	\$
29	619	4 Inch Gate Valve	3	EA	\$	\$
30	619	10 Inch Steel Casing	381	LF	\$	\$
31	619	Steel Marker Post	6	EA	\$	\$
32	619	Access Vault (5' Diam. Manhole)	4	EA	\$	\$
Storm Sewer/ Canal						
33	308	Trench Stabilization Material (Bull Canal Culvert)	1,460	TON	\$	\$
34	514	Pedestrian Railing (Steel)	68	LF	\$	\$
35	507	4 Inch Concrete (Canal)	705	SY	\$	\$
36	507	6 Inch Concrete (Canal)	112	SY	\$	\$
37	601	Concrete Class D (Box, headwalls, wingwalls) (w/ Epoxy Rebar)	1,390	CY	\$	\$
38	604	5' Diam. Manhole (Box Culvert Manhole Access) (w/ Epoxy Rebar)	2	EA	\$	\$
39	206	Temporary Shoring (Bull Canal)	1	LS	\$	\$
Miscellaneous						
40	625	Construction Surveying	1	LS	\$	\$
41	Special Condition	Mobilization - Bull Canal	1	LS	\$	\$
42	203	Potholing	50	HR	\$	\$
43	211	Dewatering - Bull Canal Relocation	1	LS	\$	\$
44	630	Traffic Control	1	LS	\$	\$
45	601	Trickle Channel (Over Box Culvert)	1	LS	\$	\$
46	Special Condition	Winter Flows	1	LS	\$	\$
47	Special Condition	Bypass Flows	1	LS	\$	\$

BASE BID TOTAL \$

**SCHEDULE OF CONTRACT PAY ITEMS AND PRICES (CONT.)
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237**

ADD ALTERNATE 1 – WASHINGTON STREET WIDENING 150TH AVENUE TO 152ND AVENUE						
No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
1	106	Quality Control	1	LS	\$	\$
2	202	Removal of Tree	39	EA	\$	\$
3	202	Removal of Pipe	160	LF	\$	\$
4	202	Removal of Curb and Gutter	79	LF	\$	\$
5	202	Removal of Concrete Pavement	74	SY	\$	\$
6	202	Removal of Asphalt Mat [Full Depth]	23,869	SY	\$	\$
7	202	Removal of Gravel	911	SY	\$	\$
8	202	Removal of Light Standard	4	EA	\$	\$
9	202	Removal of Wooden Pole	1	EA	\$	\$
10	202	Removal of Ground Sign	3	EA	\$	\$
11	202	Removal of Fence	3,563	LF	\$	\$
12	202	Removal of Guardrail Type 3	217	LF	\$	\$
13	202	Removal of Silo	2	EA	\$	\$
14	201	Clearing and Grubbing	1	LS	\$	\$
15	203	Unclassified Excavation (CIP)	72,500	CY	\$	\$
16	203	Borrow	57,000	CY	\$	\$
17	207	Topsoil Stripping (Stockpile and Redistribute)	7,558	CY	\$	\$
18	207	Topsoil Stripping (Export of Unsuitable Material)	8,190	CY	\$	\$
19	208	Erosion Log Type 1 (12 Inch)	1,270	LF	\$	\$
20	208	Silt Fence	15,000	LF	\$	\$
21	208	Storm Drain Inlet Protection (Type I)	33	LF	\$	\$
22	208	Check Dam	35	EA	\$	\$
23	208	Concrete Washout Structure	1	LS	\$	\$
24	208	Vehicle Tracking Pad	1	LS	\$	\$
25	208	Erosion Control Post Construction (12 months duration)	12	MTH	\$	\$
26	210	Reset (Utility) Structure	6	EA	\$	\$
27	210	Reset Mailbox Structure	5	EA	\$	\$
28	210	Reset (Relocate) Water Meter	2	EA	\$	\$
29	210	Reset Fire Hydrant	1	EA	\$	\$
30	210	Reset Ground Sign	1	EA	\$	\$
31	210	Reset Valve	2	EA	\$	\$
32	210	Adjust Manhole	1	EA	\$	\$

SCHEDULE OF CONTRACT PAY ITEMS AND PRICES (CONT.)
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237

No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
33	211	Dewatering - Washington Street	1	LS	\$	\$
34	212	Seeding (Native)	13	AC	\$	\$
35	304	Aggregate Base Course (Class 6)	41,500	TON	\$	\$
36	306	Reconditioning [12 Inch Depth]	65,414	SY	\$	\$
37	420	Geotextile (Reinforcement)	56,200	SY	\$	\$
38	403	HMA (Grading S) (75) (PG 64-22)	18,218	TON	\$	\$
39	403	HMA (Grading SX) (75) (PG 76-28)	6,336	TON	\$	\$
40	412	Concrete Pavement (6 Inch) (Driveway)	565	SY	\$	\$
41	603	18 Inch RCP	177	LF	\$	\$
42	603	23x14 Inch Reinforced Concrete Pipe Elliptical	276	LF	\$	\$
43	603	8 Inch PVC Sanitary Line	429	LF	\$	\$
44	603	12 Inch PVC Sanitary Line	230	LF	\$	\$
45	604	Manhole Slab Base (4') (10 Foot)	2	EA	\$	\$
46	604	Manhole Slab Base (4') (10 Foot)	4	EA	\$	\$
47	607	Fence Wire With Metal Posts	489	LF	\$	\$
48	607	Fence Wire With Treated Wooden Posts	516	LF	\$	\$
49	607	Fence Wood	253	LF	\$	\$
50	607	12 Foot Gate Double	4	EA	\$	\$
51	608	Concrete Curb Ramp (6-inch Thick)	17	SY	\$	\$
52	608	Concrete Sidewalk (6-Inch Thick)	620	SY	\$	\$
53	609	Curb and Gutter Type 2 (Section II-B)	7,348	LF	\$	\$
54	609	Curb and Gutter Type 2 (Section I-B)	6,615	LF	\$	\$
55	608	Median Cover Material (6-Inch Patterned Concrete)	14,135	SF	\$	\$
56	609	Median Splash Block	2,905	LF	\$	\$
57	605	4 Inch Perforated Pipe Underdrain	2,820	LF	\$	\$

SCHEDULE OF CONTRACT PAY ITEMS AND PRICES (CONT.)
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237

No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
58	605	4 Inch Solid Pipe Underdrain	521	LF	\$	\$
59	613	Location Marker (Utility) (Flat Slat)	10	EA	\$	\$
60	608	Concrete Sloped Median Nose Type 1	5	EA	\$	\$
		Drainage				
61	308	Trench Stabilization Material (Mustang Run)	250	TON	\$	\$
62	506	Riprap (12 Inch)	70	CY	\$	\$
63	506	Riprap (36 Inch) (Special)	321	CY	\$	\$
64	506	Soil Riprap (24 Inch)	15	CY	\$	\$
65	514	Pedestrian Railing (Steel)	152	LF	\$	\$
66	601	Concrete Class D (Headwall, Wingwall, Toewall for Box Culvert)	40	CY	\$	\$
67	603	Connect to Existing	2	EA	\$	\$
68	603	11 X 4 Foot RCBC - Precast - Mustang Run	338	LF	\$	\$
69	603	18 Inch RCP	1,095	LF	\$	\$
70	603	12 Inch RCP	40	LF	\$	\$
71	603	24 Inch RCP	471	LF	\$	\$
72	603	30 Inch RCP	58	LF	\$	\$
73	603	42 Inch RCP	660	LF	\$	\$
74	603	23x14 Inch Reinforced Concrete Pipe Elliptical	226	LF	\$	\$
75	603	30x19 Inch Reinforced Concrete Pipe Elliptical	126	LF	\$	\$
76	603	38x24 Inch Reinforced Concrete Pipe Elliptical	170	LF	\$	\$
77	603	18 Inch RCP End Section	13	EA	\$	\$
78	603	24 Inch RCP End Section	2	EA	\$	\$
79	603	30 Inch RCP End Section	1	EA	\$	\$
80	604	Inlet Type C (10 Foot)	1	EA	\$	\$
81	604	Inlet Type R L 5 (5 Foot)	1	EA	\$	\$
82	604	Inlet Type R L 5 (10 Foot)	2	EA	\$	\$
83	604	Inlet Type R L 10 (5 Foot)	3	EA	\$	\$
84	604	Inlet Type R L 15 (5 Foot)	4	EA	\$	\$
85	604	Inlet Type R L 15 (10 Foot)	1	EA	\$	\$
86	604	Manhole Slab Base (4') (10 Foot)	3	EA	\$	\$

SCHEDULE OF CONTRACT PAY ITEMS AND PRICES (CONT.)
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237

No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
87	604	Manhole Slab Base (5') (10 foot)	5	EA	\$	\$
88	604	Manhole Slab Base (5') (15 foot)	3	EA	\$	\$
Pond A						
89	506	Pond A - Soil Riprap (24 Inch)	130	CY	\$	\$
90	601	Pond A Maintenance Trail (6" depth) [Class B Concrete]	15	CY	\$	\$
91	601	Pond A - Concrete Class D [Weir Wall & Toewall]	8	CY	\$	\$
92	601	Pond A - Trickle Channel (4') [Class B Concrete]	70	LF	\$	\$
93	604	Detention Pond Outlet Structure - Pond A	1	LS	\$	\$
Pond B						
94	506	Pond B - Soil Riprap (24 Inch)	72	CY	\$	\$
95	601	Pond B Maintenance Trail (6" depth) [Class B Concrete]	37	CY	\$	\$
96	601	Pond B - Concrete Class D [Weir Wall & Toewall]	5	CY	\$	\$
97	601	Pond B - Trickle Channel (4') [Class B Concrete]	70	LF	\$	\$
98	604	Detention Pond Outlet Structure - Pond B	1	LS	\$	\$
Pond C						
99	506	Pond C - Soil Riprap (24 Inch)	54	CY	\$	\$
100	601	Pond C Maintenance Trail (6" depth) [Class B Concrete]	19	CY	\$	\$
101	601	Pond C - Concrete Class D [Weir Wall & Toewall]	4	CY	\$	\$
102	601	Pond C - Trickle Channel (4') [Class B Concrete]	70	LF	\$	\$
103	604	Detention Pond Outlet Structure - Pond B	1	LS	\$	\$
Street Lights						
104	613	2 Inch Electrical Conduit (Street lights)	4,973	LF	\$	\$
105	613	Pull Box (11"x18"x12") (Street Lights)	24	EA	\$	\$

SCHEDULE OF CONTRACT PAY ITEMS AND PRICES (CONT.)
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237

No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
106	613	Street Light and Luminaire (Single Mast Arm)	3	EA	\$	\$
107	613	Street Light and Luminaire (Dual Mast Arm)	21	EA	\$	\$
108	613	Street Lighting Electric Meter Pedestal and Connection to Power	1	LS	\$	\$
Signage						
109	614	Sign Panel (Class I)	217	SF	\$	\$
110	614	Steel Sign Post (1.75x1.75 Inch Tubing)	26	LF	\$	\$
Pavement Markings						
111	627	Preformed Plastic Pavement Marking-White (Type I)	9,015	SF	\$	\$
112	627	Preformed Plastic Pavement Marking-Yellow (Type I)	1,438	SF	\$	\$
113	627	Preformed Plastic Pavement Marking (Word-Symbol) (Type I)	940	SF	\$	\$
114	627	Preformed Plastic Pavement Marking (Xwalk-Stop Line) (Type I)	288	SF	\$	\$
Traffic Signal						
115	613	Illuminated Sign	3	EA	\$	\$
116	614	Signal Head Backplate	13	EA	\$	\$
117	614	Pedestrian Signal Face (12)	2	EA	\$	\$
118	614	Traffic Signal Face (12-12-12)	17	EA	\$	\$
119	614	Traffic Signal Controller Cabinet (Type 333 SD-ITS) and Base	1	EA	\$	\$
120	614	Traffic Signal Controller (Type ATC Econolite Cobalt Rackmount LT)	1	EA	\$	\$
121	613	2 Inch Electrical Conduit (Bored) (Traffic Signal)	467	LF	\$	\$
122	613	3 Inch Electrical Conduit (Bored) (Traffic Signal)	461	LF	\$	\$
123	613	4 Inch Electrical Conduit (Traffic Signal)	20	LF	\$	\$

SCHEDULE OF CONTRACT PAY ITEMS AND PRICES (CONT.)
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237

No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
124	614	Pedestrian Push Button	2	EA	\$	\$
125	614	Pedestrian Push Button Post Assembly	2	EA	\$	\$
126	614	Fire Preemption Unit & Timer	2	EA	\$	\$
127	614	Vehicle Detection System (Single Camera)	4	EA	\$	\$
128	614	Traffic Signal-Light Pole Steel (1-65 Foot Mast Arm)	1	EA	\$	\$
129	614	Traffic Signal-Light Pole Steel (1-70 Foot Mast Arm)	2	EA	\$	\$
130	614	Traffic Signal-Light Pole Steel (1-75 Foot Mast Arm)	1	EA	\$	\$
131	503	Drilled Caisson (36 Inch)	14	LF	\$	\$
132	503	Drilled Caisson (54 Inch)	42	LF	\$	\$
133	613	Pull Box (20"x33"x15") (Traffic Signal)	3	EA	\$	\$
134	613	Pull Box (30"x48"x24") (Traffic Signal)	1	EA	\$	\$
135	613	Traffic Signal Wiring	1	LS	\$	\$
136	613	Luminaire (LED) (Traffic Signal)	4	EA	\$	\$
137	613	Traffic Signal Meter Pedestal and Connect to Power	1	LS	\$	\$
		Interconnect				
138	613	3 Inch Electrical Conduit (Interconnect)	3,600	LF	\$	\$
139	613	Pull Box (24"x36"x24") (Interconnect)	14	EA	\$	\$
		Water Lines				
140	619	Connect to Existing Waterline	6	EA	\$	\$
141	619	4 Inch PVC Water Line	705	LF	\$	\$
142	619	12 Inch PVC Water Line	1,503	LF	\$	\$
143	619	24 Inch DIP Water Line	20	LF	\$	\$
144	619	2 Inch Blowoff Assembly	5	EA	\$	\$
145	619	12 Inch Gate Valve	8	EA	\$	\$
146	619	24 Inch Butterfly Valve	2	EA	\$	\$
		Irrigation & Landscaping				
147	214	Landscape Maintenance (1 Year)	1	LS	\$	\$
148	623	Irrigation (Landscaping) System	1	LS	\$	\$

SCHEDULE OF CONTRACT PAY ITEMS AND PRICES (CONT.)
WASHINGTON STREET WIDENING – 150TH AVENUE TO 152ND AVENUE
PROJECT 19-237

No.	Ref. No.	Description	Unit	Qty	Unit Price	Cost
149	623	Irrigation Electric Meter Pedestal and Connection to Power	1	LS	\$	\$
150	214	Prairie Sentinel Hackberry	13	EA	\$	\$
151	214	Kentucky Coffee Tree	6	EA	\$	\$
152	214	Tannenbaum Mugo Pine	11	EA	\$	\$
153	214	Chanticleer Pear	25	EA	\$	\$
154	214	Gro-Low Sumac	55	EA	\$	\$
155	214	Froebel Spirea	84	EA	\$	\$
156	214	Sandstone Boulders	97	TON	\$	\$
157	207	Amended Topsoil (Growing Media)	1,685	TON	\$	\$
158	212	Compost Soil Amendment	112	CY	\$	\$
159	420	Geotextile (Weed Barrier)	28,090	SF	\$	\$
160	213	5/8 Inch Dia Washed Pea Gravel Mulch (3 Inch Depth)	176	TON	\$	\$
Miscellaneous						
161	625	Construction Surveying - Survey Monument Type 3A	2	EA	\$	\$
162	625	Construction Surveying - Survey Monument Type 6	77	EA	\$	\$
163	625	Construction Surveying	1	LS	\$	\$
164	Special Condition	Mobilization	1	LS	\$	\$
165	203	Potholing	100	HR	\$	\$
166	211	Dewatering - Washington Street Project	1	LS	\$	\$
167	630	Traffic Control	1	LS	\$	\$
168		F/A Obtain Power	1	F/A	\$ 5,000.00	\$ 5,000.00
169		F/A Smoothness Incentive Payment	1	F/A	\$ 5,000.00	\$ 5,000.00
SUBTOTAL FOR ADD ALT 1 – WASHINGTON ST WIDENING						\$

Indicate if you are claiming eligibility for Local Vendor Consideration by checking below, and if so, supply the required documentation.

Yes, Bidder claims eligibility for Local Vendor Consideration.

No, Bidder does not claim eligibility for Local Vendor Consideration.

**BASE BID - BULL CANAL RELOCATION
SCHEDULE OF CONTRACT ITEMS AND PRICES**

Total Base Bid Proposal _____ Dollars
(Words)
_____ Cents
(Words)
\$ _____
(Numerals)

**BID ALTERNATE NO. 1
WASHINGTON STREET WIDENING 150TH AVENUE TO 152ND AVENUE
SCHEDULE OF CONTRACT ITEMS AND PRICES**

Total Bid Alternate No. 1 Bid Proposal _____ Dollars
(Words)
_____ Cents
(Words)
\$ _____
(Numerals)

**TOTAL BID FOR ALL WORK - BULL CANAL RELOCATION AND WASHINGTON
STREET WIDENING 150TH AVENUE TO 152ND AVENUE
SCHEDULE OF CONTRACT ITEMS AND PRICES**

Total Base Bid Proposal _____ Dollars
(Words)
_____ Cents
(Words)
\$ _____
(Numerals)

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

Dated this _____ day of _____, 20__.

Firm Name: _____

By: _____

Title: _____

E-mail: _____

Bidder's Legal Status: _____

State of Organization: _____

Firm's Address: _____

Telephone: _____

Fax: _____

Witness: (Attest and Seal if Bid Proposal is by Corporation)

1
**REVISION OF SECTION 420
GEOSYNTHETICS**

Section 420 of the Standard Specifications is hereby revised for this project as follows:

Subsection 420.03 shall include the following:

Areas on which the geosynthetic is to be placed shall have a uniform slope, be reasonably smooth, free from mounds and windrows, and free of any debris or projections which could damage the material.

Riprap or cobbles placed on the geosynthetic shall not be dropped from a free fall greater than 3 feet. The cushion layer or initial layer of riprap may require careful placement without free fall to avoid geosynthetic damage. Geosynthetics damaged or displaced before or during placement of overlying layers shall be replaced or repaired in accordance with the requirements of this section and to the satisfaction of the Engineer, at the Contractor's expense.

Subsection 420.07 shall include the following:

The geotextile shall be unrolled as smoothly as possible on the prepared subgrade in the direction of construction traffic. The geotextile shall be placed by machinery or by hand labor. The geotextile shall not be dragged across the subgrade. Wrinkles and folds in the geotextile (not associated with roadway curves) shall be removed by stretching and staking as required. The geotextile may be held in place prior to placement of cover by pins, staples or piles of fill or rock. On curves, the geotextile may be folded to conform to the curve. The fold or overlap shall be in the direction of construction and held in place as prescribed above. Adjacent geotextile rolls shall be overlapped in the direction of subbase placement per the manufacturer's recommendations. Before covering, the condition of the geotextile will be inspected by the Engineer to determine that no holes, rips or other defects exist. If any defects are observed, the section of the geotextile containing the defect shall be repaired by placing a new layer of geotextile extending beyond the defect in all directions a minimum distance equal to the overlap per the manufacturer's recommendations. Alternatively, the defective section may be replaced.

Either sewn seams or overlaps (unsewn seams) shall be used in construction. The widths of the overlaps shall conform per the manufacturer's recommendations. Sewn seams shall be in accordance with the manufacturer's recommendations.

The first lift of cover material shall be end-dumped or spread over the geotextile from the edges of the geotextile. The height of the dumped pile shall be limited to avoid local bearing capacity failures. The first lift of cover material shall be graded to a 12 inch thickness or to top of grade whichever is less and compacted. Equipment shall not be on the treated area with less than the minimum thickness of compacted cover material over the geotextile. Small dozer equipment or front end loader shall be used to spread the cover material.

Construction vehicles shall be limited in size and weight such that rutting in the initial lift is no deeper than 3 inches. If rut depths exceed 3 inches, the Contractor shall use a smaller size and weight of construction vehicles. Ruts shall be filled in with cover material.

Compaction of lifts shall be accomplished without damaging the geotextile. Construction equipment shall not make turns on the first lift of cover material.

2
REVISION OF SECTION 420
GEOSYNTHETICS

Subsection 420.09 shall include the following:

Geogrid, geomembranes and geotextiles will be measured by the square yard of surface area covered, complete in place.

Subsection 420.10 shall include the following:

Payment will be made under:

Pay Item	Pay Unit
Geotextile (Reinforcement)	Square Yard
Geotextile (Weed Barrier)	Square Foot

Securing pins, staples, adhesives, sewn seams, asphalt cement, brooming, skilled technician, and other work and materials necessary for placement will not be measured and paid for separately but shall be included in the work.

END OF SECTION REVISION



Infrastructure Maintenance Center
12450 Washington Street
Thornton, CO 80241-2405

Infrastructure Department
720-977-6210
FAX 720-977-6201
www.ThorntonCO.gov

February 28, 2020

Mr. Evan Fischgrund, P.E.
Advanced Drainage Systems, Inc.
6800 Smith Road
Denver, CO 80207

RE: Approval of Advanced Drainage Systems, Inc. HP Storm Polypropylene Pipe for Storm Drainage Applications in the City of Thornton

Dear Mr. Fischgrund:

The city of Thornton is allowing the limited use of polypropylene pipe for storm sewer conveyance within the public right-of-way as an alternative to the currently specified storm sewer pipe materials identified in Section 400 - Storm Drainage Design, Grading, and Water Quality Technical Criteria of the City of Thornton Standards and Specifications (Standards and Specifications). The following conditions apply:

- Polypropylene pipe will be allowed in Thornton's right-of-way per the requirements listed in this approval letter.
- Until the Standards and Specifications are updated, use of polypropylene pipe will be subject to the requirements listed below. Once the Standards and Specifications are updated, they will supersede this approval letter. Polypropylene pipe ranging from 18-inch to 60-inch diameter will be allowed.
- Referenced specifications shall include:
 - ASTM D2321, Underground Installation for Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
 - ASTM F477, Elastomeric Seals (Gaskets) for Joining Plastic Pipe
 - ASTM F2764, 6 to 60-inch (150 to 1500 mm) Polypropylene (PP) Corrugated Double Wall Pipe and Triple Wall Pipe and Fittings for Non-Pressure Sewer Applications
 - ASTM F2881, Standard Specification for 12 to 60-inch (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications
- Unless otherwise noted, pipe installation shall meet the standards specified in Section 400 - Storm Drainage Design, Grading, And Water Quality Technical Criteria of the Standards and Specifications.
- Backfill materials per ASTM D2321 shall be used for the bedding, haunch, and initial backfill zones per Section 400, Detail 400-2, Storm Drainage Pipe Bedding Details for High Density Polyethylene (HDPE) pipe, or approved alternative.
- At Thornton's request, polypropylene pipe shall meet the minimum joint performance requirements per ASTM D3212: a 10.8-psi gauge, laboratory pressure test for 10 minutes with no visible leaks at the joint. Watertight joints shall be bell-and-spigot and gaskets shall be made of polyisoprene meeting the requirements of ASTM F477.

Polypropylene Pipe for Storm Drainage Applications

February 28, 2020

Page 2

- At Thornton's request, deflection testing by use of a mandrel shall be completed by the contractor or independent agency agreed to by Thornton, and paid for by the contractor or owner/developer. Deflection testing shall be done prior to paving not less than thirty days after installation. The maximum allowable deflection shall not exceed five-percent (5%) during this testing. Pipes 36-inches in diameter or larger may be entered and deflection levels measured directly. This allows for specific equipment such as "Go/No Go" sticks, cut to ninety-five percent (95%) of the inside diameter. If using a mandrel, it shall be a nine (or greater odd number) arm mandrel and shall be sized and inspected by the Engineer of Record prior to testing.
- Pipe through which the mandrel does not pass will be considered unacceptable, and shall be re-laid, and also re-tested.
- Minimum pipe cover shall be 1-foot below the full roadway pavement section including base course.
- Maximum pipe cover shall not exceed manufacturer's recommended depth.
- Polypropylene pipe will not be allowed within 50-feet of outfalls/detention ponds/drainageways upstream or downstream, so that the pipe will not be susceptible to brittle transition in lower temperatures.

To our knowledge, the only manufacturer of polypropylene pipe is Advanced Drainage Systems, Inc. If another manufacturer is able to provide polypropylene pipe that meets the above referenced specifications, we will allow that product as well.

Please submit all proposed plans and specifications for projects that intend to use polypropylene pipe to Cassie Free at cassie.free@ThorntonCO.gov and Jason Pierce at jason.pierce@ThorntonCO.gov to assist in verifying whether the proposed pipe installation complies with these conditions and specifications.

Sincerely,



Jason Pierce, P.E.
Infrastructure Engineering Director

jp/kk

cc: Brett Henry, Executive Director of Infrastructure
Jim Kaiser, Engineering Manager/Floodplain Administrator
Todd Rullo, Deputy Infrastructure Director
Cassie Free, Development Engineering Manager
Brian Stockton, Development Inspection Supervisor

Project Name: Washington St Widening – 150th to 152nd
Bull Canal Relocation
Project No.: 19-237

Pre Bid Meeting Agenda

Date: 10/1/92021

Time: 9:30 am

Location: Zoom Meeting

1. Introductions and Roles/Responsibilities

- Thornton Staff:
 - PM: Pete Brezall
 - CA: Paul Morris
 - CC: Scott Wenger
 - Other: _____
- Prime AE: J.R. Engineering
-

2. Sign-In Sheet: Please send a chat message identifying your presence.

3. Bid Process (CA)

- Schedule
 - Bids due November 23, 2021, 2:00pm at City Hall.
 - Questions not taken after close of business on 11/12/2021. Questions must be in writing (e-mail). Answers to all questions received before deadline will be answered in Addendum.
 - 1st Addendum tentatively scheduled for issue this week. Addenda distributed by email and on the COT website. Prior to submitting Bid, check Contracts website to be certain you have received all Addenda.
 - Public Opening will be at 2:00 on 11/23 via public meeting.
- Bid Proposal Form
 - Do not write conditions on the Bid form, do not write on the form except where input indicated. Also, do not leave blank spaces where input is requested. If “not applicable”, “none” or “\$0”, so state.
 - Fill in subcontractors intended to be used on the Project whose subcontract will exceed \$10,000. Thornton’s intent is to not change these subcontractors after the Bid process to prevent bid shopping, except however, Thornton reserves right to reject subcontractors after the Bid.
 - Acknowledge all Addenda in space provided.
 - Sign and date Bid.

- Bid Assembly
 - Submit Bid Proposal sheets found on the COT website.
 - Submit in a sealed envelope addressed to Contracts Manager and state Contractor's name, Project Name, and Project No. on outside of the envelope.
 - Include bid bond (your form or American Institute of Architects (AIA) form OK), cashier's check, or certified check in amount of five percent (5%) of the base Bid.
 - Product Substitutions
 - If products listed along with "or Equal", Contractor may submit proposed equal substitution, however Thornton reserves the right to verify and/or reject the product as an "or equal" during the submittal process. If COT rejects the "or equal" aspect of the product, No Change Order would be allowed.
 - Substitution requests under "Or Equal" clauses in the specs must be received ten (10) Calendar Days prior to the Bid = close of business on 11/12/21. Products submitted and subsequently approved will be issued in Addendum. If product not approved by Addendum, bid only the specified products.
4. Project Design Overview (CA or PM and AE)
- Schedule
 - Notice of Award "NOA" anticipated week of 11/27/2021.
 - Substantial Completion 365 days after NTP. Liquidated Damages of \$ 382.00 per day for each Calendar Day not substantially complete. Substantial Completion means must be ready for use for its intended purpose.
 - Bull Canal Flow –
 - Winter shutdown – 11/1 thru 3/15
 - LDs are \$25,000 Calendar Day for flow interruptions between 3/15 and 11/1
 - Milestones
 - We will be using electronic signature process.
 - NOA: Have 10 Calendar Days to get Bonds, Insurance certificates, additional insured Endorsements, and W-9 Forms back to Thornton.
 - Contract will be sent for e-sig after Bonds received.
 - Notice to Proceed "NTP" – note submission deadlines for product lists, schedules following NTP.
 - Substantial Completion – means only minor Punch List items remaining, owner' issues Cert of Substantial Completion, which stops Contract time.
 - Contractor completes Punch List and gives written notice that Work is ready for final inspection and Initial Acceptance.
 - Final pay application certified by owner, (but not paid until below satisfied).

- Advertisement period for verified claims (explain process).
 - Must submit affidavit on payment of subs/suppliers (AIA form OK), consent of surety to release final payment, O&M manuals, in service training, warranties and guarantees, etc., before Thornton will release final payment.
 - Initial Acceptance = start of Warranty Period.
 - Final Acceptance = end of Warranty Period.
- Insurance
 - GC limits \$2M General Liability / \$5M Gen Aggregate (Thornton named as additional insured) and \$1M Auto Liability.
 - FRICO additional insured.
- Scope of Work
 - Bull Canal:
 - Below grade box culvert connecting two points on west side of Washington.
 - 20 CFS during shutdown
 - 150 CFS during irrigation season
 - Washington Widening:
 - Widening of Washington St – 3 Lanes plus bike lanes
 - 24" Water Main
 - Abandon existing 152nd ave curve
 - Rebuild of Washington/152nd intersection
 - Ancillary (lighting, medians, etc.)
 - If an E470 permit is required, COT will pay for it
- Geotechnical
 - Geotechnical Report provided on COT website.
- Site Conditions
 - A lot of Utility coordination – see below
 - Dodd Property – existing horse ranch... will need good temp fence prior to construction
 - Masterson property
- Plans, Elevations, Details
 - Plansets A-D (Washington Widening includes Big Dry Creek Sanitary Sewer planset)
 - Avail on the COT website
 - CAD files available via "zipped" folder – For reference only.
 - FRICO Agreement available
- Technical Specifications
 - Sets A-E are Avail on the COT website

- Special Considerations, such as work hours, traffic restrictions, safety, etc.
- 5. Special and General Conditions Review (CA)
 - Permits
 - Temporary use permit for trailers (if any) Contractor responsibility.
 - Building Permit no charge – Make sure all subs licensed in Thornton, and provide subcontractor permission slip to add their names when applicable.
 - National Pollution Discharge Elimination System (NPDES).
 - Traffic Permit
 - Phasing
 - No interruption to FRICO flow during irrigation season will be acceptable.
 - Use of Site – access, security, erosion control, trash removal, clean up, deliveries, securing tools and materials.
 - Parking
 - Tests and Inspections
 - Owner hires independent testing agency.
 - Contractor pays for retesting of failed tests, overtime if tests required on overtime, and wait time of testing agency.
 - GC must coordinate and cooperate with testing agency, allowing access and incidental tools, equipment, and power necessary to take tests.
 - Utility Coordination: Locates, clearance, temperature power, temperature water, service outages, etc.
 - Excel Gas – relocation of 2” gas line.
 - Excel Transmission towers – 4 to be relocated. Starting in November
 - United Power – overhead line at 172+00 to be moved below the CBC (bored 15’ below)
 - Century Line – poles/lines relocated in early 2022
 - Comcast
 - FRICO
 - Permit required
 - Access needs to be maintained throughout project

- Coordination with other Contractors and entities: Xcel, HOA (incidental), FRICO Ditch Co (incidental), etc... Responsibility of Contractor.
- Submittals
 - CPM schedule (GC 3.10 within fourteen (14) Calendar Days of NOA). Bring to the Kick-Off Meeting
 - Submittal schedule (GC 3.12.5 due within fourteen (14) Calendar Days of NOA). Bring to Kick-Off meeting.
 - Product list (SC1.13 D prelim list due within fourteen (14) Calendar Days of NTP).
 - Shop drawings (SC 1.21 fourteen (14) Calendar Days for AE to review initial submittal, fourteen (14) Calendar Days to re-review previously rejected submittals).

6. Questions and Answers:

- Can we provide a temp flow bypass... not at this point but request is pending with FRICO
- Will E470 need a bond? Unknown. COT will cover cost if required
- Were the earthwork quantities determined from cross sections? They don't go all the way to the project limits. Earthwork quantities were determined using Civil 3D surface. COT will verify plan quantiles and review if the provided cross sections are adequate.
- Is there a fee for the FRICO permit? Yes, amount should be in agreement. Fee paid directly by COT, should not be included in the bid
- What is the budgetary range for project? Bull Canal
- What type of temp stabilization material for the CBC is required for the canal? Line Items #33 and ?? are in reference to the Trench Stabilization required on Sheet 47 for Bull Canal and Sheet XX for Washington Widening. Additionally, please see details XXXX
- What is the Line Item for the temp shoring limits in the canal bid? Temp shoring at transmission tower # 40. Please note new information regarding the foundation depth is now 30 ft below grade.
- Does COT have any asbuilts for bridges? No.
-

7. Attendees:

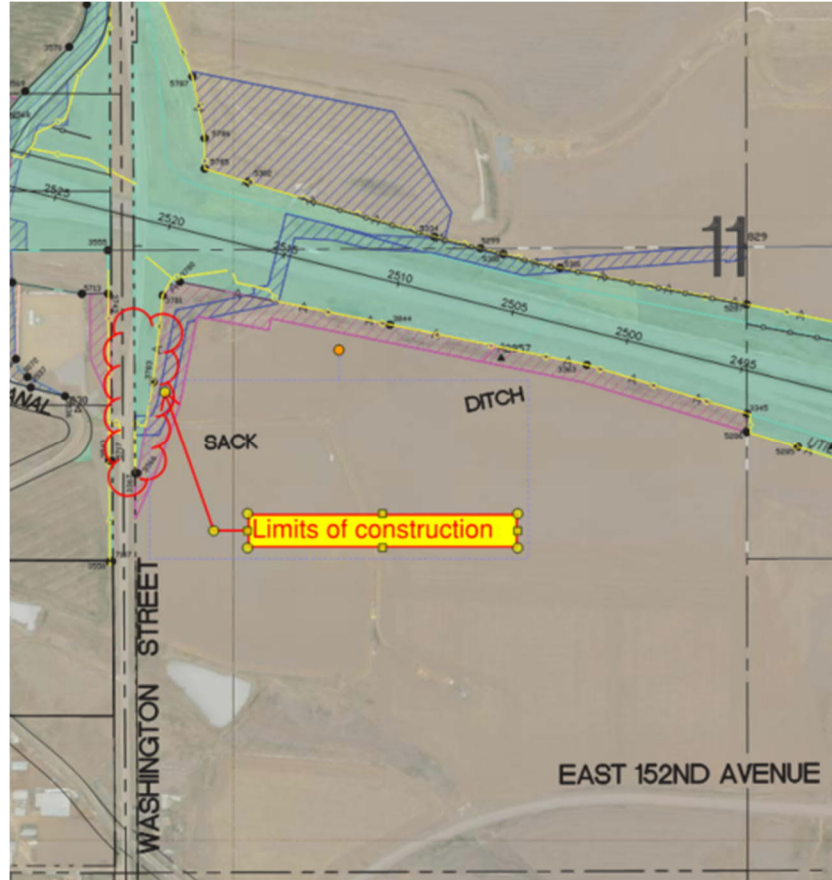
Paul Morris – COT
Pete Brezall – COT
Darrell Alston – COT Traffic
Tommy Parkin – American West
Daniel Lavigne – ESI
Mike Salmon - Hamon
Travis Madsen – American Civil Constructors
Brian Schrameyer - AmWest

Jim Moody – Flat Iron
Jud Barlow – Kraemer North American
Daniel Sewczak – Zak Dirt
Jeromy Weiss – Zak Dirt
Kevin Oberkirsch – Edge Contracting
Eli Farney – JR Eng
Ron Green – CEI
Susan Prince - Hamon
Scott Palmer – Edge Contracting
Ryan Mastrianni - Hamon
Larry Olson - ASCI
Brad Davis – Hamon Infrastructure
Daniel Escobedo - Hamon
Curtis Daniels – Millston Weber

file: Washington St Widening – 150th to 152nd
Project No. 19-237

19-237 Washington Street Widening & 19-747A Bull Canal Relocation
Pre-bid Meeting
October 29, 2021

1. E-470 permit required for work along the north section of Washington Street (station 192+00 to 196+00).
 - a. Permit fees submitted to Thornton for payment.



2. Utility Coordination required
 - a. Xcel Gas – Bull Canal box will be constructed under four service line. Service lines are 3/4-inch PE
 - b. Xcel Gas will relocate 2-inch main along the Bull Canal.
 - c. Xcel Transmission – Towers to be relocated first week in November 2021
 - d. United Power (UP) - preconstruction meeting scheduled for November 17, 2021. UP anticipating construction to begin after Thanksgiving. UP additionally plans to begin boring on the east side of Washington St. within the next week or two in anticipation of this relocation work. Overhead line located at station 172+00 undergrounding will occur once UP obtains easement.
 - e. Century Link – Coordination required
 - i. Bull Canal Box Crossing
 - ii. North/south run – relocating early 2022
 - f. Comcast – Coordination Required
3. Farmers Reservoir and Irrigation Company (FRICO)
 - a. Permit required – Fee paid by Thornton

19-237 Washington Street Widening & 19-747A Bull Canal Relocation

Pre-bid Meeting

October 29, 2021

- b. Provide access during construction
 - c. Maintain 20 CFS during shutdown
 - d. 150 CFS during irrigation season – beginning March 15, 2022
 - e. Temporary by-pass during irrigation season – Not approved at this time

4. Dodd Property
 - a. Install temporary fence before working in this area – Horses are in the open fields

5. Masterson Property
 - a. Daycare – notification required before entering property.

6. Robert Franklin Property
 - a. Dirt placed on property will need to meet this specification:

Dirt specification required for backfill on Robert property - any imported soils used on Franklin property within the Temporary Construction Easement Area shall meet the following criteria: (i) less than fifty percent (50%) passing the No. 200 sieve and more than fifteen percent (15%) passing the No. 200 sieve, (ii) possess a very low to low expansion potential (i.e. less than two percent (2%) or less when wetted against a surcharge pressure of 500 psf), (iii) a plasticity index of less than fifteen (15); and (iv) shall be free of organic matter, clay lumps, bedrock (including, without limitation, claystone and sandstone), fragments, debris, other deleterious matter, rocks, or hard chunks larger than approximately three inches (3") nominal diameter.

7. Flash/Flow Fill required for street cut at station 159+00 waterline installation within existing pavement.

8. Storm Water
 - a. State Construction Stormwater permit required
 - b. SWMP approved by city before work to begin. Use template located on website.
 - c. Erosion control devices installed before work can begin
 - d. City to conduct initial inspection

9. North Washington Water Users Association
 - a. Install when constructing box
 - b. Provide temporary water when making service connection.