



Tulsa CITY OF
A New Kind of Energy.

FAX TRANSMITTAL

Date: November 15, 2022

To: Plan Holders

Company: Contractors

Number of Pages: 13 (Including Cover)

From: Anika Ture - Contract Administration
Telephone No. 918-596-9637
Fax No. 918-699-3470
Email – ature@cityoftulsa.org

RE: **PROJECT NO. SW-2020-01-05-TO1 108TH STREET RCB
EXTENSION**

ADDENDUM NO. 1

Please email a signed cover sheet to tcurry@cityoftulsa.org
as acknowledgement of receipt.

Thank you,

Signature

Company

Date

November 15, 2022

**ADDENDUM NO. 1
TO
PROJECT NO. SW-2020-01-05-TO1
108TH STREET RCB EXTENSION**


This Addendum No.1 consisting of two (4) modifications and four (4) clarifications, submitted by Freese and Nichols, is hereby made a part of the Contract Documents to the same extent as though it were originally included therein and shall supersede anything contained in the Plans and Specifications with which it might conflict. **This entire Addendum shall be attached to the Index Sheet of the Contract Documents recorded on page P-4a of the proposal and submitted with bid. Failure to do so shall result in the bid being deemed non-responsive.**

This Addendum No. 1 consists of the following:

1. The attached documents list the detail items that have been modified in Addendum No. 1. These documents shall be inclusive and apply to this project

All other provisions of the Plans and Specifications shall remain in full force and effect.

CITY OF TULSA



Paul D. Zachary, P.E.
City Engineer



HAS
HAS/BC/AT/kt

Owner: City of Tulsa

Project: 108th Street RCB Extension

Project No.: SW-2020-01-05

Addendum No. 01

Addendum Date: 11/15/2022

The following additions, deletions, modifications, or clarifications shall be made to the appropriate portions of the Contract Documents. Offerors must acknowledge receipt of this clarification in the space provided on the Bid Form.

This Addendum submitted by Freese and Nichols is hereby made a part of the Contract Documents to the same extent as though it were originally included therein, and shall supersede anything contained in the Plans and Specifications with which it might conflict. **This Addendum shall be attached to the Index Sheet of the Contract Documents and submitted with the Bid. Failure to do so shall result in the bid being deemed non-responsive.**

This Addendum No. 1 consisting of (4) modifications, the modifications are listed below. The updates have been highlighted on the updated plan set.

1. There is no Separator Fabric for this project, filter fabric will be used as a substitute. See sheets 2, 6, 12, and 14.
2. Class AA Concrete is now Class A Concrete. See sheets 2 and 14.
3. Class A Aggregate has been changed to No. 57 Aggregate. See sheets 2, 6, 12, 13, and 14.
4. Delete the existing bid proposal form in its entirety and replace with the revised Bid Proposal located at the following link:
<https://www.cityoftulsa.org/government/departments/engineering-services/construction-bids/SW-2020-01-0-TO1>

This Addendum No. 1 also consists of (4) Clarifications to questions that have come up during the window, the clarifications are listed below.

1. **Question:** Will you please provide the geotechnical data for this project?
Clarification: No geotechnical data is available for this project.
2. **Question:** Sheet 6 calls for 18 inches of aggregate base under the RCB and apron. However, plan sheets 12 and 14 call for 8 inches. Please advise as to which is the correct depth that needs to be utilized.
Clarification: 8" is the correct thickness, and the 18" is a typo.



3. **Question:** On sheet 14 the design data for the RCB structure calls for Class AA, however, the pay items are calling for Class A concrete. Please advise as to which class of concrete is the correct Class of concrete to use. If Class AA is the correct mix design, please correct the proposal to reflect this.

Clarification: The concrete used shall be Type A, not Type AA.

4. **Question:** What/where is the intended usage of Filter Fabric (Trench) supposed to be? It looks as if separator fabric is to be utilized under the RCB, wing walls, apron, and toe walls.

Clarification: Correct, filter fabric shall be placed underneath the RCB, wing walls, apron, and toe walls.

All other provisions of the Plans and Specifications shall remain in full force and effect.

END OF SECTION

ELECTRONIC BID PROPOSAL INSTRUCTIONS - EXCEL SPREADSHEET

PROJECT NO. SW-2020-01-05-TO1

PROJECT TITLE: 108th Street RCB Extension

Please read the following instructions carefully.

1. After opening this file re-save it as your company's name.
2. Open the BID FORM Sheet from the tabs below.
3. Input the unit price of the appropriate pay item in the cells highlighted in blue.
4. Review all data input and check calculations to ensure accuracy of Bid.
5. Print 1hardcopy of the "PROPOSAL" tab, BID FORM and the "SIGNATURE PAGE" tab.
6. Complete and sign the "Signature Page" document.
6. Submit hardcopy and electronic disk with Contract Documents and Specifications for Bid opening date.

LEGEND

- \$ 1.00 Cells Requiring Data Input.
- \$ 1.00 Internal Data Transfer.
- \$ 2.00 Calculated Results.

AGREEMENT FOR USING ELECTRONIC BID PROPOSAL

By and Between: Freese and Nichols, Inc. (ENGINEER) and RECIPIENT. The enclosed electronic media is provided pursuant to your request and is for your limited use in connection with your submittal of Bid Proposal for Project No. SW-2020-01-05-TO1. In no event shall the information be used for any other purpose or be released to third parties without the written consent of the ENGINEER. In the event of a discrepancy between the hard copy and this electronic media at delivery or in the future, the hard copy shall govern. ENGINEER hereby disclaims any and all liability for the consequences from use of the electronic media and makes no warranty or guarantee of accuracy. RECIPIENT shall assume full responsibility for the uses and consequences of the electronic media. It is agreed that ENGINEER has and retains ownership of the electronic media. ENGINEER does not warrant or guarantee that the electronic data is compatible with RECIPIENT'S computer hardware or software, and ENGINEER'S responsibility for the electronic media is limited to replacement of defective media for a period of thirty (30) days after delivery to RECIPIENT. !!! By opening and using this FILE, You AGREE to these TERMS AND CONDITIONS!!!

PROPOSAL
PROJECT NO. SW-2020-01-05-TO1
108th Street RCB Extension

TO: HONORABLE MAYOR
CITY OF TULSA, OKLAHOMA

THE UNDERSIGNED BIDDER, having carefully examined the drawings, specifications, and other Contract Documents of the above project presently on file in the City Clerk, City of Tulsa Oklahoma:

CERTIFIES THAT he has inspected the site of the proposed work and has full knowledge of the extent and character of the work involved, construction difficulties that may be encountered, and materials necessary for construction, class and type of excavation, and all other factors affecting or which may be affected by the specified work; and

CERTIFIES THAT he has not entered into collusion with any other bidder or prospective bidder relative to the project and/or bid: and

HEREBY PROPOSES: to enter into a contract to provide all necessary labor, materials, equipment and tools to completely construct and finish all the work required by the Contract Documents referred to therein; to complete said work within 60 calendar days after the work order is issued; and to accept in full payment therefore the amount set forth below for all work actually performed as computed by the Engineers as set forth in the Contract.

Basis of Award

IT SHOULD BE NOTED THAT THE LOWEST RESPONSIBLE BID SHALL BE DETERMINED BY THE TOTAL BASE BID.

Note: - Item numbers omitted are not a part of the Contract.

PROPOSAL FOR
108th Street RCB Extension
PROJECT NO. SW-2020-01-05-TO1

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	DATA INPUT UNIT PRICE	AMOUNT
1	201(A)	CLEARING AND GRUBBING	ACRE	0.1		
2	202(A)	UNCLASSIFIED EXCAVATION	CY	300		
3	202(B)	MUCK EXCAVATION	CY	60		
4	202(D)	UNCLASSIFIED BORROW	CY	120		
5	220	SWPPP DOCUMENTATION AND MANAGEMENT	LS	1		
6	230(A)	SOLID SLAB SODDING	SY	623		
7	501(F)	GRANULAR BACKFILL (#57 CRUSHED STONE)	CY	20		
8	325	SEPARATOR FABRIC	SY			
9	509(C)	CLASS A CONCRETE, SMALL STRUCTURES	CY	120		
10	511(A)	REINFORCING STEEL	LB	32100		
11	601(A)	TYPE I PLAIN RIPRAP	TON	146		
12	601(I)	FILTER FABRIC (RIPRAP)	SY	106		
13	602(C)	FILTER FABRIC (TRENCH)	SY	120		
14	619(B)	REMOVAL OF EXISTING RIPRAP	SY	188		
15	619(B)	REMOVAL OF EXISTING OUTFALL STRUCTURE	EA	1		
16	625(B)	REMOVE AND RECONSTRUCT FENCE	LF	150		
17	625 (E)	FENCE-STYLE BLACK VINYL CLF (4' HIGH, CLASS A)	LF	40		
18	641	MOBILIZATION	EA	1		
19	642	CONSTRUCTION STAKING	EA	1		
20	880(J)	CONSTRUCTION TRAFFIC CONTROL	SD	90		
21	SPECIAL	OWNER ALLOWANCE	EA	1	\$ 21,000.00	\$21,000.00
22	SPECIAL	PROJECT SIGN (CITY OF TULSA)	EA	1		
23	COT 334	CONSTRUCTION AS-BUILT	LSUM	1		
24	COT 335	CONTRACTOR'S QUALITY CONTROL	LSUM	1		
25	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	LSUM	1		
26	SPECIAL	STRUCTURAL INSPECTIONS	EA	4		
TOTAL						\$21,000.00

TOTAL BASE BID

\$21,000.00
Figures

Enclosed is a () Bidder's Surety Bond, () Certified Check, () Cashier's Check for

Dollars (\$)
Figures

which the City of Tulsa may retain or recover as liquidated damages in the event that the undersigned fails to enter into contract for the work covered by this proposal, provided the Contract is awarded to the undersigned within thirty (30) days, or within ninety (90) days if Federal funds are utilized, from the date fixed for opening of bids and the undersigned fails to execute said Contract and furnish the required bonds and other requirements as called for in these Contract Documents within thirty (30) days after award of Contract.

Dated at Tulsa, Oklahoma, this _____ day of _____, 20__.

Respectfully submitted,

(Complete legal name of company)

(State of Organization)

By:

Title:

Printed Name:

ATTEST:

Title: Corporate Secretary

Printed Name:

(SEAL)

Address: _____

Telephone Number: _____

Fax Number: _____

By signing above bidder acknowledges receipt of the following Addenda (give number and date of each):

PAY ITEM NOTES EARTHWORK / EROSION CONTROL / SITE PREPARATION (E1-E11)

1. ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.
2. ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.
3. THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.
4. UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED.
5. NOT USED.
6. NOT USED.
7. NOT USED.
8. NOT USED.
9. NOT USED.
10. THE PAY ITEM FOR SOLID SLAB SODDING INCLUDES QUANTITIES FOR PLACEMENT AND COMPACTION OF SUITABLE BACKFILL AND SOD EXISTING GRASS AREAS WHICH MAY BE DAMAGED DURING CONSTRUCTION OF CURBS, SIDEWALKS, DRIVEWAYS, AND OTHER MISCELLANEOUS ITEMS. THE QUANTITIES ARE BASED ON UTILIZING A 3 FOOT WIDE STRIP IN THESE AREAS. THE SOD SHALL BE OF LIKE KIND TO THE EXISTING SOD. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF DAMAGE TO THE EXISTING GRASS THAT EXCEEDS THESE LIMITS.
11. NOT USED.

PAY ITEM NOTES SURFACING / STRUCTURES (S1-S21)

1. NOT USED.
2. NOT USED.
3. NOT USED.
4. NOT USED.
5. NOT USED.
6. NOT USED.
7. NOT USED.
8. NOT USED.
9. NOT USED.
10. NOT USED.
11. NOT USED.
12. THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.
13. NOT USED.
14. NOT USED.
15. NOT USED.
16. NOT USED.
17. NOT USED.
18. NOT USED.
19. NOT USED.
20. NOT USED.
21. CONTRACTOR SHALL PROVIDE CERTIFIED STRUCTURAL INSPECTIONS PRIOR TO CONSTRUCTION AND POST CONSTRUCTION STRUCTURES.

PAY ITEM NOTES REMOVAL/ADJUSTMENT (R1-R6)

1. WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.
2. NOT USED.
3. NOT USED.
4. NOT USED.
5. NOT USED.
6. NOT USED.

PAY ITEM NOTES GENERAL (G1-G10)

1. NOT USED.
2. MAXIMUM OVERALL DOLLAR AMOUNT AND SCHEDULE OF PAYMENTS SHALL BE IN ACCORDANCE SECTION 641 OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION. EXCLUDES MOBILIZATION FOR WATERLINE WORK.
3. CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.
4. THE COST TO REPLACE REMOVED OR DAMAGED SECTION CORNERS AND ALL OTHER PERMANENT RIGHT OF WAY MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.
5. CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THIS PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER AND CITY ARBORIST. COST SHALL BE INCLUDED IN THE PRICE BID.
6. ALL HOUSE NUMBERS SHALL BE REPLACED/ REESTABLISHED THROUGHOUT PROJECT LIMITS. COST TO BE INCLUDED IN URBAN RIGHT OF WAY RESTORATION. CONTRACTOR SHALL REESTABLISH DRAINS, ROOF DRAINS AND OTHER DRAINAGE THROUGH THE CURBS IN ACCORDANCE WITH CITY OF TULSA STANDARD 758. NO NEW CURB OUTLETS SHALL BE CONSTRUCTED WITHOUT APPROVAL OF THE ENGINEER.
7. AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST SHALL OVERSEE ALL PLANTINGS AND/OR REMOVAL OF TREES. CONTACT CITY ARBORIST TO ACCEPT FINAL PLANTINGS. CONTACT #: 918-596-2548
8. TREE GRATES ARE NOT ACCEPTABLE PER CITY ARBORIST. CONCRETE PAVERS ARE TO BE USED AS NECESSARY AROUND TREES.
9. CONTRACTOR SHALL COORDINATE WITH HOMEOWNERS TO RESET ALL PAVERS, LANDSCAPE STONE, PRIVATE SIDEWALKS AND FENCES THAT ARE DISTURBED DURING CONSTRUCTION OPERATIONS. ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR RESETTING OF SUCH ITEMS IS TO BE INCLUDED IN PRICE BID FOR URBAN RIGHT OF WAY RESTORATION.
10. PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION.

PAY TEM NOTES DRAINAGE (D1-D15)

1. NOT USED.
2. NOT USED.
3. NOT USED.
4. NOT USED.
5. NOT USED.
6. NOT USED.
7. NOT USED.
8. NOT USED.
9. NOT USED.
10. NOT USED.
11. NOT USED.
12. NOT USED.
13. NOT USED.
14. NOT USED.
15. NOT USED.

PAY ITEM NOTES TRAFFIC (T1-T7)

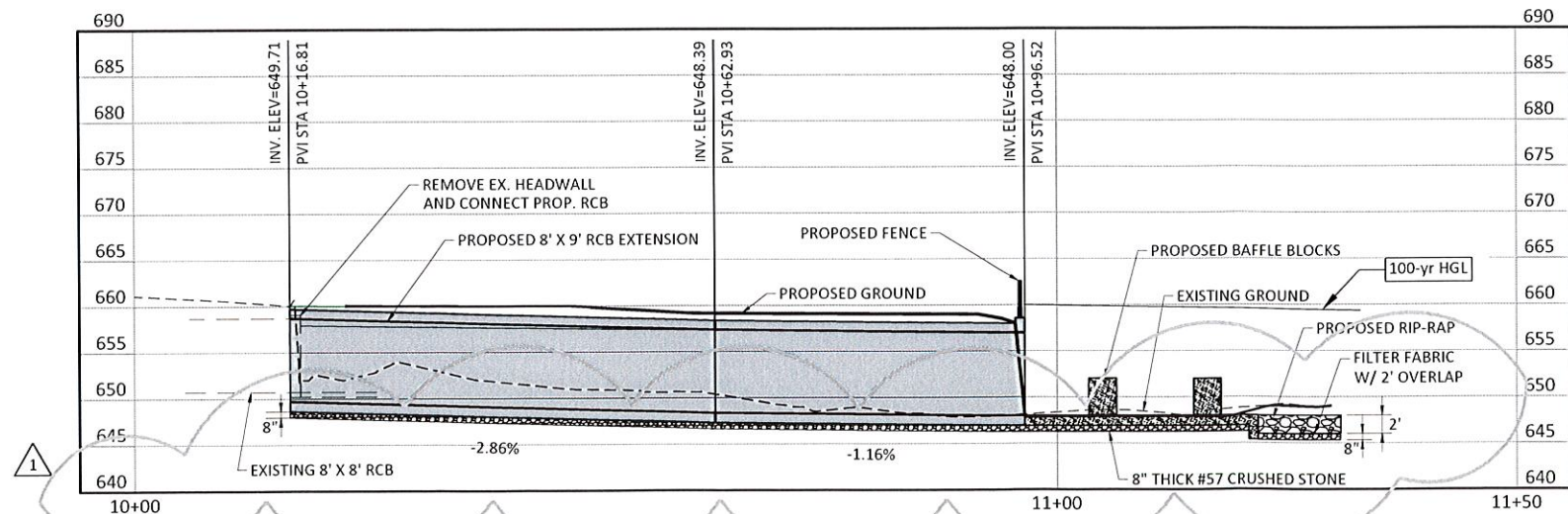
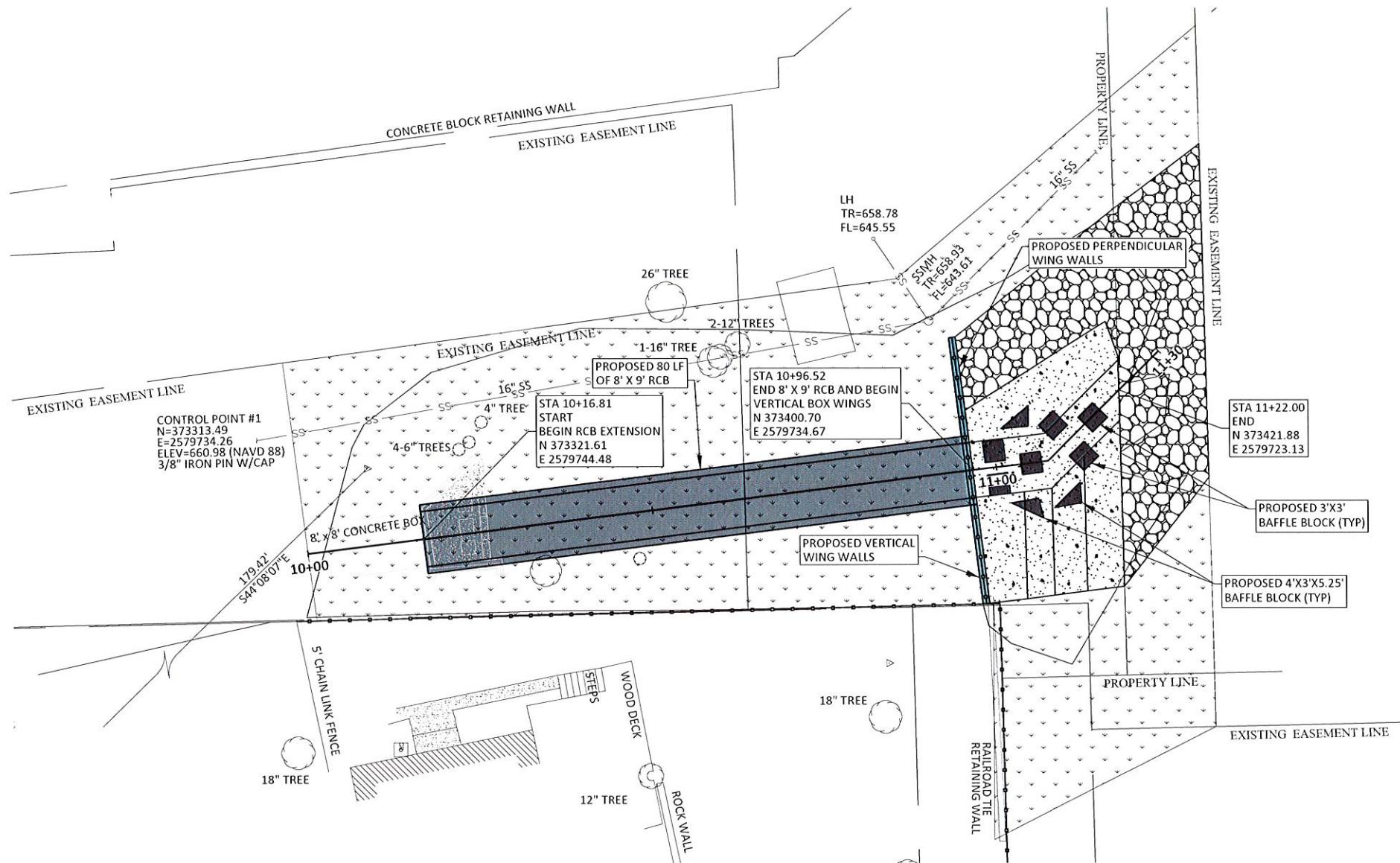
1. NOT USED.
2. NOT USED.
3. NOT USED.
4. PAYMENT SHALL BE MADE ON A SIGN-DAY BASIS ONLY FOR TRAFFIC CONTROL DEVICES THAT ARE PROPERLY INSTALLED AND IN GOOD WORKING ORDER. COSTS FOR DELIVERY, INSTALLATION, RELOCATION, MAINTENANCE REMOVAL AND REPLACEMENT, AS NEEDED AT THE DISCRETION OF THE ENGINEER, INCLUDED IN UNIT PRICE BID. ALL TRAFFIC CONTROL SHALL MEET THE MUTCD.
5. NOT USED.
6. NOT USED.
7. NOT USED.

ITEM	SPEC. NO.	DESCRIPTION		QUANTITY	UNIT
1	201(A)	CLEARING AND GRUBBING	E-1, 2	0.1	ACRE
2	202(A)	UNCLASSIFIED EXCAVATION	E-3, 4, 5, R-1	300	CY
3	202(B)	MUCK EXCAVATION		60	CY
4	202(D)	UNCLASSIFIED BORROW		120	CY
5	220	SWPPP DOCUMENTATION AND MANAGEMENT		1	LS
6	230(A)	SOLID SLAB SODDING	E-10	632	SY
7	501(F)	GRANULAR BACKFILL (#57 CRUSHED STONE)		20	CY
8	325	SEPARATOR FABRIC	S-3	0	SY
9	505(C)	CLASS A CONCRETE, SMALL STRUCTURES	S-12	120	CY
10	511(A)	REINFORCING STEEL		32100	LB
11	601(A)	TYPE I PLAIN RIPRAP		146	TON
12	601(I)	FILTER FABRIC (RIPRAP)		106	SY
13	602(C)	FILTER FABRIC (TRENCH)		220	SY
14	619(S)	REMOVAL OF EXISTING RIPRAP	R-1, 5, 6	188	SY
15	619(B)	REMOVAL OF EXISTING OUTFALL STRUCTURE	R-1, 5, 6	1	EA
16	625(B)	REMOVE AND RECONSTRUCT FENCE		150	LF
17	625 (E)	FENCE-STYLE BLACK VINYL CLF (4' HIGH, CLASS A)		40	LF
18	641	MOBILIZATION	G-2	1	EA
19	642	CONSTRUCTION STAKING	G-3, 4	1	EA
20	880(J)	CONSTRUCTION TRAFFIC CONTROL	T-4	90	SD
21	SPECIAL	OWNER ALLOWANCE		1	EA
22	SPECIAL	PROJECT SIGN (CITY OF TULSA)	T-7	1	EA
23	COT 334	CONSTRUCTION AS-BUILT		1	LSUM
24	COT 335	CONTRACTOR'S QUALITY CONTROL		1	LSUM
25	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	G-5, 6, 7, 8, 9, 10	1	LSUM
26	SPECIAL	STRUCTURAL INSPECTIONS	S-21	4	EA



PAY ITEM & GENERAL NOTES							
PROJECT NO. SW-2020-01-05							
VENSEL TRIBUTARY 108TH STREET RCB EXTENSION							
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT							
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.				4200 E. SKELLY DRIVE SUITE 410 TULSA, OK 74135 (539) 444-8677			
REVISION	BY	DATE	PLAN SCALE:	DRAWN	BHT	05/2022	APPROVED:
ADDENDUM 01	BHT	11/15/22	1"-N/A	DESIGNED	KDB	05/2022	
				SURVEY	SDC	07/2019	
			PROFILE SCALE:	PROJ. MGR.			
			HORIZONTAL 1"-N/A	LEAD ENGR.			
				FIELD MGR.			
			VERTICAL 1"-N/A	RECOMMENDED:			CITY ENGINEER
				DESIGN MANAGER			
			FILE: TUL20776 PAY ITEMS	DRAWING:			
			ATLAS PAGE NO: 1578				DATE:
							SHEET 2 OF 17 SHEETS

Filename: N:\Drawings\1. General\TUL20776 P&P SHEETS.dwg



		Box Exit	Middle of Baffle Blocks	Beyond Baffle Blocks
002YR	WSE (ft)	655.14	654.89	652.17
	Vel (ft/s)	2.3	1.77	2.9
010YR	WSE (ft)	657.35	656.9	653.4
	Vel (ft/s)	4.28	2.7	3.87
025YR	WSE (ft)	658.51	658.23	654.63
	Vel (ft/s)	6.99	3.8	4.6
050YR	WSE (ft)	659.33	659.05	655.42
	Vel (ft/s)	8.67	4.4	4.99
100YR	WSE (ft)	660.15	659.87	656.26
	Vel (ft/s)	10.5	5.01	5.38

LEGEND

	PROPOSED RCB
	PROPOSED RIPRAP
	PROPOSED SOD
	CONCRETE APRON
	PROPOSED BAFFLE BLOCK



HORIZONTAL SCALE 1"=10'

0 10' 20'

SCALE IN FEET

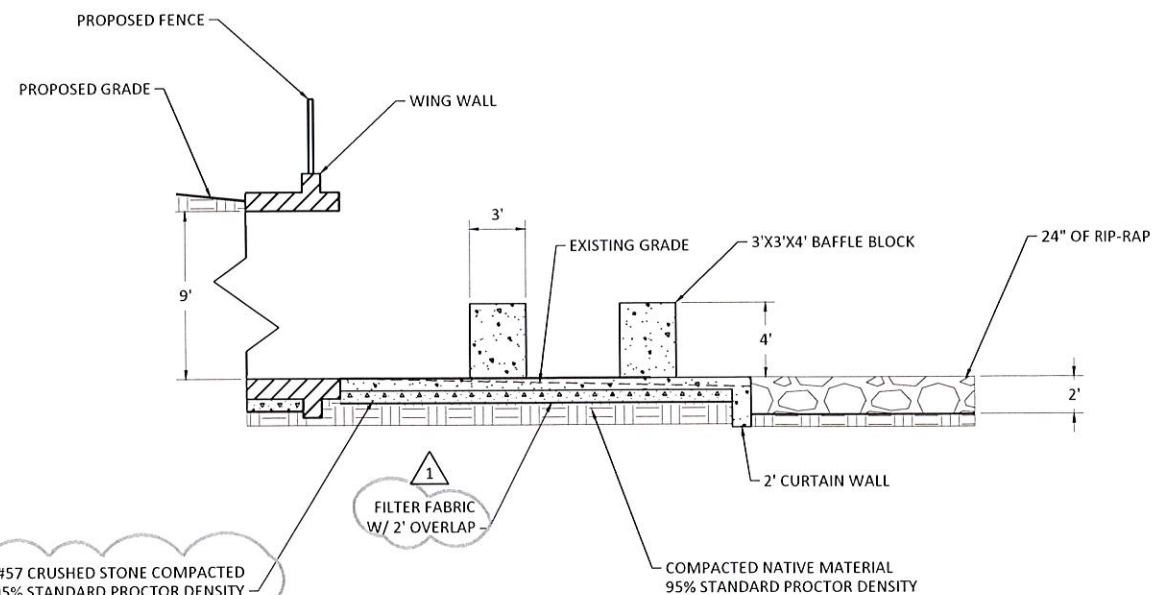
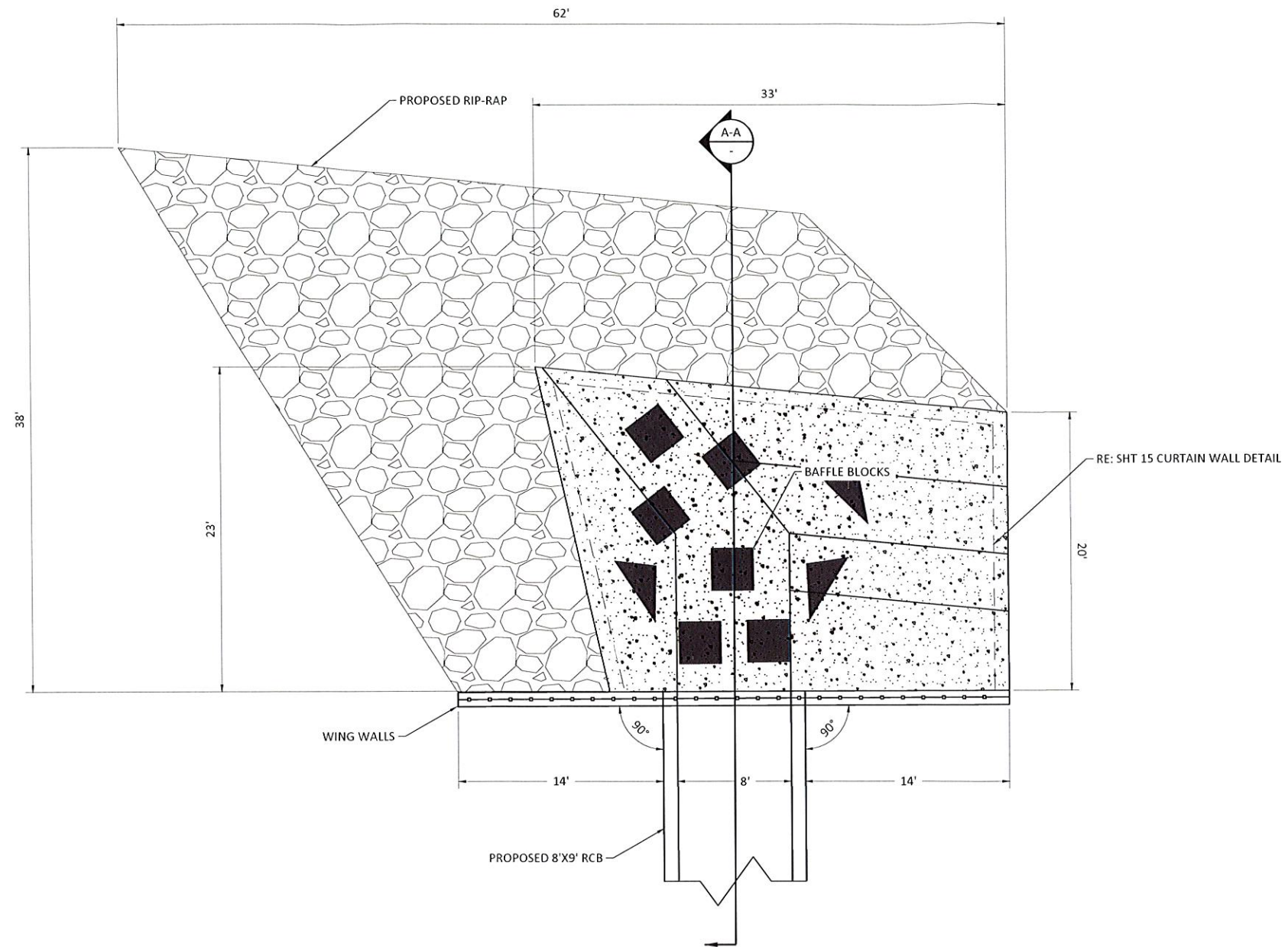
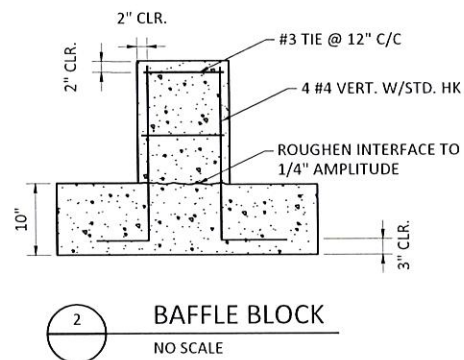
VERTICAL SCALE 1"=10'

0 10' 20'

SCALE IN FEET



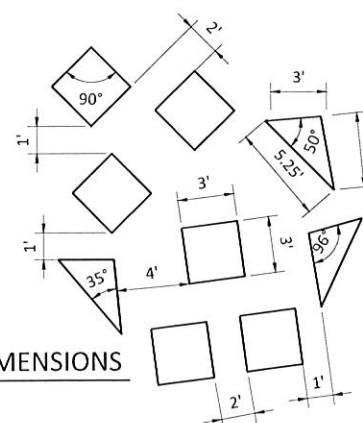
RCB PLAN AND PROFILE	
PROJECT NO. SW-2020-01-05	
VENSEL TRIBUTARY 108TH STREET RCB EXTENSION	
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.	4200 E. SKELLY DRIVE SUITE 410 TULSA, OK 74135 (539) 444-8677
REVISION	BY DATE
ADDENDUM 01	BHT 11/15/22
PLAN SCALE:	DRAWN
1"=10'	DESIGNED
	SURVEY
PROFILE SCALE:	PROJ. MGR.
1"=10'	LEAD ENGR.
	FIELD MGR.
VERTICAL	RECOMMENDED:
1"=10'	DESIGN MANAGER
FILE: TUL20776 P&P SHEETS	DRAWING:
ATLAS PAGE NO. 1578	DATE:
	CITY ENGINEER
	SHEET 6 OF 17 SHEETS



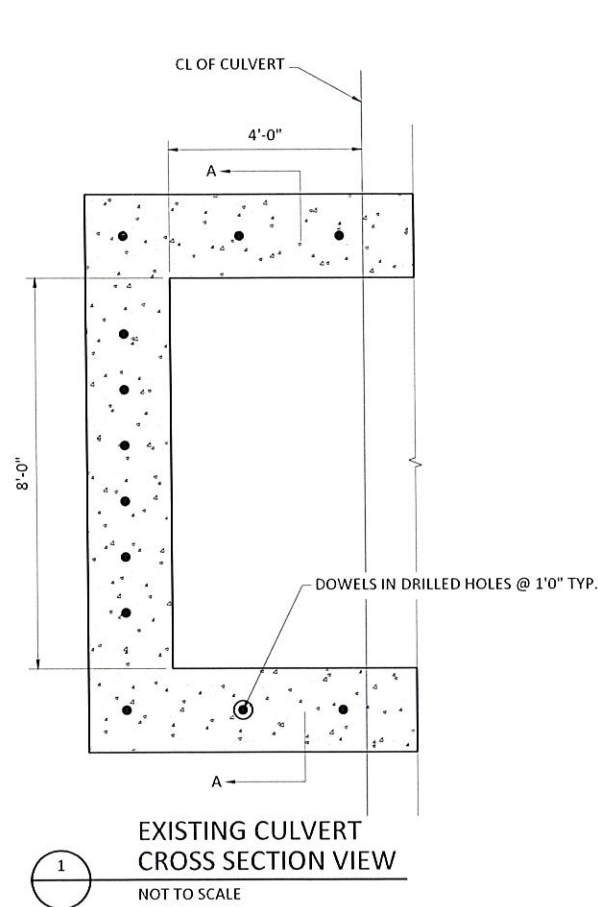
A-A SECTION A-A
1"=5'

1 STA. 10+96.52
OUTFALL END SECTION
1"=5'

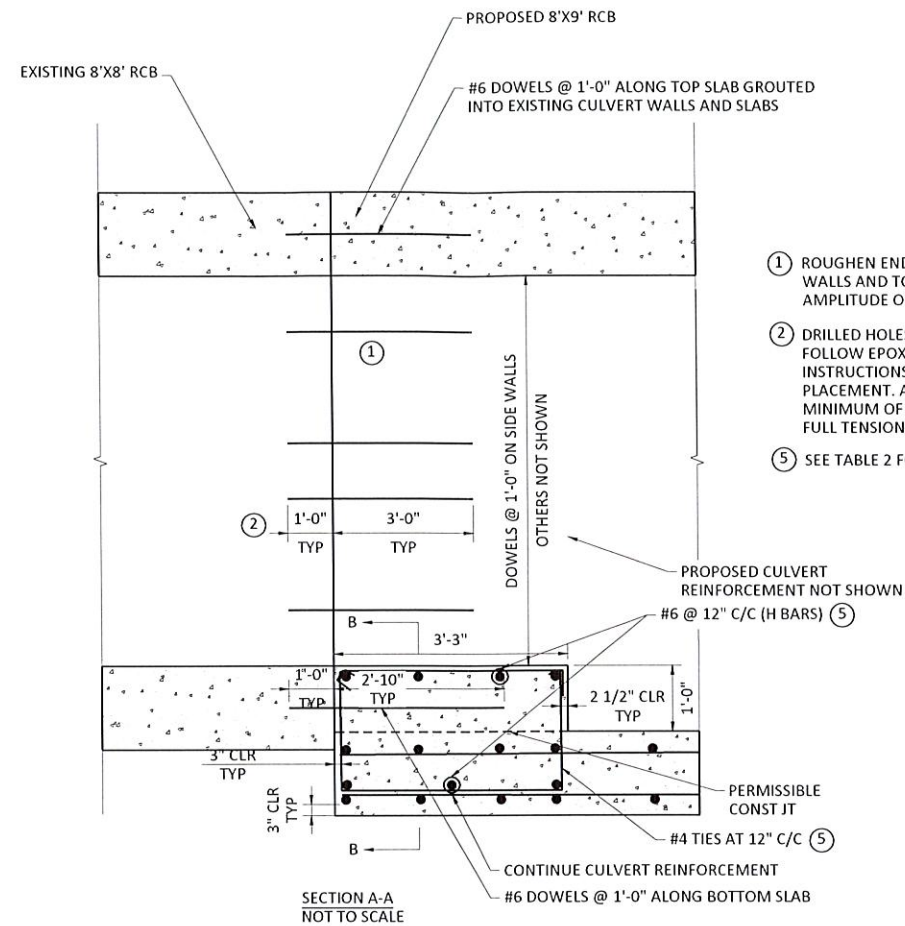
3 BAFFLE BLOCK DIMENSIONS
1"=5'



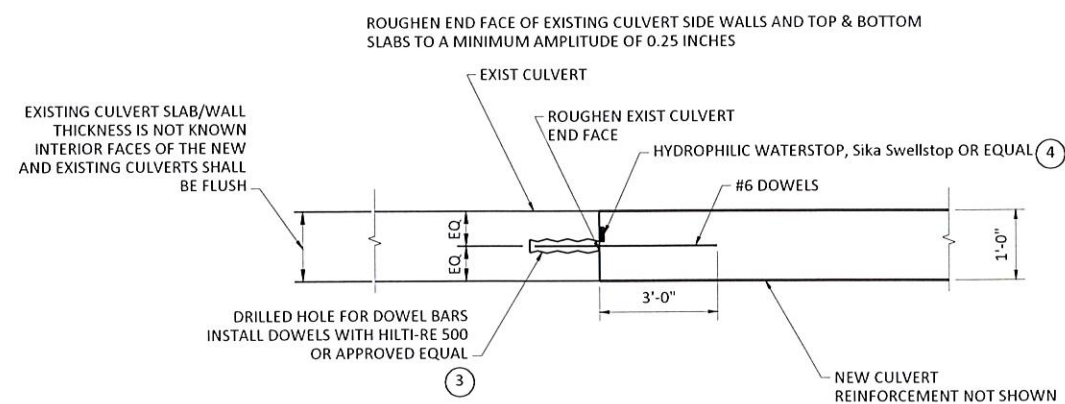
BAFFLE BLOCK DETAILS									
PROJECT NO. SW-2020-01-05									
VENSEL TRIBUTARY 108TH STREET RCB EXTENSION									
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT									
PLANS AND ESTIMATES PREPARED BY: FRESE AND NICHOLS, INC.					4200 E. SKELLY DRIVE SUITE 410 TULSA, OK 74135 (539) 444-8877				
REVISION	BY	DATE	PLAN SCALE:	DRAWN	BHT	05/2022	APPROVED:		
ADDENDUM 01	BHT	11/15/22	1"=N/A	DESIGNED	KDB	05/2022			
				SURVEY	SDC	07/2019			
			PROFILE SCALE:	PROJ. MGR.					
			HORIZONTAL	LEAD ENGR.					
			FIELD MGR.						
			VERTICAL	RECOMMENDED:					
			1"=N/A	DESIGN MANAGER:					
			FILE: TUL20776 DETAILS	DRAWING:			DATE:		
			ATLAS PAGE NO: 1578				SHEET 12 OF 17 SHEETS		



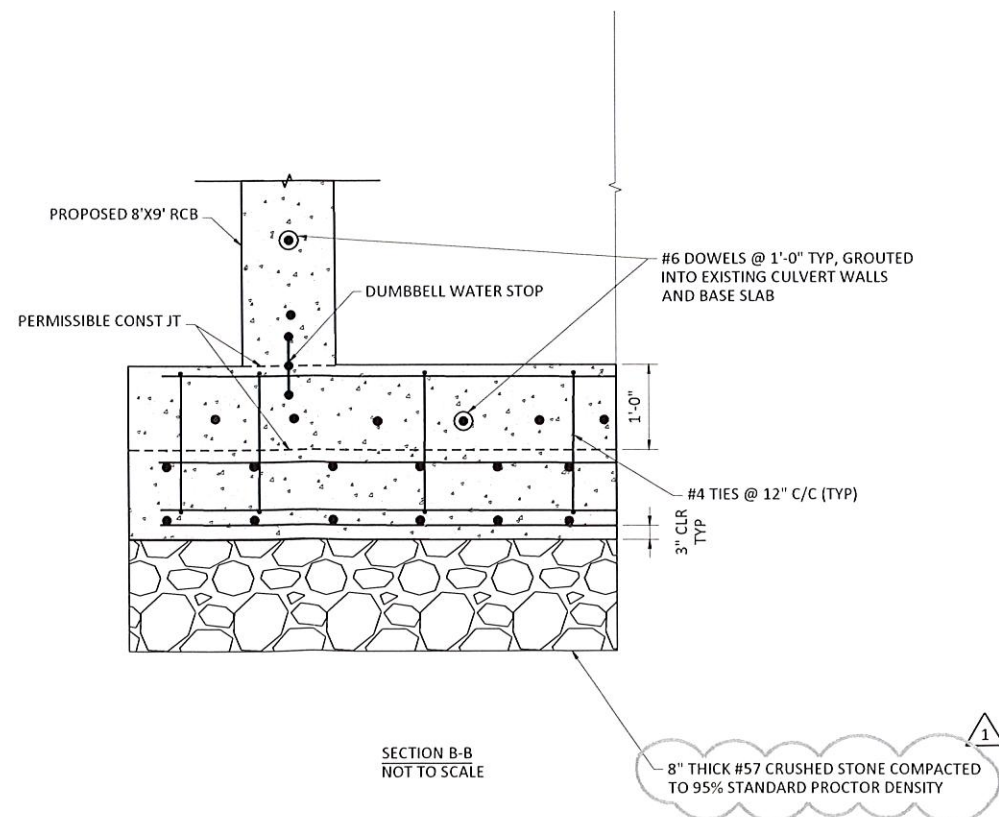
NOTES:
1. DOWELLING IS SYMMETRICAL ABOUT THE CENTERLINE



- 1 ROUGHEN END FACE OF EXISTING CULVERT SIDE WALLS AND TOP AND BOTTOM SLABS TO A MINIMUM AMPLITUDE OF 0.25 INCHES
- 2 DRILLED HOLES SHALL BE THOROUGHLY CLEANED, FOLLOW EPOXY ADHESIVE MANUFACTURERS INSTRUCTIONS FOR ANCHOR INSTALLATIONS AND PLACEMENT. ANCHORS SHALL BE EMBEDDED A MINIMUM OF 1'-0" OR AS REQUIRED TO DEVELOP FULL TENSION CAPACITY.
- 5 SEE TABLE 2 FOR ADDITIONAL H AND S BARS



- 3 FOLLOW ADHESIVE MANUFACTURER'S DIRECTIONS FOR INSTALLATIONS TO DEVELOP FULL TENSILE STRENGTH OF THE DOWEL BAR
- 4 PLACE HYDROPHILIC WATERSTOP ALL AROUND ON EXISTING CONCRETE



EXISTING RCB DETAIL									
PROJECT NO. SW-2020-01-05									
VENSEL TRIBUTARY 108TH STREET RCB EXTENSION									
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT									
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.					4200 E. SKELLY DRIVE SUITE 410 TULSA, OK 74135 (539) 444-8677				
REVISION	BY	DATE	PLAN SCALE:	DRAWN	BHT	05/2022	APPROVED:		
ADDENDUM 01	BHT	11/15/22	1"=N/A	DESIGNED	KDB	05/2022			
				SURVEY	SDC	07/2019			
			PROFILE SCALE:	PROJ. MGR.					
			HORIZONTAL	LEAD ENGR.					
			VERTICAL	FIELD MGR.					
				RECOMMENDED:					
				DESIGN MANAGER			CITY ENGINEER		
			FILE: TUL20776 DETAILS	DRAWING:			DATE:		
			ATLAS PAGE NO. 1578				SHEET 13 OF 17 SHEETS		

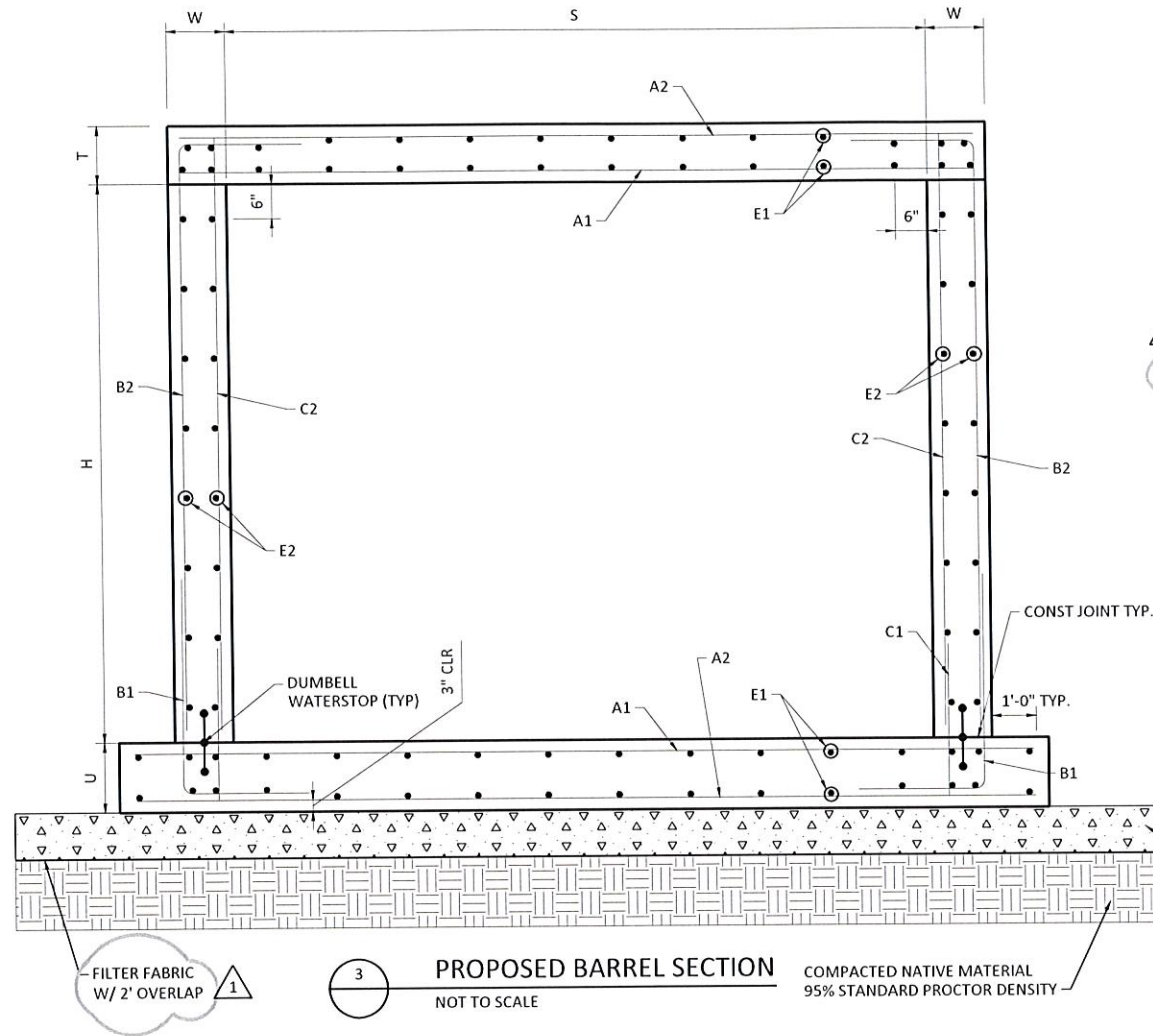


TABLE 1

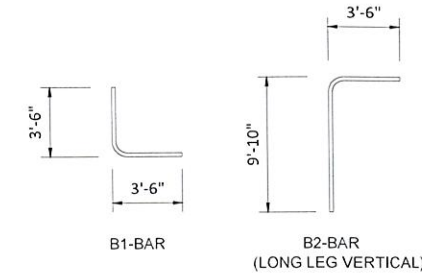
TABLE OF REINFORCING STEEL AND QUANTITIES ^①				
MARK	BAR SIZE	SPACING INCHES	LENGTH FT	WEIGHT PER FT
A1	#8	6"	11'-8"	124.6
A2	#4	12"	11'-8"	15.9
B1	#6	6"	7'-0"	37.4
B2	#6	6"	13'-4"	71.2
C1	#4	12"	2'-7"	3.5
C2	#4	12"	9'-10"	13.1
E1	#4	12"		32.1
E2	#4	12"		34.7
TOTAL	REINFORCING STEEL, LB			332.5
	CLASS A CONCRETE, CY			1.45

① QUANTITIES SHOWN ARE FOR ONE FOOT LENGTH OF CULVERT BARREL

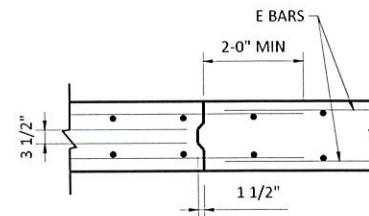
TABLE OF CULVERT DIMENSIONS	
S	8'-0"
H	9'-0"
T	1'-0"
U	1'-1"
W	1'-0"

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
804 (A)	STRUCTURAL CONCRETE	CY
804 (B)	REINFORCING STEEL	LB

① 8" THICK #57 CRUSHED STONE COMPACTED TO 95% STANDARD PROCTOR DENSITY



④ BAR BEND DIAGRAMS
NOT TO SCALE



⑦ TRANSV CONSTR JOINT
NOT TO SCALE

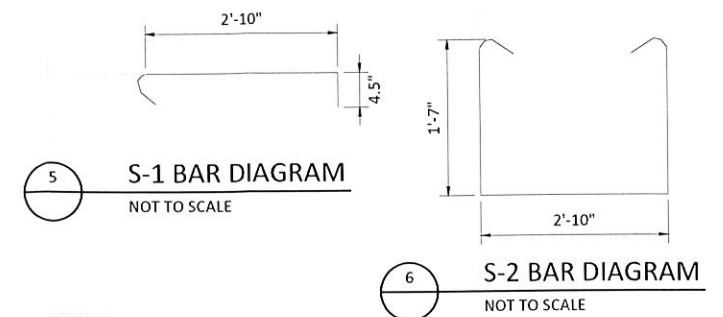


TABLE 2

TABLE OF REINFORCING STEEL AND QUANTITIES ^②				
MARK	BAR SIZE	SPACING INCHES	LENGTH FT	TOTAL WEIGHT
H	#6	12"	9'-8"	206.5
S1	#4	12"	3'-10"	28.2
S2	#4	12"	7'-3"	53.3

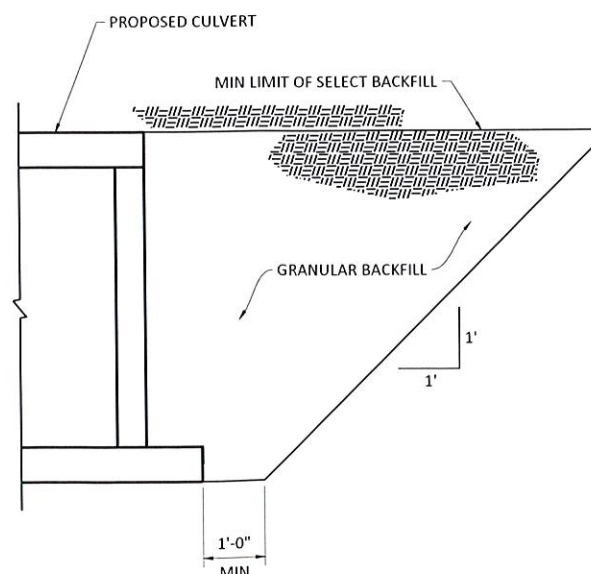
② QUANTITIES SHOWN ARE FOR ADDITIONAL BARS AT CROSS SECTION WHERE PROPOSED CULVERT CONNECTS TO EXISTING

DESIGN DATA:

- DESIGNED IN ACCORDANCE WITH 2017 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- DESIGNED FOR HL-93 LOADING AND ODOT OVERLOAD TRUCK.
- MATERIALS:
CONCRETE (CLASS A) $f_c = 4$ KSI
REINFORCING STEEL $f_y = 60$ KSI

GENERAL NOTES:

- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- ALL CONCRETE EDGES SHALL HAVE A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
- ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN.
- ALL BAR DIMENSIONS ARE OUT TO OUT OF THE BAR U.N.O.
- THE QUANTITY FOR REINFORCING STEEL DOES NOT INCLUDE LAP SPLICES OR E1-BARS OR E2-BARS IN THE LENGTH OF THE BARRELL OR AT TRANSVERSE CONSTRUCTION JOINTS. THE SPLICE LENGTH FOR E-BARS SHALL BE 24" MINIMUM. THE NUMBER OF SPLICES USED TO BE APPROVED BY THE ENGINEER. REINFORCING STEEL FOR SPLICES SHALL NOT BE MEASURED FOR PAYMENT, AND ALL COSTS WILL BE INCLUDED IN THE UNIT BID PRICE FOR REINFORCING STEEL.
- TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED IN ALL CULVERTS 100 FT. OR MORE IN LENGTHS. JOINTS SHALL BE SPACED AT 60 FT. MAX.
- REINFORCING STEEL SHALL BE CONTINUED THROUGH THE TRANSVERSE CONSTRUCTION JOINT AND EXTEND A MIN. OF 24" INTO ADJACENT SECTION.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS, ELEVATIONS AND LOCATIONS OF ALL UTILITIES PRIOR TO PURCHASE OF ANY MATERIAL AND EXECUTION OF ANY WORK. NOTIFY THE ENGINEER IN CASE OF ANY DISCREPANCIES AND/OR CONFLICTS.
- BACKFILL FOR PROPOSED CULVERT SHALL BE GRANULAR BACKFILL UNDER 2019 ODOT STANDARD SPECIFICATIONS 703.07



⑧ BACKFILL DETAIL
NOT TO SCALE



PROPOSED RCB DETAILS							
PROJECT NO. SW-2020-01-05							
VENSEL TRIBUTARY 108TH STREET RCB EXTENSION							
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT							
PLANS AND ESTIMATES PREPARED BY: FREESE AND NICHOLS, INC.				4200 E. SKELLY DRIVE SUITE 410 TULSA, OK 74135 (539) 444-8677			
E 22	PLAN SCALE:	DRAWN	BHT	05/2022	APPROVED:		
	1"=N/A	DESIGNED	KDB	05/2022			
		SURVEY	SDC	07/2019			
	PROFILE SCALE:	PROJ. MGR.					
	HORIZONTAL 1"=N/A	LEAD ENGR.					
		FIELD MGR.					
	VERTICAL 1"=N/A	RECOMMENDED:					
		DESIGN MANAGER					
	FILE: TUL20776 DETAILS				DRAWING:		DATE:
	ATLAS PAGE NO: 1578				SHEET 14 OF 17 SHEETS		