CITY OF SAN ANGELO
BELL STREET PAVING, WATER AND WASTWATER IMPROVEMENTS ALL PHASES
SAN16188

ADDENDUM NO. 1
December 21, 2017

00 91 13 ADDENDUM NUMBER 001

The following additions, deletions, modifications, or clarifications shall be made to the appropriate sections of the Contract Documents. Bidders shall acknowledge receipt of this Addendum in the space provided on the Bid Form.

The Pre-Bid Questions Response Log documents all questions received by December 21, 2017 with responses provided by Freese and Nichols, Inc. If a question warranted a change to the bid documents then those changes are reflected in the addenda and supporting documentation. If a question did not warrant a change to the bid documents, a response is provided as part of the response log, which has been included as an attachment to this Addendum.

STATE OF TEXAS
AARON B. CONINE
109794
LICENSED
PROFESSIONAL ENGINEER
21 Dec 2017

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

STATE OF TEXAS
WAYNE P. HARTT
118231
LICENSED
PROFESSIONAL ENGINEER
12-21-2017

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

TECHNICAL SPECIFICATIONS:

A1-1 Section 4.11– "Pressure Pipe Testing and Disinfection"

A. Reference Page **45**.

Modification: Modify the paragraph to read as follows:

4.11.3 Water Service

Before any existing water service is interrupted, or before any existing valves are operated, the OWNER shall be notified and shall be present when such operation is made. Rehau Municipex **and Type K Copper tubing** are ~~is an~~ acceptable material for the installation of new water service lines.

A1-2 Section 4.14– "Service Lines"

A. Reference Page **51**.

Modification: Modify the paragraph to read as follows:

4.14.1 Materials

All 2" service lines will be Schedule 40 PVC. All 1" service lines will be Type K copper tubing. **Rehau Municipex is also an acceptable material for new water service lines.**

A1-3 Section 4.16 – "Cast In Place Concrete"

A. Reference Page **58**.

Modification: Modify the paragraph to read as follows:

4.16.7.5 Initial Set

The initial set as determined by ASTM C403 shall be attained ~~5 2~~ **5.5** hours plus or minus one hour after the water and cement are added to the aggregates. The quantity of retarding or accelerating admixture shall be adjusted to compensate for variations in temperature and job conditions.

A1-4 Section 4.29 – "Temporary Bypass Pumping Systems"

A. Reference Page **99**.

Modification: Modify the paragraph to read as follows:

4.29.0.1 Scope

This item pertains to Phase I **and Phase III** of the Bell Street improvements.

B. Reference Page **101**.

Addition:

h) Stand-by pumps are allowed in the Contractor's construction yard if the Contractor can demonstrate his ability to have the stand-by pump in operation in less than two hours. Once the pump is in operation, the Contractor shall have the ability to have another stand-by on site in less than 12 hours.

A1-5 Section 4.1 – "General Notes"

A. Reference Page **8**.

Modification: Modify the paragraph to read as follows:

4.1.22 Backfilled trenches shall be finish paved within ~~two weeks~~ **seventy-two (72) hours** of backfilling or the CONTRACTOR shall place and maintain temporary cold mix paving until final paving is accomplished.

B. Reference Page **9**.

Addition:

4.1.33 The staging area shall be located east of Marie St where Bryan St intersects as depicted in **Figure 1 – Staging Area** below.

Staging area shall be removed at the end of construction and all areas of disturbed soil permanently stabilized with vegetation or other material approved by COSA. Debris, unused stockpiles and materials shall be recycled or properly disposed of including the removal of soil contaminated from equipment leaks.

Figure 1 - Staging Area

REPLACE THE FOLLOWING SECTIONS:

Replace Section	With Section
Price Proposal	Price Proposal
4.30	4.30

DRAWINGS:

REPLACE THE FOLLOWING SHEETS

Phase	Replace Sheet	With Sheet
1, 2, 3	NOTES-1	NOTES-1
1,2, 3	NOTES-2	NOTES-2
2	W-1	W-1
2	W-2	W-2
2	W-9	W-9
2	W-10	W-10
2	W-15	W-15
2	W-16	W-16
3	W-5	W-5
3	W-7	W-7
3	SS-3	SS-3
3	SS-4	SS-4

END OF ADDENDUM NO. 1

PHASE 1 PRE-BID QUESTIONS RESPONSE LOG

PRE-BID QUESTIONS
RESPONSE LOG

FREESE NICHOLS

Innovative approaches
Practical results
Outstanding service

Project: Bell Street Paving, Water, and Wastewater Improvements - All Phases **FNI Project No:** SAN16188 **Last Updated:** 12/21/2017

QUESTIONS SUBMITTED ON: DECEMBER 18, 2017

NUM.	QUESTION	RESPONSE	ACTION
1	By-Pass Pumping System; Can the pumps required for the by-pass system be — One main pump running, one backup pump And a third stand by pump stationed in the contractors construction yard?	Yes, the stand-by pump may be positioned in the Contractor's construction yard, but the Contractor must demonstrate their ability to have the pump in operation in less than two hours. Once the pump is put in to operation, the Contractor shall have the ability to have another stand-by on site in less than 12 hours.	Refer to Addendum 01, A1-4 B.
2	By-Pass Pumping System; 2nd. Once the bypass contractor has set up the system and it's up and operational, can the time frame for The by-pass pump contractor to be on site change from 7 days to one day?	The By-Pass Contractor shall be required to be present during the first seven (7) days of operation of each by-passs pumping set up.	None
3	By-Pass Pumping System; 3rd. If the grade difference will allow, can we tie-into the existing sewer main on phase I with a tee-y and Once the new main is installed plug the tee-y . This will require an extra man-hole but the by-pass Pumping would not be required 24 hours a day 7 days a week?	This option could be considered but would likely be contingent upon replacing the wye with a stright run of pipe prior to final acceptance of the project.	None
4	Street Closure; As discussed in the first meeting can individual intersections be closed to accommodate utility crossings, If proper detours are in place? Even if the contractor was allowed only one closure at a time this would be Very helpful.	It is the EOR's opinion that non-signalized intersections could be temporarily closed during active work periods only, with an approved detour plan that is submitted by the Contractor.	None
5	Utility depth; There is a fair amount of rock excavation that will be encountered in this project. Would the city be Willing to change the depth of the new water main to 30 or 36 inches of cover? Or will the contractor Have to follow the profile on the plan sheets?	The Contractor shall follow the profile as shown in the plans.	None
6	Backfill Details; Per your detail backfill drawing you show only two vertical feet of base material required in the sewer and Water trenches in paved areas? Is this correct? If so, then we can use the material out of the sewer trench Above the bedding zone to backfill with correct?	Yes, the screened native soil may be used as backfill material below the first two feet and above the embedment zone, but it is required to meet the compaction densities stated in the specifications.	None
7	Backfill Details; Detail DT-05 Pipe embedment zone 1 shows 4 inches below pipe and 6 inches above pipe for gravel embedment. Detail — 4 — Pipe embedment zone shows 12 inches above pipe. Can you clarify what depth you will require?	Pipe Embedment Zone and required material shall extend to 12" above top of pipe.	None
8	Camera the Sewerlines; Would the city clean and camera the existing and new lines as agreed to earlier, or is the contractor going to camera and clean the lines. If the contractors has to hire someone this requires multiple trips and will be very costly.	After discussing with the City, Section 4.1.31 will govern the CCTV requirements, which means the City will camera and clean both the existing and proposed wastewater mains. Section 4.30 will be updated.	Refer to Addendum 1, Updated Technical Specifications, 4.30.
9	Asphalt Repair; Can hot mix cold lay material be used for the permanent asphalt repair on the utility cuts.	No, this is not allowed for the permanent repair.	None
10	Asphalt Repair; Do the bid item quantities for permanent asphalt repair , include all private asphalt repair behind the curb?	Yes, all permanent asphalt repair is accounted for as shown in the plan sets.	None.

PRE-BID QUESTIONS
RESPONSE LOG

FREESE NICHOLS

Innovative approaches
Practical results
Outstanding service

Project: Bell Street Paving, Water, and Wastewater Improvements - All Phases **FNI Project No:** SAN16188 **Last Updated:** 12/21/2017

11	Asphalt Repair; Are we going to be required to put a temporary skin patch on utility trench cuts or can the base material just be maintained ?	Temporary asphalt repair is required unless final paving performed within 72 hours of completed backfill.	Refer to Addendum 01, Item A1-5 A.
12	Box Culvert; On phase II — water sheet 10 at station 15+20 there is an existing Concrete box culvert with a concrete apron, Approximately fifty feet wide, and five feet in depth . This will need to be a road bore, can we have a bid item For this crossing?	This section of the 16" waterline will be updated to show a By Other Than Open Cut Installation Method and the quantity will be added to the existing by other than open cut bid item in the Price Proposal.	Refer to Addendum 01, Updated Drawings, Phase II Sheet W-10 and the Updated Technical Specifications, Price Proposal.
13	Waterline Alignment; On phase III — 16 inch water line between Koberlin Street and Pulliam Street the plan sheets show the new water main to be installed five feet behind the curb. The existing phone line in most areas between these two streets is five feet behind the curb with the new gas line running between three and six feet . In my opinion there is no place to install the new water main without getting into Bell Street for this portion of project, would you allow the line to be installed in Bell Street?	After internal discussion and review with FNI's Construction Services team, it has been determined that it is possible to install the water main five feet behind the curb. There would be an increased cost and maintenance issues should the line be installed in Bell Street. In addition, the franchise utilities in this area have indicated that they may be relocating their lines, which may reduce the current congestion.	None.
14	Waterline Alignment; Contractor is also concerned about the tight tolerances between existing utilities and new installations-Particularly near Rio Concho.	After internal discussion and review with FNI's Construction Services team, it has been determined that it is possible to install the water main as shown in the plans that were issued for Bid.	None
15	Waterline Alignment; Contractor wishes to move towards the center/other side of street to save some curb removal (Phase II Sht W10).	The waterline alignment will remain as shown on the plans that were issued for Bid.	None
16	Phase III Water Construction; Sheet W 5 - Sta 24+19.26 The plan sheet shows a 12 inch 45 degree bend. We are reducing from 6 inch down to two inch water connection what is the 12 inch bend for?	Sheet W-5 has been updated to correct this call out at STA 24+19.26.	Refer to Addendum 01, Updated Drawings, Phase III Sheet W-5.
17	Phase III Water Construction; Plan sheet W 7 sta 32+46.63 Your label shows a 8x6 tee , shouldn't this be a 16x6 tee?	Yes. FNI will update the drawing.	Refer to Addendum 01, Updated Drawings, Phase III Sheet W-7.
18	Phase III Water Construction; Bid item for 8 inch valves phase III — calling for three each only found one at Sta. 8+42.05 plan sheet W 2 Can you tell me were the rest of the 8 inch valves are located?	FNI will update the bid item in the Price Proposal to call for one 8" gate valve instead of three.	Refer to Addendum 01, Updated Technical Specifications, Price Proposal.
19	Phase III- Sewer; Sheet SS 2 — Sta 0+ 36.45 shows a 5 foot Man-hole . Your profile sheet SS 4 line A2 shows this manhole to be a four foot diameter manhole , can yes clarify what size you need? Also line A 3 shows four foot drop plan sheet SS 3 Sta. 13+31.70 shows a five foot drop manhole?	The manhole on Sheet SS-4 at STA 0+36.45 should be a 5' Diameter Manhole. The drop on Sheet SS-4 should match what is shown in Sheet SS-3; therefore, it should be a 5' drop not a 4' drop.	Refer to Addendum 01, Updated Drawings, Phase III Sheet SS-4.
20	Phase II-Water; Plan sheet W 2 Sta. 6+ 82.57 The plan sheet calls for a 2 inch service with a pressure plug. Arc you just asking for a pvc cap?	Cap or plug is acceptable as long as it can handle the system pressure.	None
21	Phase II-Water; Plan sheet W 9 — Sta. 12+03.25 shows a 16x 6 tee for the fire hydrant lead this should be a 6x6 tee correct?	Yes. FNI will update the drawing to show a 6"x6"x6" tee at STA 12+03.25 in Phase II Sheet W-9.	Refer to Addendum 01, Updated Drawings, Phase II Sheet W-9.

Project: Bell Street Paving, Water, and Wastewater Improvements - All Phases **FNI Project No:** SAN16188 **Last Updated:** 12/21/2017

22	Phase II-Water; Plan sheet W 15 — Sta 42+50 — Shows a 12x2x12 tee. This should be a 16x2x16 tee correct? Would you allow a service saddle verses a fitting instead?	Yes. FNI will update the drawing to show 16"x2"x16" tee at STA 42+50.00 in Phase II Sheet W-15. FNIwill allow a service saddle.	Refer to Addendum 01, Updated Drawings, Phase II Sheet W-15.
23	Phase II-Water; Plan sheet W 7 Sta. 1+20 can you explain this tie in ? We have two 16 inch lines your tying in with a 12 inch line is this because you don't want to tap the line same size as line diameter?	That is correct. Also, this is a temporary connection as the line will connect to the proposed line but due to trying not to limit construction seuencing we are showing this tie-in to the existing line.	None
24	Phase II-Water; Plan sheet W 16 — Sta 1+78.96 the tap you show on the 20 inch line can you tell me if it's concrete cylinder or ductile pipe?	It is our understanding that this is concrete cylinder pipe but it is the Contractor's responsibility to field verify exact location and pipe type.	None
25	Regarding Specification 4.29.0.1, which states "a) This item pertains to Phase I of the Bell Street improvements." Is limitation to Phase I appropriate?	No. FNI will update to include all relevant phases.	Refer to Addendum 01, Item A1-2 A.
26	Contractor requested further review of testing requirements during pre-bid meetings.	After internal discussion and review with FNI's Construction Services team, it has been determined that there will be no changes to the testing requirements.	Refer to Addendum 01, Updated Drawings, Sheet Notes-1 for Phase 1, 2 and 3, which have been reissued to provide clarification regarding the responsible party for testing payment.
27	Contractor inquired if using low profile concrete barriers for TCP is required. Low profile concrete barriers are included in the TxDOT Standards for TCP, but they are not specifically referenced in any of the plan sets.	Low profile concrete barriers are not required for the typical conditions depicted in the TCP plans.	None.
28	Contractors requested clarification on their ability to shutdown multiple side street intersection at once as this would make RCC more feasible.	Multiple side street intersection closures during active work periods will be considered as part of the Contractors proposed TCP/Detour plans.	None.
29	Provide Clarification on available boring methods for TxDOT crossing (HDD or Dry/Auger Bore)	TxDOT states that dry or wet bore is acceptable.	None.
30	Contractor requested clarification regarding the allowable material for water services.	Type K Copper tubing and Rehau Municipex are both allowable material for water services.	Refer to Addendum 01, Item A1-1 A and A1-2 A.
31	What are the procedures for deviating from the TCP and what are the requirements for Detours?	Deviation from the TCP is subject to the City's approval of the Contractor's proposed TCP. With respect to detours, see response to Question Nos. 4 and 28 above.	None.
32	Contractor requests clarification on location of staging area.	Location of staging area and requirements have been provided in Addendum 1. The staging area will be located east of Marie St where Bryan St intersects for Contractor's use. Staging area shall be removed at the end of construction and all areas of disturbed soil permanently stabilized with vegetation or other material approved by COSA. Debris, unused stockpiles and materials shall be recycled or properly disposed of including the removal of soil contaminated from equipment leaks.	Refer to Addendum 01, Item A1-5 B.
33	Contractor requests clarification on bid items 5-16, 11-20, 16-16: 1" Water Meter & bid items 5-17 & 11-21: 2" Water Meter. Contractor understood that CoSA will normally provide water meters.	The Bid item has been updated to clarify that the meter will be provided by the City.	Refer to Addendum 01, Updated Technical Specifications, Price Proposal.

UPDATED TECHNICAL SPECIFICATIONS

Pursuant to the Foregoing Notice to Respondents, the undersigned Respondent hereby proposes to do all work and furnish all necessary superintendence, labor, machinery, equipment, tools, and materials, and whatever else may be necessary to complete all work upon which he Proposals, as provided by the attached specifications and shown on the plans, and binds himself on acceptance of this proposal to execute an Agreement and Bonds according to the accompanying forms, for performing and completing the said work within the time stated, and furnishing all required guarantees, for the following prices to-wit.

At a minimum, the Respondent will specify one paving alternative. If Respondent proposes to both paving alternatives, City to determine which alternative will be selected for each phase of this Project.

PHASE I - SOUTH						
ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
UNIT 1: GENERAL						
1-1	CoSA 500	1	LS	MOBILIZATION / PREPARING ROW		
				TOTAL AMOUNT BID FOR UNIT 1: GENERAL		
UNIT 2: PAVING IMPROVEMENTS						
2-1	CoSA 104	1496	SY	REMOVING CONCRETE (DRIVEWAYS AND SIDEWALK)		
2-2	CoSA 104	6809	LF	REMOVING CONCRETE (CURB & GUTTER)		
2-3	CoSA 105	25450	SY	REMOVE ASPHALT PAVEMENT (4" AVG DEPTH)		
2-4	CoSA 132	273	CY	EMBANKMENT (DENS CNTRL)(CL 3)		
2-5	CoSA 162	4316	SY	DRILL SEEDING		
2-6	CoSA 247	1511	SY	FL BS (CMP IN PLC)(TY A)(GR1-2)(6")(TCP TEMP PAVT)		
2-7	CoSA 275	28604	SY	CEMENT TREATED SUBGRADE (8")		
2-8	CoSA 275	395	TN	CEMENT		
2-9	CoSA 640	1511	SY	D-GR HMA(SQ) TY D PG 64-72 (2" THICK)(TCP TEMP PAVT)		
2-10	CoSA 502	18	MO	BARRICADES, SIGNS AND TRAFFIC HANDLING		
2-11	CoSA 502	48	LF	ROCK FILTER DAMS		
2-12	CoSA 506	48	LF	REMOVE ROCK FILTER DAMS		
2-13	CoSA 506	2150	LF	TEMP SEDIMENT CONTROL FENCE (INSTALL)		
2-14	CoSA 506	2150	LF	TEMP SEDIMENT CONTROL FENCE (REMOVE)		
2-15	CoSA 529	7233	LF	CONCRETE CURB & GUTTER (6")		
2-16	CoSA 530	2159	SY	DRIVEWAYS (CONCRETE)		
2-17	CoSA 531	2313	SY	CONCRETE SIDEWALKS (4")		
2-18	CoSA 531	26	EA	CURB RAMPS (TY 7)		
2-19	CoSA 531	2	EA	CURB RAMPS (TY 10)		
2-20	CoSA 560	9	EA	MAILBOX INSTALL-S (TWG POST) TY 1		
2-21	TxDOT 644	17	EA	RELOCATE SM RD SIGN SUP & AMS		

2-22	CoSA 644	12	EA	INST SM RD SIGN SUP & AM		
2-23	CoSA 666	1631	LF	REFL PAVEMENT MARKING TY 1 (W) 4" (BRK)		
2-24	CoSA 666	219	LF	REFL PAVEMENT MARKING TY 1 (W) 8" (SLD)		
2-25	CoSA 666	744	LF	REFL PAVEMENT MARKING TY 1 (W) 24" (SLD)		
2-26	CoSA 666	2	EA	REFL PAVEMENT MARKING TY 1 (W) (ARROW)		
2-27	CoSA 666	2	EA	REFL PAVEMENT MARKING TY 1 (W) (WORD)		
2-28	CoSA 666	7242	LF	REFL PAVEMENT MARKING TY 1 (Y) 4" (SLD)		
2-29	CoSA 666	170	LF	REFL PAVEMENT MARKING TY 1 (Y) 12" (SLD)		
2-30	CoSA 672	98	EA	REFLECTOR PAVEMENT MARKING TY 2 - A - A		
2-31	CoSA 672	82	EA	REFLECTOR PAVEMENT MARKING TY 1 - C		
2-32	CoSA 680	2	EA	INSTALL HWY TRAF SIGNAL (ISOLATED)		
2-33	CoSA 690	6	EA	REMOVAL OF TRAFFIC SIGNAL POLE ASSEM		
2-34	CoSA 6002	2	EA	VIVIDS PROCESSOR SYSTEM		
2-35	CoSA 6002	2	EA	VIVIDS CAMERA ASSEMBLY		
2-36	TxDOT 6002	2	EA	VIVIDS SETUP SYSTEM (ISOLATED)		
2-37	TxDOT 6002	132	LF	VIVDS COMMUNICATION CABLE (Cat-5)		
2-38	TxDOT 618	235	LF	CONDT (PVC) (SCH 40) (2")		
2-39	TxDOT 618	156	LF	CONDT (PVC) (SCH 40) (3")		
2-40	TxDOT 618	464	LF	CONDT (PVC) (SCH 40) (3") (BORE)		
2-41	TxDOT 618	40	LF	CONDT (RM) (2")		
2-42	TxDOT 620	861	LF	ELEC CONDR (NO. 6) BARE		
2-43	TxDOT 620	108	LF	ELEC CONDR (NO.6) INSULATED		
2-44	TxDOT 621	680	LF	TRAY CABLE (4 CONDR) (12 AWG)		
2-45	TxDOT 684	1785	LF	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)		
2-46	TxDOT 684	897	LF	TRF SIG CBL (TY A)(14 AWG)(16 CONDR)		
2-47	TxDOT 6089	259	LF	CAT 5 ETHERNET CABLE		
2-48	TxDOT 684	404	LF	TRF SIG CBL (TY A)(14 AWG)(3 CONDR)		
2-49	TxDOT 6054	112	LF	COAXIAL CABLE		
2-50	TxDOT 416	78	LF	DRILL SHAFT (TRF SIG POLE) (24 IN)		
2-51	TxDOT 416	12	LF	DRILL SHAFT (TRF SIG POLE) (30 IN)		
2-52	CoSA 416	98	LF	DRILL SHAFT (TRF SIG POLE) (36 IN)		
2-53	CoSA 682	16	EA	VEH SIG SEC (12")LED(GRN)		

2-54	CoSA 682	1	EA	VEH SIG SEC (12")LED(GRN ARW)		
2-55	TxDOT 682	16	EA	VEH SIG SEC (12")LED(YEL)		
2-56	TxDOT 682	1	EA	VEH SIG SEC (12")LED(YEL ARW)		
2-57	TxDOT 682	16	EA	VEH SIG SEC (12")LED(RED)		
2-58	TxDOT 682	1	EA	VEH SIG SEC (12")LED(RED ARW)		
2-59	TxDOT 682	16	EA	PED SIG SEC (LED)(COUNTDOWN)		
2-60	TxDOT 686	1	EA	INS TRF SIG PL AM(S)1 ARM(28')		
2-61	TxDOT 686	4	EA	INS TRF SIG PL AM(S)1 ARM(32')		
2-62	TxDOT 686	1	EA	INS TRF SIG PL AM(S)1 ARM(32')LUM		
2-63	TxDOT 686	1	EA	INS TRF SIG PL AM(S)1 ARM(36')LUM		
2-64	TxDOT 686	1	EA	INS TRF SIG PL AM(S)1 ARM(40')		
2-65	TxDOT 688	16	EA	PED DETECT PUSH BUTTON (APS)		
2-66	TxDOT 687	13	EA	PED POLE ASSEMBLY		
2-67	TxDOT 624	11	EA	GROUND BOX TY C (162911) W/APRON		
2-68	TxDOT 624	2	EA	GROUND BOX TY D (162922) W/APRON		
				TOTAL AMOUNT BID FOR UNIT 2: PAVING IMPROVEMENTS		

UNIT 3: ALT. A - HMAC PAVING

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
3-1	CoSA 247	28604	SY	FLEX BASE (CMP IN PLACE)(TY A GR 1-2)(FNAL POS)(12") (BID ALT A)		
3-2	CoSA 341	25793	SY	D-GR HMA TY-B PG64-22 (2.5" THICK) (BID ALT A)		
3-3	CoSA 341	25793	SY	D-GR HMA TY-D PG64-22 (1.5" THICK) (BID ALT A)		
3-4	CoSA 110	12906	CY	EXCAVATION (ROADWAY)(BID ALT A)		
				TOTAL AMOUNT BID FOR UNIT 3: HMAC PAVING		

UNIT 4: ALT. B - ROLLER COMPACTED CONCRETE

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
4-1	TxDOT 3016	25793	SY	ROLLER COMPACTED CONCRETE (8.5" THICK) (BID ALT B)		
4-2	CoSA 110	6976	CY	EXCAVATION (ROADWAY)(BID ALT B)		
				TOTAL AMOUNT BID FOR UNIT 4: ROLLER COMPACTED CONCRETE		

UNIT 5: WATER IMPROVEMENTS

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
5-1	CoSA 4.9	4196	LF	16" WATER LINE		
5-2	CoSA 4.9	20	LF	16" WATER LINE INSIDE OF CASING		
5-3	CoSA 4.9	130	LF	10" WATER LINE (FOR LOWERING ON KOBERLIN ST)		

1 5-4	CoSA 4.9	985	LF	8" WATER LINE		
1 5-5	CoSA 4.9	189	LF	6" WATER LINE		
5-6	CoSA 4.9	20	LF	24" PVC CASING BY OTHER THAN OPEN CUT		
5-7	CoSA 4.4	4829	LF	TRENCH SAFETY		
5-8	CoSA 4.10	1	EA	2" COMBINATION AIR VALVE		
5-9	CoSA 4.10	5	EA	16" GATE VALVE		
5-10	CoSA 4.10	12	EA	8" GATE VALVE		
1 5-11	CoSA 4.10	10	EA	6" GATE VALVE		
5-12	CoSA 4.13	7	EA	FIRE HYDRANTS		
1 5-13	CoSA 4.14	9	EA	1" WATER SERVICE		
5-14	CoSA 4.14	1	EA	2" WATER SERVICE		
5-15	CoSA 4.14	9	EA	2" WATER SERVICE WITH DOUBLE 1" SERVICE		
1 ~~5-16~~	~~CoSA 4.14~~	~~0~~	~~EA~~	~~1" WATER METER~~		
1 ~~5-17~~	~~CoSA 4.14~~	~~0~~	~~EA~~	~~2" WATER METER~~		
5-18	CoSA 4.19	1	EA	20" LINESTOP		
5-19	CoSA 4.19	2	EA	16" LINESTOP		
5-20	CoSA 4.14	1	EA	20"X16" WET TAP & VALVE		
1 5-21	CoSA 4.14	1	EA	16"X16" WET TAP & VALVE		
5-22	CoSA 4.14	1	EA	8"X8" TAPPING SLEEVE & VALVE		
1 ~~5-23~~	~~CoSA 4.14~~	~~0~~	~~EA~~	~~8"X2" TAPPING SADDLE & VALVE~~		
5-24	CoSA 4.14	1	EA	CONNECTION TO EXISTING 16" WATER LINE		
5-25	CoSA 4.14	5	EA	CONNECTION TO EXISTING 8" WATER LINE		
5-26	CoSA 4.14	7	EA	CONNECTION TO EXISTING 6" WATER LINE		
1 5-27	CoSA 4.1	273	CY	WATER LINE ABANDONMENT GROUT		
5-28	CoSA 4.10	21	EA	REMOVE EXISTING VALVE		
5-29	CoSA 4.13	7	EA	REMOVE EXISTING FIRE HYDRANT		
5-30	CoSA 4.17	3	EA	REMOVE EXISTING WATER METER		
5-31	CoSA 4.6	20	SY	8" FLEX BASE (FOR ALLEY REPAIR BEYOND PROPOSED PAVEMENT LIMITS)		
5-32	CoSA 4.7	235	SY	PERMANENT ASPHALT PAVEMENT REPAIR		
				TOTAL AMOUNT BID FOR UNIT 5: WATER IMPROVEMENTS		

UNIT 6: SANITARY SEWER IMPROVEMENTS

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
1 6-1	CoSA 4.23	1381	LF	24" SANITARY SEWER LINE		
6-2	CoSA 4.23	134	LF	18" SANITARY SEWER LINE		
6-3	CoSA 4.23	1509	LF	12" SANITARY SEWER LINE		
6-4	CoSA 4.23	50	LF	12" SANITARY SEWER LINE INSIDE OF CASING		
1 6-5	CoSA 4.23	1351	LF	10" SANITARY SEWER LINE		
6-6	CoSA 4.23	1796	LF	8" SANITARY SEWER LINE		
6-7	CoSA 4.23	108.8	LF	8" PRESSURED RATED SANITARY SEWER LINE		
6-8	CoSA 4.4	6280	LF	TRENCH SAFETY		
6-9	CoSA 4.23	50	LF	CONCRETE ENCASEMENT		
6-10	CoSA 4.25	7	EA	4' DIAMETER MANHOLE		
6-11	CoSA 4.25	9	EA	5' DIAMETER MANHOLE		
1 6-12	CoSA 4.25	9	EA	5' DIAMETER DROP MANHOLE		
6-13	CoSA 4.25	1	EA	6' DIAMETER DROP MANHOLE		
1 6-14	CoSA 4.23	5	EA	TRENCH/CHECK DAM		
6-15	CoSA 4.27	9	EA	SANITARY SEWER SERVICE		
6-16	CoSA 4.34	158	CY	SANITARY SEWER LINE ABANDONMENT GROUT		
1 6-17	CoSA 4.34	6	EA	REMOVE/ABANDON EXISTING MANHOLE		
6-18	CoSA 4.34	1	EA	REMOVE EXISTING CLEANOUT		
6-19	CoSA 4.5	3002	SY	DRILL SEEDING		
6-20	CoSA 4.29	1	LS	BYPASS PUMPING		
6-21	CoSA 4.7	1118	SY	PERMANENT ASPHALT PAVEMENT REPAIR		
				TOTAL AMOUNT BID FOR UNIT 6: SANITARY SEWER IMPROVEMENTS		

PHASE II - NORTH						
ITEM NO.	**SPEC. NO.**	**EST. QTY**	**UNITS**	**DESCRIPTION**	**UNIT COST**	**AMOUNT**
UNIT 7: GENERAL						
7-1	CoSA 500	1	LS	MOBILIZATION / PREPARING ROW		
				TOTAL AMOUNT BID FOR UNIT 7: GENERAL		
UNIT 8: PAVING IMPROVEMENTS						
8-1	CoSA 100	8107	SY	REMOVING CONCRETE PAVEMENT (6"-8" THICK)		
8-2	CoSA 100	169	SY	REMOVING CONCRETE (DRIVEWAYS AND SIDEWALK)		
8-3	CoSA 100	3405	LF	REMOVING CONCRETE (CURB & GUTTER)		
8-4	CoSA 105	17275	SY	REMOVE ASPHALT PAVEMENT (4" AVG DEPTH)		
8-5	CoSA 132	310	CY	EMBANKMENT (FINAL)(ORD COMP)(TY B)(CL 3)		
8-6	CoSA 107	3185	SY	DRILL SEEDING		
8-7	CoSA 247	333	SY	FL BS (CMP IN PLC)(TY A)(GR1-2)(6")(Temp Pavt)		
8-8	CoSA 275	16703	SY	CEMENT TREATED SUBGRADE (8")		
8-9	CoSA 275	230	TN	CEMENT		
8-10	CoSA 340	333	SY	D-GR HMA(SQ) TY D PG 64-72 (2" THICK)(Temp Pavt)		
8-11	CoSA 502	10	MO	BARRICADES, SIGNS AND TRAFFIC HANDLING		
8-12	CoSA 506	660	LF	TEMP SEDIMENT CONTROL FENCE (INSTALL)		
8-13	CoSA 506	660	LF	TEMP SEDIMENT CONTROL FENCE (REMOVE)		
8-14	CoSA 506	50	LF	TEMP EROSION CONTROL LOGS (INSTALL)		
8-15	CoSA 506	50	LF	TEMP EROSION CONTROL LOGS (REMOVE)		
8-16	CoSA 529	2068	LF	CONCRETE CURB & GUTTER (STANDARD)		
8-17	CoSA 529	2259	LF	CONCRETE CURB & GUTTER (MOUNTABLE)		
8-18	CoSA 530	790	SY	DRIVEWAYS (CONCRETE)		
8-19	CoSA 560	10	EA	MAILBOX INSTALL-S (TWG POST) TY 1		
8-20	CoSA 644	9	EA	RELOCATE SM RD SIGN SUP & AMS		
8-21	CoSA 644	18	EA	INST SM RD SIGN SUP & AM		
8-22	CoSA 666	1072	LF	REFLECTOR PAVEMENT MARKING TY 1 (W) 4" (BRK)		
8-23	CoSA 666	145	LF	REFLECTOR PAVEMENT MARKING TY 1 (W) 4" (SLD)		
8-24	CoSA 666	70	LF	REFLECTOR PAVEMENT MARKING TY 1 (W) 24" (SLD)		
8-25	CoSA 666	4	EA	REFLECTOR PAVEMENT MARKING TY 1 (W) (ARROW)		
8-26	CoSA 666	4	EA	REFLECTOR PAVEMENT MARKING TY 1 (W) (WORD)		
8-27	CoSA 666	4288	LF	REFLECTOR PAVEMENT MARKING TY 1 (Y) 4" (SLD)		

8-28	CoSA 672	53	EA	REFLECTOR PAVEMENT MARKING TY 2 - A - A		
8-29	CoSA 672	53	EA	REFLECTOR PAVEMENT MARKING TY 1 - C		
				TOTAL AMOUNT BID FOR UNIT 8: PAVING IMPROVEMENTS		

UNIT 9: ALT. A - HMAC PAVING

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
9-1	CoSA 247	16703	SY	FLEX BASE (CMP IN PLACE)(TY A GR 2)(CL 4)(12" THICK) (BID ALT A)		
9-2	CoSA 341	14974	SY	D-GR HMA TY-B PG64-22 (2.5" THICK)(BID ALT A)		
9-3	CoSA 341	14974	SY	D-GR HMA TY-D PG64-22 (1.5" THICK)(BID ALT A)		
9-4	CoSA 110	9130	CY	EXCAVATION (ROADWAY)(BID ALT. A)		
				TOTAL AMOUNT BID FOR UNIT 9: HMAC PAVING		

UNIT 10: ALT. B - ROLLER COMPACTED CONCRETE

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
10-1	TxDOT 3016	14974	SY	ROLLER COMPACTED CONCRETE (8.5" THICK) (BID ALT B)		
10-2	CoSA 110	6050	CY	EXCAVATION (ROADWAY)(BID ALT B)		
				TOTAL AMOUNT BID FOR UNIT 10: ROLLER COMPACTED CONCRETE		

UNIT 11: WATER IMPROVEMENTS

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
11-1	CoSA 4.9	82	LF	20" WATER LINE		
1 11-2	CoSA 4.9	4137	LF	16" WATER LINE		
1 11-3	CoSA 4.9	483	LF	16" WATER LINE INSIDE CASING BY OTHER THAN OPEN CUT		
11-4	CoSA 4.9	2382	LF	12" WATER LINE		
1 11-5	CoSA 4.9	173	LF	8" WATER LINE		
1 11-6	CoSA 4.9	38	LF	2" WATER LINE		
11-7	CoSA 4.9	483	LF	30" STEEL CASING BY OTHER THAN OPEN CUT		
11-8	CoSA 4.4	6774	LF	TRENCH SAFETY		
11-9	CoSA 4.10	1	EA	2" COMBINATION AIR VALVE		
1 11-10	CoSA 4.10	1	EA	20" GATE VALVE		
1 11-11	CoSA 4.10	8	EA	16" GATE VALVE		
1 11-12	CoSA 4.10	5	EA	12" GATE VALVE		
11-13	CoSA 4.10	2	EA	8" GATE VALVE		
1 11-14	CoSA 4.10	6	EA	6" GATE VALVE		
11-15	CoSA 4.10	1	EA	12" INSERTA-VALVE		
11-16	CoSA 4.10	1	EA	4" BLOW OFF VALVE		
1 11-17	CoSA 4.13	6	EA	FIRE HYDRANTS		
1 11-18	CoSA 4.14	23	EA	1" WATER SERVICE		
1 11-19	CoSA 4.14	11	EA	2" WATER SERVICE WITH DOUBLE 1" SERVICE		

~~1~~ ~~11-20~~	~~CoSA 4.14~~	~~0~~	~~EA~~	~~1" WATER METER~~		
~~1~~ ~~11-21~~	~~CoSA 4.14~~	~~0~~	~~EA~~	~~2" WATER METER~~		
11-22	CoSA 4.19	1	EA	16" LINE STOP		
11-23	CoSA 4.14	1	EA	CONNECTION TO EXISTING 20" WATER LINE		
1 11-24	CoSA 4.14	5	EA	CONNECTION TO EXISTING 16" WATER LINE		
11-25	CoSA 4.14	1	EA	CONNECTION TO EXISTING 12" WATER LINE		
11-26	CoSA 4.14	2	EA	CONNECTION TO EXISTING 8" WATER LINE		
1 11-27	CoSA 4.14	4	EA	CONNECTION TO EXISTING 6" WATER LINE		
1 11-28	CoSA 4.14	4	EA	CONNECTION TO EXISTING 2" WATER LINE		
1 11-29	CoSA 4.1	336	CY	WATER LINE ABANDONMENT GROUT		
11-30	CoSA 4.10	14	EA	REMOVE EXISTING VALVE		
11-31	CoSA 4.13	4	EA	REMOVE EXISTING FIRE HYDRANT		
11-32	CoSA 4.44	5	SY	CONCRETE VALLEY GUTTER		
1 11-33	CoSA 4.44	1611	LF	PERMANENT CURB AND GUTTER REPAIR		
1 11-34	CoSA 4.7	2653	SY	PERMANENT ASPHALT PAVEMENT REPAIR		
1 11-35	CoSA 4.14	3	EA	2" WATER SERVICE		
1 11-36	CoSA 4.7	19	SY	8" FLEXBASE (FOR PARKING LOT REPAIR BEYOND PROPOSED PAVEMENT LIN		
1 11-37	CoSA 4.19	1	EA	20" LINESTOP		
				TOTAL AMOUNT BID FOR UNIT 11: WATER IMPROVEMENTS		

PHASE III - CENTRAL						
ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
UNIT 12: GENERAL						
12-1	CoSA 500	1	LS	MOBILIZATION / PREPARING ROW		
				TOTAL AMOUNT BID FOR UNIT 12: GENERAL		
UNIT 13: PAVING IMPROVEMENTS						
13-1	CoSA 100	2474	SY	REMOVING CONCRETE PAVEMENT (6"-8" THICK)		
13-2	CoSA 100	1282	SY	REMOVING CONCRETE (DRIVEWAYS AND SIDEWALK)		
13-3	CoSA 100	4087	LF	REMOVING CONCRETE (CURB & GUTTER)		
13-4	CoSA 105	19020	SY	REMOVE ASPHALT PAVEMENT (4" AVG DEPTH)		
13-5	CoSA 132	300	CY	EMBANKMENT (FINAL)(ORD COMP)(TY B)(CL 3)		
13-6	CoSA 107	3393	SY	DRILL SEEDING		
13-7	CoSA 247	820	SY	FL BS (CMP IN PLC)(TY A)(GR1-2)(6")(TCP TEMP PAVT)		
13-8	CoSA 275	20106	SY	CEMENT TREATED SUBGRADE (8")		
13-9	CoSA 275	277.4	TN	CEMENT		
13-10	CoSA 340	820	SY	D-GR HMA(SQ) TY D PG 64-72 (2" THICK)(TCP TEMP PAVT)		
13-11	CoSA 502	18	MO	BARRICADES, SIGNS AND TRAFFIC HANDLING		
13-12	CoSA 506	48	LF	ROCK FILTER DAMS		
13-13	CoSA 506	48	LF	REMOVE ROCK FILTER DAMS		
13-14	CoSA 506	1298	LF	TEMP SEDIMENT CONTROL FENCE (INSTALL)		
13-15	CoSA 506	1298	LF	TEMP SEDIMENT CONTROL FENCE (REMOVE)		
13-16	CoSA 506	120	LF	TEMP EROSION CONTROL LOGS (INSTALL)		
13-17	CoSA 506	120	LF	TEMP EROSION CONTROL LOGS (REMOVE)		
13-18	CoSA 529	5227	LF	CONCRETE CURB & GUTTER (STANDARD)		
13-19	CoSA 529	40	LF	CONCRETE CURB & GUTTER (SAWTOOTH)		
13-20	CoSA 531	1211	SY	DRIVEWAYS (CONCRETE)		
13-21	CoSA 531	1633	SY	CONCRETE SIDEWALKS (4")		
13-22	CoSA 53	10	EA	CURB RAMPS (TY 7)		
13-23	CoSA 560	4	EA	MAILBOX INSTALL-S (TWG POST) TY 1		
13-24	CoSA 560	1	EA	MAILBOX (GANG TYPE)(RELOCATE)(INST 4" CONC PAD)		
13-25	CoSA 644	8	EA	RELOCATE SM RD SIGN SUP & AMS		
13-26	CoSA 644	14	EA	REMOVE SM RD SIGN SUP & AMS		
13-27	CoSA 644	14	EA	INST SM RD SIGN SUP & AM		

13-28	CoSA 900	1252	LF	REFLECTOR PAVEMENT MARKING TY 1 (W) 4" (BRK)		
13-29	CoSA 900	79	LF	REFLECTOR PAVEMENT MARKING TY 1 (W) 8" (SLD)		
13-30	CoSA 900	174	LF	REFLECTOR PAVEMENT MARKING TY 1 (W) 24" (SLD)		
13-31	CoSA 900	2	EA	REFLECTOR PAVEMENT MARKING TY 1 (W) (ARROW)		
13-32	CoSA 900	6066	LF	REFLECTOR PAVEMENT MARKING TY 1 (Y) 4" (SLD)		
13-33	CoSA 900	191	LF	REFLECTOR PAVEMENT MARKING TY 1 (Y) 12" (SLD)		
13-34	CoSA 672	117	EA	REFLECTOR PAVEMENT MARKING TY 2 - A - A		
13-35	CoSA 672	4	EA	REFLECTOR PAVEMENT MARKING TY 1 - C		
				TOTAL AMOUNT BID FOR UNIT 13: PAVING IMPROVEMENTS		

UNIT 14: ALT. A - HMAC PAVING

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
14-1	CoSA 247	20106	SY	FLEX BASE (CMP IN PLACE)(TY A GR 2)(CL 4) (BID ALT A)		
14-2	CoSA 341	18113	SY	D-GR HMA TY-B PG64-22 (2.5" THICK)(BID ALT A)		
14-3	CoSA 341	18113	SY	D-GR HMA TY-D PG64-22 (1.5" THICK) (BID ALT A)		
14-4	CoSA 110	8048	CY	EXCAVATION (ROADWAY)(BID ALT. A)		
				TOTAL AMOUNT BID FOR UNIT 14: HMAC PAVING		

UNIT 15: ALT. B - ROLLER COMPACTED CONCRETE

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
15-1	CoSA 3016	18113	SY	ROLLER COMPACTED CONCRETE (8.5" THICK) (BID ALT B)		
15-2	CoSA 110	3881	CY	EXCAVATION (ROADWAY)(BID ALT B)		
				TOTAL AMOUNT BID FOR UNIT 15: ROLLER COMPACTED CONCRETE		

UNIT 16: WATER IMPROVEMENTS

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
1 16-1	CoSA 4.9	3095	LF	16" WATER LINE		
16-2	CoSA 4.9	90	LF	16" WATER LINE INSIDE OF CASING		
16-3	CoSA 4.9	89	LF	16" WATER LINE BY OTHER THAN OPEN CUT		
16-4	CoSA 4.9	90	LF	30" STEEL CASING BY OTHER THAN OPEN CUT		
16-5	CoSA 4.4	3095	LF	TRENCH SAFETY		
16-6	CoSA 4.1	3	EA	2" COMBINATION AIR VALVE		
16-7	CoSA 4.1	6	EA	16" GATE VALVES		
16-8	CoSA 4.1	1	EA	12" GATE VALVES		
16-9	CoSA 4.1	2	EA	10" GATE VALVES		
1 16-10	CoSA 4.1	2	EA	8" GATE VALVES		
1 16-11	CoSA 4.1	10	EA	6" GATE VALVES		
16-12	CoSA 4.1	1	EA	4" BLOW-OFF VALVE		
1 16-13	CoSA 4.13	4	EA	FIRE HYDRANTS		

16-14	CoSA 4.14	5	EA	1" WATER SERVICE		
16-15	CoSA 4.14	1	EA	2" WATER SERVICE WITH DOUBLE 1" SERVICES		
1 ~~16-16~~	~~CoSA 4.14~~	~~0~~	~~EA~~	~~1" WATER METER~~		
16-17	CoSA 4.19	1	EA	16" LINE STOP		
16-18	CoSA 4.14	2	EA	CONNECTION TO EXISTING 16" WATER LINE		
16-19	CoSA 4.14	1	EA	CONNECTION TO EXISTING 12" WATER LINE		
16-20	CoSA 4.14	2	EA	CONNECTION TO EXISTING 10" WATER LINE		
16-21	CoSA 4.14	1	EA	CONNECTION TO EXISTING 8" WATER LINE		
16-22	CoSA 4.14	5	EA	CONNECTION TO EXISTING 6" WATER LINE		
16-23	CoSA 4.14	1	EA	CONNECTION TO EXISTING 2" WATER LINE		
1 16-24	CoSA 4.1	184	CY	WATER LINE ABANDONMENT GROUT		
1 16-25	CoSA 4.1	19	EA	REMOVE EXISTING VALVE		
16-26	CoSA 4.13	3	EA	REMOVE EXISITNG FIRE HYDRANT		
16-27	CoSA 4.17	2	EA	REMOVE EXISTING WATER METER		
16-28	CoSA 529	45	LF	PERMANENT CURB AND GUTTER REPAIR		
16-29	CoSA 4.1	12	CY	CEMENT STABILIZED SAND		
16-30	CoSA 4.7	149	SY	PERMANENT ASPHALT PAVEMENT REPAIR		
				TOTAL AMOUNT BID FOR UNIT 16: WATER IMPROVEMENTS		

UNIT 17: SANITARY SEWER IMPROVEMENTS

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
17-1	CoSA 4.23	834	LF	21" SANITARY SEWER LINE		
1 17-2	CoSA 4.23	73	LF	10" SANITARY SEWER LINE		
17-3	CoSA 4.23	369	LF	8" SANITARY SEWER LINE		
17-4	CoSA 4.23	310	LF	8" SANITARY SEWER LINE INSIDE CASING		
17-5	CoSA 4.23	73	LF	8" PRESSURE RATED SANITARY SEWER		
17-6	CoSA 4.23	310	LF	16" STEEL CASING BY OTHER THAN OPEN CUT		
17-7	CoSA 4.4	1203	LF	TRENCH SAFETY		
1 17-8	CoSA 4.25	4	EA	4' DIAMETER MANHOLES		
1 17-9	CoSA 4.25	4	EA	5' DIAMETER MANHOLES		

17-10	CoSA 4.25	3	EA	5' DIAMETER DROP MANHOLES		
17-11	CoSA 4.23	1	EA	CONNECTION TO EXISTING 24" SANITARY SEWER LINE		
1 17-12	CoSA 4.34	68	CY	SANITARY SEWER LINE ABANDONMENT GROUT		
17-13	CoSA 4.34	6	EA	REMOVE/ABANDON EXISTING MANHOLES		
17-14	CoSA 4.29	1	LS	BY-PASS PUMPING		
17-15	CoSA 4.7	16	SY	PERMANENT ASPHALT PAVEMENT REPAIR		
				TOTAL AMOUNT BID FOR UNIT 17: SANITARY SEWER IMPROVEMENTS		

UNIT 18: DRAINAGE IMPROVEMENTS

ITEM NO.	SPEC. NO.	EST. QTY	UNITS	DESCRIPTION	UNIT COST	AMOUNT
18-1	CoSA 110	800	CY	EXCAVATION (CHANNEL)		
18-2	CoSA 466	15	CY	SLOPED HEADWALL		
18-3	CoSA 432	6	CY	RIPRAP CONCRETE 5"		
18-4	CoSA 432	20	CY	RIPRAP STONE, COMMON, 18"		
18-5	CoSA 450	148	LF	TXDOT TYPE C223 RAIL		
18-6	CoSA 462	144	LF	CONCRETE BOX CULVERT 10' X 5'		
18-7	CoSA 464	388	LF	REINFORCED CONCRETE PIPE, 18", CLASS IV		
18-8	CoSA 466	4	EA	WINGWALL PW-1 (HW=7')		
				TOTAL AMOUNT BID FOR UNIT 18: DRAINAGE IMPROVEMENTS		

BID SUMMARY			
SUMMARY NO.	**PHASE**	**UNITS**	**TOTAL AMOUNT**
A	PHASE I - SOUTH	1 + 2 + 5 + 6	
B		3	
C		4	
		TOTAL PHASE I - SOUTH (A + B)	
		TOTAL PHASE I - SOUTH (A + C)	
D	PHASE II - NORTH	7 + 8 + 11	
E		9	
F		10	
		TOTAL PHASE II - NORTH (D + E)	
		TOTAL PHASE II - NORTH (D + F)	
G	PHASE III - CENTRAL	12 + 13 + 16 + 17 + 18	
H		14	
1 I		15	
		TOTAL PHASE III - CENTRAL (G + H)	
		TOTAL PHASE III - CENTRAL (G + I)	
1 J		**ALL PHASES CONTINGENCY ***	**$ 1,192,000**
1 K		**ADD (+) OR DEDUCT (-) **** ITEM NO.(S) TO APPLY ADDITIONS OR DEDUCTIONS TO: _____	
		TOTAL ALL PHASES BID (A + B + D + E + G + H + J + K)	
		TOTAL ALL PHASES BID (A + C + D + F + G + I + J + K)	

* The item “Contingency” is included for additional work that may be performed. The total unit cost for this line item may not be paid in full. The respondent shall submit change order requests within the contract to the City consistent with the requirement of the Owner’s Construction General Conditions of the contract documents. Generally, change order requests will be funded by the “CONTINGENCY” line item. The respondent shall include the cost for this item in the “Total Base Price”.

** Provision is made for Respondent to include an addition or deduction in his bid, if he wishes, to reflect any last minute adjustments in price. The Respondent shall also provide the bid item(s) that the addition or deduction applies to.

In the case of a pricing discrepancy, the Unit Price will prevail.

It is understood the quantities of work to be done at unit prices are approximate and are intended for bidding purposes only. Unit quantities may be adjusted to determine final contract amount. Funding availability may also determine final contract amount.

Work zone temporary flexible, reflective roadway marker tabs (Tabs) will be subsidiary to the total bid amount.

A Performance Bond and Payment Bond will be required based on the Total Base Bid.

Project Phasing

Bidder hereby agrees to commence the work on the above project in accordance with a date to be specified in a written "Notice to Proceed" from the Owner and to complete the project in compliance with the following schedule. There is the possibility of the Work to be performed concurrently in multiple Milestones.

Milestone A [Phase I (South)] – Bidder agrees to begin Work within **7 calendar days** of Notice to Proceed, reach Substantial Completion, as defined in the Special Conditions of the Contract, within **540 calendar days** of beginning Work. Bidder also agrees to pay Owner Liquidated Damages in the amount of **$820.00 per calendar day** if Substantial Completion is not reached, and continue to pay Liquidated Damages until the project is brought into compliance with the time given.

Milestone B [Phase II (North)] – Bidder agrees to begin Work concurrently with Milestone A, or within **7 calendar days** of Substantial Completion of Milestone C, and reach Substantial Completion, as defined in the Special Conditions of the Contract, within **540 calendar days** of beginning Work. Bidder also agrees to pay Owner Liquidated Damages in the amount of $820.00 per calendar day if Substantial Completion is not reached, and continue to pay Liquidated Damages until the project is brought into compliance with the time

Milestone C [Phase III (Central] – Bidder agrees to begin Work within **7 calendar days** of Substantial Completion of Milestone A, and reach Substantial Completion, as defined in the Special Conditions of the Contract, within **540 calendar days** of beginning Work. Bidder also agrees to pay Owner Liquidated Damages in the amount of $820.00 per calendar day if Substantial Completion is not, and continue to pay Liquidated Damages until the project is brought into compliance with the time given.

Milestone D [Offsite Improvements: 24" Sewer from Sta 1+00 – 14+50 (Phase I plan set), 16" Water Line B from Sta 1+05 – 44+00 (Phase II plan set), Drainage Channel from Sta 2+30 – 16+50 (Phase III plan set)] – Bidder agrees to begin Work concurrently with either Milestone A, B, or C. This Milestone shall be completed within the time allowance for whichever Milestone the Work is concurrent with.

Reservation

Respondent understands the City reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the City and conforms to State and local laws and ordinances pertaining to the letting of construction contracts.

4.30 - Sanitary Sewer Main Cleaning and CCTV Camera Inspection

4.30.0 General

4.30.1 TV Wastewater Mains

a) CITY shall TV the existing and proposed wastewater mains before and after construction.

b) Digital Video Disks (DVD) of the existing main shall be given to the engineering inspector fourteen (14) days prior to start of construction for review. DVD's of the new main shall be given to the engineering inspector fourteen (14) days after completion of the work at that location.

c) CITY shall be responsible for cleaning main, bypass pumping, temporary repairs, determining low points locations, service locations, and general condition of the main.

UPDATED DRAWINGS

GENERAL CONSTRUCTION NOTES - CITY OF SAN ANGELO

1. UTILITY LOCATION: THE UTILITIES SHOWN ON THE PLANS WERE COMPILED FROM VARIOUS SOURCES AND ARE INTENDED TO SHOW IN GENERAL THE EXISTENCE AND LOCATION OF UTILITIES IN THE AREA OF CONSTRUCTION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE UTILITY INFORMATION SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES 48 HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES IN ORDER TO DETERMINE IF THERE IS ANY CONFLICT WITH THE PROPOSED FACILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS WITH EXISTING UTILITIES ARE DISCOVERED. THE CONTRACTOR SHALL VERIFY, OR HAVE VERIFIED BY THE APPROPRIATE UTILITY COMPANY, ALL ACTUAL LINE LOCATIONS, ELEVATIONS AND CONFIGURATIONS PRIOR TO CONSTRUCTION IN ORDER TO MAKE ANY NECESSARY TIE-INS OR BY-PASSES. SUCH VERIFICATIONS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

2. UTILITY PROTECTION: THE PROPOSED UTILITY LINES AT TIMES WILL BE LAID CLOSE TO OTHER EXISTING UTILITIES AND STRUCTURES BOTH ABOVE AND BELOW GROUND. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS FOR THE PROTECTION AND SUPPORT OF ALL UTILITY FACILITIES AND EXISTING STRUCTURES (INCLUDING BUT NOT LIMITED TO UTILITY POLES, GAS MAINS, TELEPHONE CABLES, ELECTRIC CABLES, TV CABLES, DRAINAGE PIPES AND STRUCTURES, UTILITY SERVICES, OTHER UTILITIES, FENCES, TREES AND SHRUBS) BOTH ABOVE AND BELOW THE GROUND DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY OWNERS PRIOR TO ANY CONSTRUCTION IN THE AREA AND VERIFY THE ACTUAL LOCATION OF ALL BURIED UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL UNDERGROUND AND OVERHEAD FACILITIES AND BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY CONTRACTOR'S OPERATIONS.

1 3. THE CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST 48 HOURS PRIOR TO EXCAVATING AT EACH LOCATION:

CITY OF SAN ANGELO (325) 657-4299
ATMOS ENERGY (GAS), EARLA AHRENS (325) 650-1167
AEP-TEXAS
AT&T, NICK ROSE (325) 315-8993
FRONTIER COMMUNICATIONS, WILLIAM GATLIN (325) 949-7667
DIG TESS (UTILITIES) (800) 344-3877
AEP-TEXAS, KEVIN POOL, 361-290-7046
SUDDENLINK, CRAIG THORNELL, 325-486-4113

4. WHEN NOTIFYING UTILITY COMPANIES BY CALLING 1-800-DIG-TESS (1-800-344-8377) THE CONTRACTOR SHALL CALL AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AND SHALL PROVIDE MAPSCO GRID NUMBERS FOR THE WORK AREA AND SHALL RECORD THE CONFIRMATION NUMBERS ISSUED BY DIG TESS. THESE NUMBERS AND/OR TICKETS SHALL BE PROVIDED TO THE CITY ON REQUEST.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GENERAL SAFETY AT AND ADJACENT TO THE PROJECT AREA, INCLUDING THE PERSONAL SAFETY OF THE CONSTRUCTION CREW AND GENERAL PUBLIC, AND THE SAFETY OF PUBLIC AND PRIVATE PROPERTY.

6. THE TYPES AND LOCATIONS OF THE TEMPORARY BARRICADES AND SIGNS USED DURING CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PLACEMENT AND MAINTENANCE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR WITH APPROVED TRAFFIC CONTROL PLAN.

1 7. THE CONTRACTOR SHALL NOTIFY ALL EMERGENCY UNITS AND SCHOOL DISTRICTS OPERATING WITHIN THE AREA OF THE PROPOSED WORK OF STREET OR LANE CLOSURES AND CONSTRUCTION SCHEDULES.

1 8. THE CONTRACTOR SHALL MAINTAIN FIRE EMERGENCY VEHICLE ACCESS TO FIRE HYDRANTS THROUGHOUT THE DURATION OF THE PROJECT. INACTIVE FIRE HYDRANTS SHALL BE SALVAGED.

1 9. PRIOR TO PRE-CONSTRUCTION MEETINGS, THE CONTRACTOR SHALL SUBMIT THE NAME OF THE INDEPENDENT TESTING LABORATORY TO BE USED FOR THE CITY'S REVIEW AND APPROVAL. COST OF TESTING SHALL BE SUBSIDARY TO APPROPRIATE BID ITEMS. ALL MATERIAL TESTING SHALL BE COORDINATED WITH THE PROJECT INSPECTOR. THE PROJECT INSPECTOR SHALL BE PRESENT DURING ALL TESTS AND SHALL BE GIVEN A MINIMUM OF 24 HOURS ADVANCED NOTICE PRIOR TO ANY TESTING. ANT TEST RESULTS NOT MEETING THE SPECIFICATIONS SHALL REQUIRE ADDITIONAL INSPECTIONS AND TESTS AT NO ADDITIONAL COST TO THE CITY.

10. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM TO 6:00 PM MON.-FRI. UNLESS OTHERWISE APPROVED OR DIRECTED IN WRITING BY THE PROJECT INSPECTOR.

11. THE CONTRACTOR WILL VIDEO ALL BUILDING FACADES WITHIN THE CONSTRUCTION LIMITS PRIOR TO WORK AND CONDUCT A PRE-CONSTRUCTION VIDEO TAPING OF ENTIRE PROJECT LIMITS IN DETAIL. VIDEOS SHALL INCLUDE DATE NOTATION AND AUDIO IDENTIFICATION OF PROPERTY. THIS SHALL BE CONSIDERED SUBSIDIARY WORK. CONTRACTOR SHALL SPRAY PAINT ADDRESS #'S ON DRIVE APPROACHES.

12. THE CONTRACTOR SHALL TAKE ADEQUATE MEASURES TO PREVENT EROSION. IN THE EVENT THAT SIGNIFICANT EROSION OCCURS AS A RESULT OF THE CONSTRUCTION, THE CONTRACTOR SHALL RESTORE THE ERODED AREA TO ITS ORIGINAL OR BETTER CONDITION AT HIS OWN EXPENSE.

1 13. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE CONSTRUCTION PLANS AND/OR PROJECT SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF DRILL SEEDING AS INDICATED IN THE PLANS & SPECS. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION BEGAN.

14. ALL TREES SHOWN ON PLANS AND WITHIN ROW SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED. ALL TREES TO REMAIN IN PLACE SHALL BE PRESERVED & PROTECTED BY THE CONTRACTOR. TREES WITHIN FIVE (5) FEET OF THE PROPOSED CURB LINE OR ANY OTHER TREES WHICH REQUIRE REMOVAL IN ORDER TO FACILITATE THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR AS PART OF THE WORK PERFORMED UNDER THE PAY ITEM FOR "PREPARE RIGHT-OF-WAY" BUT ONLY WITH THE SPECIFIC AUTHORIZATION AND APPROVAL OF THE CITY. STUMPS SHALL BE GROUND AND ROOT SYSTEMS REMOVED TO A CLEAR DEPTH OF 36" BELOW EXISTING GROUND.

15. ALL MAILBOXES, FENCES, DRIVEWAYS, LANDSCAPING, IRRIGATION SYSTEMS, CULVERT PIPES, DRAINAGE DITCHES, AND ANY IMPROVEMENTS ON PRIVATE PROPERTY NOT SCHEDULED FOR REPLACEMENT DURING CONSTRUCTION WHICH ARE DAMAGED OR MOVED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION BY THE CONTRACTOR WITH LIKE MATERIAL AT NO ADDITIONAL COST TO THE CITY OR TO THE AFFECTED PROPERTY OWNER.

16. CONTRACTOR SHALL MAKE THE WORK SITE AND ANY OPEN TRENCHES SECURE AND SAFE AT THE END OF EVERY DAY. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ANY FENCING OR ANY OTHER SAFETY EQUIPMENT.

17. THE CONTRACTOR SHALL REMOVE ALL FENCES, LOCATED WITHIN EASEMENTS, INTERFERING WITH CONSTRUCTION OPERATION AND PROVIDE TEMPORARY FENCING DURING CONSTRUCTION. REMOVED FENCES, WOODEN OR CHAIN LINK, SHALL BE REPLACED WITH A NEW FENCE OR UNDAMAGED ORIGINAL FENCING. ALL AFFECTED PROPERTY OWNERS SHALL BE NOTIFIED PRIOR TO CONSTRUCTION. REMOVAL AND REPLACEMENT OF EXISTING FENCES SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST AND REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED IN THE PROPOSAL.

18. WHEN IT IS REQUIRED THAT A CONTRACTOR WORK IN PRIVATE PROPERTY, THE CONTRACTOR SHALL DISTRIBUTE LETTERS TO ALL AFFECTED PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING WORK ON EACH PROPERTY. THE LETTER SHALL INCLUDE NAMES AND TELEPHONE NUMBERS OF CONTRACTOR CONTACTS, A DESCRIPTION OF THE WORK TO BE DONE, AND THE TIME FRAME FOR DOING THE WORK. COPIES OF THE LETTER SHALL BE FORWARDED TO THE CITY INSPECTOR. DISTRIBUTION OF LETTERS SHALL BE CONSIDERED AS SUBSIDIARY TO THE COST OF PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

19. THE CONTRACTOR SHALL REMOVE FROM THE PROJECT AREA ALL SURPLUS MATERIAL. THIS SHALL BE INCIDENTAL AND NOT A SEPARATE PAY ITEM. SURPLUS MATERIALS FROM EXCAVATION INCLUDING DIRT, TRASH, ETC. SHALL BE PROPERLY DISPOSED OF AT A SITE ACCEPTABLE TO THE CITY'S FLOOD PLAIN ADMINISTRATOR IF WITHIN THE CITY LIMITS. IF THE LOCATION IS NOT WITHIN THE CITY LIMITS, THE CONTRACTOR SHALL PROVIDE A LETTER STATING SO. NO EXCESS EXCAVATED MATERIAL SHALL BE DEPOSITED IN LOW AREAS OR ALONG NATURAL DRAINAGE WAY WITHOUT WRITTEN PERMISSION FROM THE AFFECTED PROPERTY OWNER AND THE CITY'S FLOOD PLAIN ADMINISTRATOR. IF THE CONTRACTOR PLACES EXCESS MATERIAL IN THE AREAS WITHOUT WRITTEN PERMISSION, HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND HE SHALL REMOVE THE MATERIAL AT HIS OWN COST.

20. ALL EXISTING CONCRETE AND ASPHALT DRIVEWAYS ARE TO BE SAWCUT WHEN CONSTRUCTING A NEW CONCRETE DRIVEWAY APPROACH.

1 21. CURB RETURN RADIFOR DRIVEWAYS SHALL BE 5 FEET UNLESS OTHERWISE NOTED.

22. ALL ROADWAY DIMENSIONS ARE TO THE BACK-OF-CURB UNLESS OTHERWISE NOTED.

1 23. THE CONTRACTOR SHALL USE EXTREME CAUTION IN LOCATING AND PROTECTING ALL EXISTING UNDERGROUND UTILITIES AND INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, SEWER SERVICES, COMMUNICATION, AND FIBER OPTIC CABLES.

1 24. ALL EXCAVATIONS, TRENCHING AND SHORING OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE U.S. DEPARTMENT OF LABOR, OSHA, "CONST. SAFETY AND HEALTH REGULATIONS", VOL. 29, SUBPART P., PG 128-137, AND ANY AMENDMENTS THERETO.

1 25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXCESS TRENCH EXCAVATIONS AND HAULING MATERIALS TO AN APPROVED DISPOSAL SITE. THIS SHALL BE CONSIDERED SUBSIDIARY.

1 26. DISTANCE BETWEEN ALL WATERLINES AND SANITARY SEWERS SHALL CONFORM TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS (CHP. 290.44 (E) (4) (A&B)).

1 27. CONTRACTOR'S PERSONNEL SHALL HAVE IDENTIFYING CLOTHING, HATS OR BADGES AT ALL TIMES WHICH IDENTIFY THE CONTRACTOR'S NAME, LOGO OR COMPANY.

28. COSTS ASSOCIATED WITH PROPOSED CONNECTIONS TO EXISTING FACILITIES SHALL BE INCLUDED IN EACH RESPECTIVE BID ITEM. NO SEPARATE PAY, EXCEPT AS SPECIFICALLY INDICATED WITHIN THESE PLANS OR THE CONTRACT DOCUMENTS.

29. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER AND SEWER CONNECTIONS TO ALL HOMES AND BUSINESSES IN WORKING ORDER AT ALL TIMES, EXCEPT FOR BRIEF PRE-NOTIFIED INTERRUPTIONS IN WATER SERVICES. IN NO CASE SHALL SERVICES BE ALLOWED TO REMAIN UNREINSTATED OVERNIGHT.

30. CONTRACTOR SHALL CONTACT LOCAL SCHOOLS PRIOR TO BEGINNING CONSTRUCTION TO INFORM PRINCIPALS AND ADMINISTRATORS OF CONSTRUCTION IN THE AREA. A NOTE ON THE SCHOOL MARQUEE IS SUGGESTED TO INFORM PARENTS AND STUDENTS OF CONSTRUCTION AND CONSTRUCTION DURATION AND POSSIBLE ALTERNATE ROUTES AROUND CONSTRUCTION SITES.

31. ALL VALVE BOXES AND MANHOLE LIDS SHALL BE SET TO MATCH FINISHED GRADE, UNLESS OTHERWISE NOTED.

32. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS BEFORE CONSTRUCTION BEGINS.

33. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT ELECTRIC POWER AND TELEPHONE POLES ARE NOT DISTURBED DURING CONSTRUCTION. ALL COSTS INCURRED FOR SUPPORTING ELECTRIC POWER AND TELEPHONE POLES SHALL BE INCLUDED IN THE PRICE BID FOR THE CONSTRUCTION OF THE WATER LINE OR SEWER LINE. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

34. ALL STREETS WITHIN THE SCOPE OF THE CONTRACT SHALL BE KEPT ACCESSIBLE TO FIRE TRUCKS, AMBULANCES AND OTHER EMERGENCY VEHICLES.

35. CONTRACTOR SHALL MAINTAIN SUITABLE CONSTRUCTION ACCESS TO PRIVATE PROPERTY OWNERS, THE ENGINEER AND CITY OF SAN ANGELO, AT ALL TIMES DURING CONSTRUCTION.

1 36. IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN NEAT AND ACCURATE PLANS ON RECORD.

37. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE SITE DRAINAGE THROUGHOUT THE DURATION OF THIS PROJECT.

38. THE CONTRACTOR SHALL NOT PLACE FILL OR WASTE MATERIAL ON ANY PRIVATE PROPERTY WITHOUT PRIOR WRITTEN PERMISSION FROM THE PROPERTY OWNER AND PROVIDE CITY WITH A COPY. NO EXCESS EXCAVATED MATERIAL SHALL BE DEPOSITED IN LOW AREAS OR ALONG NATURAL DRAINAGE WAYS THAT WILL RESTRICT THE NATURAL FLOW OF WATER. IF THE CONTRACTOR PLACES EXCAVATED MATERIAL IN LOW AREAS THAT WILL CAUSE FLOOD DAMAGE, HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND HE SHALL REMOVE THE FILL AT HIS EXPENSE.

1 39. THE CONTRACTOR SHALL AVOID DAMAGING ANY EXISTING WATER SPRINKLER SYSTEM THAT MAY BE IN THE CONSTRUCTION AREA AND WILL BE RESPONSIBLE FOR REPAIRS TO ANY HEADS OR LINES DAMAGED. REPLACEMENT, AS NECESSARY, SHALL BE AT LIKE OR BETTER MATERIAL AND INSTALLED BY A LICENSED IRRIGATOR, AT THE CONTRACTORS EXPENSE. DAMAGED SPRINKLERS SHALL BE REPLACED THE SAME DAY THEY ARE DAMAGED, TO THE SATISFACTION OF THE CITY, DEVELOPER AND OWNER.

40. ALL DRIVEWAYS, WHICH SHALL BE SAW CUT, SHALL HAVE ACCESS PROVIDED AT ALL TIMES. CLOSURES, PART OR FULL OF ANY DRIVEWAYS, SHALL BE COORDINATED WITH PROPERTY OWNER. FOR DRIVEWAY TIE-INS THAT EXTEND BEYOND THE RIGHT-OF-WAY, THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF SAN ANGELO AND THE PROPERTY OWNER TO OBTAIN PERMISSION TO ACCESS THE PROPERTY AS NECESSARY TO HARMONIZE THE DRIVEWAY CONNECTION.

41. PI'S AND VPI'S ARE SHOWN IN THE PLANS FOR ALIGNMENT PURPOSES.

42. CONTRACTOR SHALL USE STANDARD FITTINGS SHOW ON THE PLAN AND DEFLECTED PIPE JOINTS, NO GREATER THAN 75% OF THE MANUFACTURERS RECOMMENDATIONS, TO ACHIEVE THE ALIGNMENT SHOWN IN THE PLANS. PIPELINE O.D. SHALL BE MAINTAINED MINIMUM 5' WITHIN R.O.W. OR PERMANENT EASEMENT.

43. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C651 AND THEN FLUSH AND SAMPLE, AND PROVIDE A HARD COPY OF TEST RESULTS PRIOR TO TESTING THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER. TEST MUST BE APPROVED BY THE CITY OF SAN ANGELO BEFORE THE WATER LINE CAN BE PUT IN SERVICE.

44. ALL NEWLY INSTALLED WATER PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SCIENCE FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.

1 45. CONTRACTOR SHALL INSTALL TEMPORARY BACKFILL AS REQUIRED FOR OPEN TRENCH IN ESTABLISHED ROADWAYS. NO OPEN TRENCH WILL BE ALLOWED IN EXISTING PAVEMENT EXCEPT DURING DAYLIGHT HOURS DURING CONSTRUCTION OPERATIONS. TEMPORARY BACK FILL SHALL BE INSTALLED TO THE FINISHED GRADE OF THE EXISTING PAVEMENT AND SHALL BE MAINTAINED BY THE CONTRACTOR TO ENSURE A SMOOTH DRIVING SURFACE FREE OF RUTTING AND POTHOLES. REPAIR DAMAGED PAVEMENT IN ACCORDANCE WITH SPECIFICATIONS.

1 46. CONTRACTOR SHALL DELIVER ALL SALVAGED ITEMS TO THE CITY OF SAN ANGELO'S BELL STREET YARD.

TEXAS REGISTERED ENGINEERING FIRM F-2144
FREESE AND NICHOLS, INC.
STATE OF TEXAS
WAYNE P. HARTT
118231
LICENSED
PROFESSIONAL ENGINEER
12-21-2017

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CITY OF SAN ANGELO, TEXAS
PHASE I
BELL STREET ROADWAY AND UTILITIES IMPROVEMENTS
GENERAL
GENERAL NOTES

NO.	ISSUES	BY	DATE
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DATE 12/2017
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EROSION & SEDIMENTATION CONTROL NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH TCEQ'S TPDES AND EPA'S NPDES PROGRAMS FOR CONTROL OF SILT AND EROSION. CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL UPDATE THE SWPPP AS NECESSARY BASED ON FIELD CONDITIONS.
2. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THEY SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL AFTER THE PROPOSED IMPROVEMENTS ARE IN PLACE.
3. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO THE PROJECT FREE OF MUD AND DEBRIS FROM CONSTRUCTION AT ALL TIMES.
4. SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS. PRIOR TO ANY EMBANKMENT OR EXCAVATION WORK BEING DONE. WHEN THE PROJECT IS COMPLETE AND THE ENTIRE PROJECT SITE IS COMPLETELY STABILIZED, THE SEDIMENT CONTROL DEVICES AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER. THE CONTRACTOR HAS THE ULTIMATE RESPONSIBILITY FOR THE EFFECTIVE CONTROL OF EROSION AND SEDIMENTATION.
5. THE SITE SHALL BE REVIEWED WEEKLY AND AFTER ANY MAJOR STORM ADJUSTMENTS/REPAIRS TO THE EROSION CONTROL DEVICES SHALL BE MADE AS DIRECTED BY THE CITY.
6. THE EROSION CONTROL PLANS PROVIDED IN THE PLAN SET DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING ADDITIONAL EROSION CONTROL MEASURES AS REQUIRED BY THE SWPPP OR AS REQUIRED BY FIELD CONDITIONS AND DIRECTED BY THE CITY. THE EROSION CONTROL PLANS ARE PROVIDED AS A COURTESY TO THE CONTRACTOR. HOWEVER, IT IS THE CONTRACTORS RESPONSIBILITY TO MEET ALL REGULATORY REQUIREMENTS FOR EROSION CONTROL.
7. EROSION CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS, OR IN CHANNELS, DRAINAGEWAYS OR BORROW DITCHES AT RISK OF CONTRACTOR. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURES, INCLUDING FLOODING DAMAGE, WHICH MAY OCCUR DUE TO BLOCKED DRAINAGE. AT THE CONCLUSION OF ANY PROJECT, ALL CHANNELS, DRAINAGEWAYS AND BORROW DITCHES IN THE WORK ZONE SHALL BE DREDGED OF ANY SEDIMENT GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF EROSION CONTROL MEASURES.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING, IMPLEMENTATION AND MAINTENANCE OF THE SWPPP. THE INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION MEASURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY THROUGHOUT ALL PHASES OF CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH TCEQ'S TPDES AND THE EPA'S NPDES (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM) REGULATIONS 40-CFR-122, 123, 124 CONCERNING EROSION AND SEDIMENT CONTROL. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING A NOTICE OF INTENT "NOI" TO EPA 72 HOURS PRIOR TO BEGINNING CONSTRUCTION AND NOTICE OF TERMINATION "NOT" TO EPA UPON COMPLETION OF THE PROJECT.
9. △1 EXCAVATE ACCUMULATED SEDIMENT WITH BACKHOE, TRACK HOE, OR BUCKET-TYPE EXCAVATING APPARATUS ONLY. DO NOT USE A BULLDOZER OR OTHER MOVING EQUIPMENT TO PUSH MATERIAL OUT OF STREAMBED OR OTHERWISE RE-DISTRIBUTE SEDIMENT WITHIN THE STREAMBED; EXCAVATE WITH NO MORE THAN INCIDENTAL FALLBACK (I.E. SMALL SPILLS FROM THE EXCAVATION APPARATUS). EXCAVATE BETWEEN ORDINARY HIGH WATER MARKS (OHWMs), AS MAPPED, FROM THE TOP OF THE STREAM BANK ONLY. PLACE SEDIMENT DIRECTLY INTO A TRUCK OR CONTAINER AND REMOVE FOR DISPOSAL AT AN UPLAND SITE. DO NOT ALLOW EXCAVATED MATERIAL TO DEWATER INTO THE STREAM OR ANY OTHER WATER BODY.

TRAFFIC SIGNS AND PAVEMENT MARKINGS:

1. ALL TRAFFIC SIGNS SHOWN ON THE PLANS WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

PAVING NOTES

1. ALL DRIVEWAYS, WHICH ARE OPEN CUT, SHALL HAVE AT LEAST A TEMPORARY DRIVING SURFACE AT THE END OF EACH DAY. THE TEMPORARY SURFACE SHALL BE CONSIDERED AS A SUBSIDIARY ITEM OF WORK. THE COST OF WHICH SHALL BE INCLUDED IN THE PRICE BID IN THE PROPOSAL FOR VARIOUS BID ITEMS.
2. △1 EXISTING ASPHALT CONCRETE PAVEMENT SHALL BE REMOVED AND DELIVERED TO THE CITY'S MAINTENCE YARD ON ANN STREET. REMOVAL BY MILLING SHALL NOT BE ALLOWED. ASPHALT PAVEMENT REMOVAL IS NOT REFLECTED IN THE ROADWAY EXCAVATION QUANTITIES.

SIDEWALKS AND CURB RAMP NOTES:

1. THE CURB RAMP STANDARD DETAILS ARE INTENDED TO SHOW TYPICAL LAYOUTS FOR THE CONSTRUCTION OF THE CURB RAMPS. THE INFORMATION SHOWN ON THE STANDARD DETAILS MEET THE REQUIREMENTS SHOWN IN THE 2012 TEXAS ACCESSIBILITY STANDARDS(TAS) AND THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN BY THE DEPARTMENT OF JUSTICE.
2. THE CONTRACTOR MAY NOT MAKE CHANGES TO THE SIDEWALK AND CURB RAMP LAYOUT WITHOUT APPROVAL OF THE CITY. THE CONTRACTOR MAY PROPOSE CHANGES TO THE SIDEWALK AND CURB RAMP LAYOUT DUE TO FIELD CONDITIONS, BUT ANY PROPOSED CHANGES MUST BE APPROVED BY THE CITY.
3. CURB RAMP RUNNING SLOPES SHALL NOT BE STEEPER THAN 8.3% (12:1). ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED BY THE CITY.
4. CURB RAMP FLARE SLOPES SHALL NOT BE STEEPER THAN 10% (10:1) AS MEASURED ALONG BACK OF CURB.
5. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2%.
6. △1 THE MINIMUM WIDTH OF SIDEWALKS AND CURB RAMPS SHALL BE 3 FEET. SIDEWALK WIDTHS UNDER 4 FEET CAN NOT EXCEED 150 FT IN LENGTH.
7. LANDINGS SHALL BE PROVIDED AT THE TOP OF CURB RAMPS. THE LANDING CLEAR LENGTH SHALL BE 5 FEET MINIMUM FROM THE END OF RAMP. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE CURB RAMP, EXCLUDING FLARES. THE LANDING SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
8. IN ALTERATIONS WHERE THERE IS NO LANDING AT THE TOP OF THE CURB RAMP, CURB RAMP FLARES SHALL BE PROVIDED AND SHALL NOT BE STEEPER THAN 8.3% (12:1).
9. WHERE TURNING IS REQUIRED, MANEUVERING SPACE AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE 5 FEET BY 5 FEET MINIMUM. THE SPACE AT THE BOTTOM SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS AND SHALL NOT PROJECT INTO VEHICULAR TRAFFIC LANES.
10. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NORMALLY NOT WALK ACROSS THE RAMP, EITHER BECAUSE THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR BECAUSE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
11. WHERE CURB RAMPS ARE PROVIDED, CROSSWALK MARKINGS SHALL BE REQUIRED AND RAMPS SHALL BE ALIGNED WITH THE CROSSWALK.
12. COUNTER SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT BE STEEPER THAN 5% (20:1) IN ANY DIRECTION.

TRAFFIC CONTROL:

1. THE CONTRACTOR SHALL SUBMIT A WORK SCHEDULE & TRAFFIC CONTROL PLAN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PEDESTRIANS AND MOTORISTS IN THE AREA OF THE TRAFFIC SIGNAL CONSTRUCTION SITE.
3. ROADS AND STREETS SHALL BE KEPT OPEN TO TRAFFIC AT ALL TIMES. CONTRACTOR SHALL ARRANGE CONSTRUCTION SO AS TO CLOSE ONLY ONE LANE IN EACH DIRECTION OF A ROADWAY AT A TIME.
4. ALL CONSTRUCTION OPERATIONS SHALL BE CONDUCTED TO PROVIDE MINIMAL INTERFERENCE TO TRAFFIC. ALL TRAFFIC SIGNAL EQUIPMENT INSTALLATIONS SHALL BE ARRANGED SO AS TO PERMIT CONTINUOUS MOVEMENT OF TRAFFIC IN ALL DIRECTIONS AT ALL TIMES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SIGNAGE NECESSARY DURING CONSTRUCTION.
6. ALL SIGNS, BARRICADES, PAVEMENT MARKINGS AND TRAFFIC CONTROL DEVICES, INCLUDING PLACEMENT, SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. ALL TRAFFIC CONTROL DEVICES USED AT NIGHT SHALL BE REFLECTORIZED AND/OR ILLUMINATED. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT BATTERIES IN ILLUMINATED DEVICES ARE CHARGED SUCH THAT NO DEVICE FAILS TO OPERATE DURING THE NIGHT.
8. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN BARRICADES, WARNING SIGNS, FLASHERS, AND OTHER DEVICES OF THE TYPE AND SIZE INDICATED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT REVISION.
9. △1 IN LIEU OF TYPE D (2" THICK) SURFACE COURSE FOR TEMPORARY PAVEMENT, THE CONTRACTOR MAY SUBSTITUTE ALTERNATIVE 2-COURSE PENETRATION SURFACE TYPE(S) WITH THE UNDERSTANDING THAT AN ACCEPTABLE DRIVING SURFACE IS MAINTAINED TO THE SATISFACTION OF THE CITY.
10. △1 CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES DURING CONSTRUCTION.
11. △1 TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES. ONE LANE OF TRAFFIC IN EACH DIRECTION AROUND CONSTRUCTION OPERATIONS IN PROGRESS WITH ADEQUATE SAFEGUARDS WILL BE ACCEPTABLE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
12. △1 A TRAFFIC CONTROL PLAN WAS PREPARED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL PLAN. CHANGES MADE TO THE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY A PROFESSIONAL ENGINEER AND SUBMITTED FOR APPROVAL BY THE OWNER AT NO ADDITIONAL COST TO THE OWNER. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES. ALL BARRICADES, WARNING SIGNS, LIGHTS DEVICES, AND ETC., FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS MUST CONFORM TO THE INSTALLATION SHOWN IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION), TXDOT. ALL TRAFFIC CONTROL DEVICES SHALL BE INSPECTED DAILY.

WATER & WASTEWATER NOTES:

1. FOR UTILITY WORK WITHIN UTILITY EASEMENTS, ONCE PIPE OR APPURTENANCES HAVE BEEN INSTALLED OR REHABILITATED, IMMEDIATELY COMMENCE TEMPORARY SURFACE RESTORATION. COMPLETE SURFACE RESTORATION TO THE OWNER'S SATISFACTION WITHIN SEVEN (7) DAYS OF WORK FINISHING ON-SITE. FAILURE TO MAINTAIN SURFACE RESTORATION, AS NOTED ABOVE, MAY RESULT IN SUSPENSION OF WORK UNTIL RESTORATION IS COMPLETE.
2. EXISTING VERTICAL DEFLECTIONS AND PIPE SLOPES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND HAVE NOT BEEN FIELD VERIFIED, UNLESS OTHERWISE NOTED. RIM ELEVATIONS, FLOW LINES, AND HORIZONTAL LOCATIONS OF EXISTING MANHOLES WERE DETERMINED FROM FIELD SURVEY. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON DRAWINGS CONTRACTOR SHALL NOTIFY CITY.
3. MAINTAIN ALL EXISTING WATER AND WASTEWATER CONNECTIONS TO CUSTOMERS IN WORKING ORDER AT ALL TIMES, EXCEPT FOR BRIEF INTERRUPTIONS IN SERVICE FOR WATER AND SEWER SERVICES TO BE REINSTATED. IN NO CASE SHALL SERVICES BE ALLOWED TO REMAIN OUT OF SERVICE OVERNIGHT.
4. PROVIDE AND FOLLOW APPROVED CONFINED SPACE ENTRY PROGRAM IN ACCORDANCE WITH OSHA REQUIREMENTS. CONFINED SPACES SHALL INCLUDE MANHOLES AND ALL OTHER CONFINED SPACES IN ACCORDANCE WITH OSHA'S PERMIT REQUIRED FOR CONFINED SPACES.

WATER:

1. PROVIDE THRUST RESTRAINT BY MEANS OF RESTRAINING JOINTS AT FITTINGS AND CONCRETE BLOCKING. WHEN SPECIFICALLY INDICATED ON THE DRAWINGS, PROVIDE THRUST RESTRAINT AT DESIGNATED JOINTS BEYOND THE FITTINGS. EACH METHOD SHALL BE CAPABLE OF THRUST RESTRAINT INDEPENDENT OF THE OTHER SYSTEM.
2. PROPOSED WATER MAINS SHALL HAVE A MINIMUM COVER OF 36-INCHES COVER ABOVE THE TOP OF PIPE, UNLESS SHOWN OTHERWISE ON THE DRAWINGS OR DETAILS.
3. ELEVATION ADJUSTMENT AT CONNECTIONS MAY BE MADE WITH BENDS, OFFSETS, OR JOINT DEFLECTIONS. JOINT DEFLECTIONS SHALL NOT EXCEED SEVENTY-FIVE PERCENT (75%) OF MANUFACTURER'S RECOMMENDATIONS.
4. TEMPORARY PRESSURE PLUGS REQUIRED FOR SEQUENCING OF CONSTRUCTION AND TESTING OF PROPOSED WATER LINES SHALL BE CONSIDERED SUBSIDIARY TO THE WORK AND SHALL BE INCLUDED IN THE PRICE BID IN THE PROPOSAL FOR VARIOUS BID ITEMS.
5. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
6. CONTRACTOR SHALL DECHLORINATE WATER USED FOR FLUSHING NEW PIPELINE PRIOR TO DISCHARGE TO STORM DRAIN PER TCEQ AND EPA REQUIREMENTS. WATER DISCHARGE WHILE DRAINING, TESTING, OR DISINFECTING PIPELINES SHALL BE DONE IN ACCORDANCE WITH TCEQ GENERAL PERMIT NO. TX670000.
7. ALL BURIED VALVES, FIRE HYDRANTS, METALLIC PIPING, AND METALLIC EQUIPMENT SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH THE SPECIFICATIONS.
8. THE CONTRACTOR SHALL NOT OPERATE WATER MAIN VALVES WITHOUT DIRECT SUPERVISION BY CITY.
9. △1 CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY BY-PASS WATER SYSTEMS AS REQUIRED TO MAINTAIN FRESH, CLEAN, POTABLE WATER SUPPLY TO WATER SERVICE CUSTOMERS. ONLY MINIMAL SERVICE SHUTDOWNS WILL BE ALLOWED. CONTRACTOR SHALL NOTIFY THE OWNER AND ALL WATER SERVICE CUSTOMERS OF ANY TEMPORARY WATER SERVICE SHUTDOWNS. REFERENCE SPECIFICATION FOR MORE DETAILS.
10. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR ALL REMOVED AND SALVAGED EQUIPMENT TO BE TRANSPORTED TO THE CITY YARD ON BELL SREET. CONTRACTOR SHALL NOT REUSE ANY SALVAGED EQIPMENT FOR NEW CONSTRUCTION.

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

STATE OF TEXAS
WAYNE P. HARTT
118231
LICENSED
PROFESSIONAL ENGINEER
12-21-2017

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CITY OF SAN ANGELO, TEXAS
PHASE I
BELL STREET ROADWAY AND UTILITIES IMPROVEMENTS
GENERAL

GENERAL NOTES

NO.	ISSUES	BY	DATE
△1	ADDENDUM 1	WH	12/05/17

F&N JOB NO. SAN16188
DATE 12/2017
DESIGNED JWP
DRAWN EB
REVISED
CHECKED WH
FILE NAME ph1-trt-gn-notes01.sht

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SHEET NOTES-2
SEQ. 4

⚠1 UNIT 2: PAVING IMPROVEMENTS

UNIT	DESCRIPTION	RP-01	RP-02	RP-03	RP-04	PV-01	PV-02	PV-03	PV-04	PV-05	PV-06	PV-07	PV-08	PV-09	PV-10	PM-01	PM-02	PM-03	PM-04	QUANTITY	UNIT
2-1	REMOVING CONCRETE PVMT(DRIVEWAYS & SIDEWALK)	698	21	349	428															1496	SY
2-2	REMOVING CONCRETE (CURB & GUTTER)	1468	2433	2021	887															6809	LF
2-3	REMOVE ASPHALT PAVEMENT (4" AVG DEPTH)	6552	7745	7793	3360															25450	SY
2-4	EMBANKMENT (FINAL)(DENS CNTRL)(CL 3)																			273	CY
2-5	DRILL SEEDING					434	417	373	549	503	300	624	427	352	337					4316	SY
2-6	FL BS (CMP IN PLC)(TY A)(GR1-2)(6")(TCP TEMP PAVT)																			1511	SY
2-7	CEMENT TREATED SUBGRADE (8")					2281	3229	2829	3148	2982	2875	2817	2901	3015	2527					28604	SY
2-8	CEMENT					31.5	44.6	39.1	43.5	41.2	39.7	38.9	40.1	41.6	34.9					395.1	TN
2-9	D-GR HMA(SQ) TY D PG 64-72 (2" THICK)(TCP TEMP PAVT)																			1511	SY
2-10	BARRICADES, SIGNS AND TRAFFIC HANDLING																			18	MO
2-11	ROCK FILTER DAMS																			48	LF
2-12	REMOVE ROCK FILTER DAMS																			48	LF
2-13	TEMP SEDIMENT CONTROL FENCE (INSTALL)																			2150	LF
2-14	TEMP SEDIMENT CONTROL FENCE (REMOVE)																			2150	LF
2-15	CONCRETE CURB & GUTTER (6")					536	744	740	836	829	831	777	691	687	562					7233	LF
2-16	DRIVEWAYS (CONCRETE)					321	469	59	57	48	254	380	318	253						2159	SY
2-17	CONCRETE SIDEWALKS (4")					219	254	211	227	276	271	259	187	203	206					2313	SY
2-18	CURB RAMPS (TY 7)					8			2	2	1	2	1	2	8					26	EA
2-19	CURB RAMPS (TY 10)												1	1						2	EA
2-20	MAILBOX INSTALL-S (TWG POST) TY 1																	6	3	9	EA
2-21	RELOCATE SM RD SIGN SUP & AMS															3	9	2	3	17	EA
2-22	INST SM RD SIGN SUP & AM															1	4	7	0	12	EA
2-23	REFL PAVEMENT MARKING TY 1 (W) 4" (BRK)															443	490	482	216	1631	LF
2-24	REFL PAVEMENT MARKING TY 1 (W) 8" (SLD)															219				219	LF
2-25	REFL PAVEMENT MARKING TY 1 (W) 24" (SLD)															296	76	78	294	744	LF
2-26	REFL PAVEMENT MARKING TY 1 (W) (ARROW)															2				2	EA
2-27	REFL PAVEMENT MARKING TY 1 (W) (WORD)															2				2	EA
2-28	REFL PAVEMENT MARKING TY 1 (Y) 4" (SLD)															2486	1962	1930	864	7242	LF
2-29	REFL PAVEMENT MARKING TY 1 (Y) 12" (SLD)															170				170	LF
2-30	REFL PAVEMENT MARKER TY 2 - A - A															38	25	24	11	98	LF
2-31	REFL PAVEMENT MARKER TY 1 - C															22	25	24	11	82	LF

⚠1 UNIT 3: ALT. A - HMAC PAVING

UNIT	DESCRIPTION	RP-01	RP-02	RP-03	RP-04	PV-01	PV-02	PV-03	PV-04	PV-05	PV-06	PV-07	PV-08	PV-09	PV-10	PM-01	PM-02	PM-03	PM-04	QUANTITY	UNIT
3-1	FLEX BASE (CMP IN PLACE)(TY A GR 1-2)(FNAL POS)(12") (BID ALT A)					2281	3229	2829	3148	2982	2875	2817	2901	3015	2527					28604	SY
3-2	D-GR HMA TY-B PG64-22 (BID ALT A)(2" THICK)					2057	2911	2551	2839	2689	2592	2540	2616	2719	2279					25793	SY
3-3	D-GR HMA TY-D PG64-22 (BID ALT A)(2" THICK)					2057	2911	2551	2839	2689	2592	2540	2616	2719	2279					25793	SY
3-4	EXCAVATION (ROADWAY)(BID ALT A)																			12906	CY

⚠1 UNIT 4: ALT. B - ROLLER COMPACTED CONCRETE

UNIT	DESCRIPTION	RP-01	RP-02	RP-03	RP-04	PV-01	PV-02	PV-03	PV-04	PV-05	PV-06	PV-07	PV-08	PV-09	PV-10	PM-01	PM-02	PM-03	PM-04	QUANTITY	UNIT
4-1	ROLLER COMPACTED CONCRETE (8.5" THICK) (BID ALT B)					2057	2911	2551	2839	2689	2592	2540	2616	2719	2279					25793	SY
4-2	EXCAVATION (ROADWAY)(BID ALT B)																			6976	CY

Freese and Nichols, Inc.
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CITY OF SAN ANGELO, TEXAS
PHASE I
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
CIVIL
QUANTITY TAKE OFF

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	WPH	12/20/17

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FAN JOB NO. SAN16188
DATE OCT 2017
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SHEET NOTES-03
SEQ. 5

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UNIT 5: WATER IMPROVEMENTS															
ADDENDUM	ITEM	DESCRIPTION	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	W-10	W-11	DT-02	QUANTITY	UNIT
	5-1	16" WATER LINE	418	500	500	500	500	500	500	500	298			4216	LF
	5-2	16" WATER LINE INSIDE OF CASING		20										20	LF
	5-3	10" WATER LINE (FOR LOWERING ON KOBERLIN ST)											130	130	LF
1	5-4	8" WATER LINE			96	99	122	102		92	89	385		985	LF
1	5-5	6" WATER LINE	80					30	30	34	15			189	LF
	5-6	24" PVC CASING BY OTHER THAN OPEN CUT		20										20	LF
	5-7	TRENCH SAFETY	498	500	596	599	622	632	530	626	402	385		5390	LF
	5-8	2" COMBINATION AIR VALVE						1						1	EA
	5-9	16" GATE VALVE			1		1		1		2			5	EA
	5-10	8" GATE VALVE			2	1	2	1	1	2	2	1		12	EA
1	5-11	6" GATE VALVE	2		1		1	2	2	1	1			10	EA
	5-12	FIRE HYDRANTS	1		1		1	1	1	1	1			7	EA
1	5-13	1" WATER SERVICE	1		1	1			2	2	1	1		9	EA
	5-14	2" WATER SERVICE		1										1	EA
	5-15	2" WATER SERVICE WITH DOUBLE 1" SERVICE	1	1		1		2	1	2	1			9	EA
1	~~5-16~~	~~1" WATER METER~~	~~1~~		~~1~~				~~2~~	~~2~~	~~1~~			~~7~~	~~EA~~
1	~~5-17~~	~~2" WATER METER~~	~~1~~	~~2~~		~~1~~		~~2~~	~~1~~	~~2~~	~~1~~			~~10~~	~~EA~~
	5-18	20" LINESTOP	1											1	EA
	5-19	16" LINESTOP	1								1	1		3	EA
	5-20	20"X16" WET TAP & VALVE	1											1	EA
1	5-21	16"X16" WET TAP & VALVE									1			1	EA
	5-22	8"X8" TAPPING SLEEVE & VALVE										1		1	EA
1	~~5-23~~	~~8"X2" TAPPING SADDLE & VALVE~~												~~0~~	~~EA~~
	5-24	CONNECTION TO EXISTING 16" WATER LINE									1			1	EA
	5-25	CONNECTION TO EXISTING 8" WATER LINE			2	1		1		1				5	EA
	5-26	CONNECTION TO EXISTING 6" WATER LINE					2		2	1	2			7	EA
1	5-27	WATER LINE ABANDONMENT GROUT												273	CY
		16" WATER LINE ABANDONMENT GROUT	42	24	26	26	26	26	26	28	15	23		261	CY
		8" WATER LINE ABANDONMENT GROUT			0.54			1.32		0.69				3	CY
		6" WATER LINE ABANDONMENT GROUT				0.36	1.27	3.26	0.83		0.65			7	CY
		2" WATER LINE ABANDONMENT GROUT			0.38	0.40			0.20	0.53	0.23			2	CY
	5-28	REMOVE EXISTING VALVE	1		1	2	3	5		5	4			21	EA
	5-29	REMOVE EXISTING FIRE HYDRANT	1		1		1	1	1	1	1			7	EA
	5-30	REMOVE EXISTING WATER METER			1				2					3	EA
	5-31	8" FLEX BASE (FOR ALLEY REPAIR BEYOND PROPOSED PAVING LIMITS)						20						20	SY
	5-32	PERMANENT ASPHALT PAVEMENT REPAIR			12	13	48	20	12	20	54	56		235	SY

UNIT 6: SANITARY SEWER IMPROVEMENTS																			
ADDENDUM	ITEM	DESCRIPTION	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16	QUANTITY	UNIT
1	6-1	24" SANITARY SEWER LINE						400	500	481									1381	LF
	6-2	18" SANITARY SEWER LINE															134		134	LF
	6-3	12" SANITARY SEWER LINE		350	500	500	158.87												1509	LF
	6-4	12" SANITARY SEWER LINE INSIDE OF CASING		50															50	LF
1	6-5	10" SANITARY SEWER LINE								19	500	500	332						1351	LF
	6-6	8" SANITARY SEWER LINE											168	500	500	379		248.72	1796	LF
	6-7	8" PRESSURE RATED SANITARY SEWER																108.8	109	LF
	6-8	TRENCH SAFETY		350	500	500	158.87	400	500	500	500	500	500	500	500	379	134	357.52	6280	LF
	6-9	CONCRETE ENCASEMENT		50															50	LF
	6-10	4' DIAMETER MANHOLE		1	2							1	1	1	1				7	EA
	6-11	5' DIAMETER MANHOLE					1	1	1	1	1			1	2		1		9	EA
1	6-12	5' DIAMETER DROP MANHOLE			1	1	1				1	1	2	1		1			9	EA
	6-13	6' DIAMETER DROP MANHOLE						1											1	EA
1	6-14	TRENCH/CHECK DAM			1			1	1	1							1		5	EA
	6-15	SANITARY SEWER SERVICE		1	2	2							1		2	1			9	EA
	6-16	SANITARY SEWER LINE ABANDONMENT GROUT																	158	CY
		12" SS LINE ABANDONMENT GROUT	138																139	CY
		18" SS LINE ABANDONMENT GROUT	17																18	CY
		8" SS LINE ABANDONMENT GROUT	0.19																1	CY
1	6-17	REMOVE/ABANDON EXISTING MANHOLE		1			1	1					1	1		1			6	EA
	6-18	REMOVE EXISTING CLEANOUT												1					1	EA
	6-19	DRILL SEEDING						861.1	1110.8	772.4							257.3		3002	SY
	6-20	BYPASS PUMPING	1																1	LS
	6-21	PERMANENT ASPHALT PAVEMENT REPAIR								81	533	504							1118	SY

100% SUBMITTAL

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F&N JOB NO.	SAN16188
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FILE NAME	GN-ALL-NOTES03.dwg

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

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GENERAL CONSTRUCTION NOTES - CITY OF SAN ANGELO

1. UTILITY LOCATION: THE UTILITIES SHOWN ON THE PLANS WERE COMPILED FROM VARIOUS SOURCES AND ARE INTENDED TO SHOW IN GENERAL THE EXISTENCE AND LOCATION OF UTILITIES IN THE AREA OF CONSTRUCTION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE UTILITY INFORMATION SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES 48 HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES IN ORDER TO DETERMINE IF THERE IS ANY CONFLICT WITH THE PROPOSED FACILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS WITH EXISTING UTILITIES ARE DISCOVERED. THE CONTRACTOR SHALL VERIFY, OR HAVE VERIFIED BY THE APPROPRIATE UTILITY COMPANY, ALL ACTUAL LINE LOCATIONS, ELEVATIONS AND CONFIGURATIONS PRIOR TO CONSTRUCTION IN ORDER TO MAKE ANY NECESSARY TIE-INS OR BY-PASSES. SUCH VERIFICATIONS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

2. UTILITY PROTECTION: THE PROPOSED UTILITY LINES AT TIMES WILL BE LAID CLOSE TO OTHER EXISTING UTILITIES AND STRUCTURES BOTH ABOVE AND BELOW GROUND. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS FOR THE PROTECTION AND SUPPORT OF ALL UTILITY FACILITIES AND EXISTING STRUCTURES (INCLUDING BUT NOT LIMITED TO UTILITY POLES, GAS MAINS, TELEPHONE CABLES, ELECTRIC CABLES, TV CABLES, DRAINAGE PIPES AND STRUCTURES, UTILITY SERVICES, OTHER UTILITIES, FENCES, TREES AND SHRUBS) BOTH ABOVE AND BELOW THE GROUND DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY OWNERS PRIOR TO ANY CONSTRUCTION IN THE AREA AND VERIFY THE ACTUAL LOCATION OF ALL BURIED UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL UNDERGROUND AND OVERHEAD FACILITIES AND BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY CONTRACTOR'S OPERATIONS.

3. THE CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST 48 HOURS PRIOR TO EXCAVATING AT EACH LOCATION:

   CITY OF SAN ANGELO (325) 657-4299
   ATMOS ENERGY (GAS), EARLA AHRENS (325) 650-1167
   AEP-TEXAS
   AT&T, NICK ROSE (325) 315-8993
   FRONTIER COMMUNICATIONS, WILLIAM GATLIN (325) 949-7667
   DIG TESS (UTILITIES) (800) 344-3877
   AEP-TEXAS, KEVIN POOL, 361-290-7046
   SUDDENLINK, CRAIG THORNELL, 325-486-4113

4. WHEN NOTIFYING UTILITY COMPANIES BY CALLING 1-800-DIG-TESS (1-800-344-8377) THE CONTRACTOR SHALL CALL AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AND SHALL PROVIDE MAPSCO GRID NUMBERS FOR THE WORK AREA AND SHALL RECORD THE CONFIRMATION NUMBERS ISSUED BY DIG TESS. THESE NUMBERS AND/OR TICKETS SHALL BE PROVIDED TO THE CITY ON REQUEST.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GENERAL SAFETY AT AND ADJACENT TO THE PROJECT AREA, INCLUDING THE PERSONAL SAFETY OF THE CONSTRUCTION CREW AND GENERAL PUBLIC, AND THE SAFETY OF PUBLIC AND PRIVATE PROPERTY.

6. THE TYPES AND LOCATIONS OF THE TEMPORARY BARRICADES AND SIGNS USED DURING CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PLACEMENT AND MAINTENANCE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR WITH APPROVED TRAFFIC CONTROL PLAN.

7. THE CONTRACTOR SHALL NOTIFY ALL EMERGENCY UNITS AND SCHOOL DISTRICTS OPERATING WITHIN THE AREA OF THE PROPOSED WORK OF STREET OR LANE CLOSURES AND CONSTRUCTION SCHEDULES.

8. THE CONTRACTOR SHALL MAINTAIN FIRE EMERGENCY VEHICLE ACCESS TO FIRE HYDRANTS THROUGHOUT THE DURATION OF THE PROJECT. INACTIVE FIRE HYDRANTS SHALL BE SALVAGED.

9. PRIOR TO PRE-CONSTRUCTION MEETINGS, THE CONTRACTOR SHALL SUBMIT THE NAME OF THE INDEPENDENT TESTING LABORATORY TO BE USED FOR THE CITY'S REVIEW AND APPROVAL. COST OF TESTING SHALL BE SUBSIDARY TO APPROPRIATE BID ITEMS. ALL MATERIAL TESTING SHALL BE COORDINATED WITH THE PROJECT INSPECTOR. THE PROJECT INSPECTOR SHALL BE PRESENT DURING ALL TESTS AND SHALL BE GIVEN A MINIMUM OF 24 HOURS ADVANCED NOTICE PRIOR TO ANY TESTING. ANT TEST RESULTS NOT MEETING THE SPECIFICATIONS SHALL REQUIRE ADDITIONAL INSPECTIONS AND TESTS AT NO ADDITIONAL COST TO THE CITY.

10. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM TO 6:00 PM MON.-FRI. UNLESS OTHERWISE APPROVED OR DIRECTED IN WRITING BY THE PROJECT INSPECTOR.

11. THE CONTRACTOR WILL VIDEO OR PHOTOGRAPH ALL BUILDING FACADES WITHIN THE CONSTRUCTION LIMITS PRIOR TO WORK. VIDEOS SHALL INCLUDE DATE NOTATION AND AUDIO IDENTIFICATION OF PROPERTY. THIS SHALL BE CONSIDERED SUBSIDIARY WORK. CONTRACTOR SHALL SPRAY PAINT ADDRESS #'S ON DRIVE APPROACHES.

12. THE CONTRACTOR SHALL TAKE ADEQUATE MEASURES TO PREVENT EROSION. IN THE EVENT THAT SIGNIFICANT EROSION OCCURS AS A RESULT OF THE CONSTRUCTION, THE CONTRACTOR SHALL RESTORE THE ERODED AREA TO ITS ORIGINAL OR BETTER CONDITION AT HIS OWN EXPENSE.

13. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE CONSTRUCTION PLANS AND/OR PROJECT SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF DRILL SEEDING AS INDICATED IN THE PLANS & SPECS. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION BEGAN.

14. ALL TREES SHOWN ON PLANS AND WITHIN ROW SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED. ALL TREES TO REMAIN IN PLACE SHALL BE PRESERVED & PROTECTED BY THE CONTRACTOR. TREES WITHIN FIVE (5) FEET OF THE PROPOSED CURB LINE OR ANY OTHER TREES WHICH REQUIRE REMOVAL IN ORDER TO FACILITATE THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR AS PART OF THE WORK PERFORMED UNDER THE PAY ITEM FOR "PREPARE RIGHT-OF-WAY" BUT ONLY WITH THE SPECIFIC AUTHORIZATION AND APPROVAL OF THE CITY. STUMPS SHALL BE GROUND AND ROOT SYSTEMS REMOVED TO A CLEAR DEPTH OF 36" BELOW EXISTING GROUND.

15. ALL MAILBOXES, FENCES, DRIVEWAYS, LANDSCAPING, IRRIGATION SYSTEMS, CULVERT PIPES, DRAINAGE DITCHES, AND ANY IMPROVEMENTS ON PRIVATE PROPERTY NOT SCHEDULED FOR REPLACEMENT DURING CONSTRUCTION WHICH ARE DAMAGED OR MOVED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION BY THE CONTRACTOR WITH LIKE MATERIAL AT NO ADDITIONAL COST TO THE CITY OR TO THE AFFECTED PROPERTY OWNER.

16. (△1) CONTRACTOR SHALL MAKE THE WORK SITE AND ANY OPEN TRENCHES SECURE AND SAFE AT THE END OF EVERY DAY. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ANY FENCING OR ANY OTHER SAFETY EQUIPMENT.

17. THE CONTRACTOR SHALL REMOVE ALL FENCES, LOCATED WITHIN EASEMENTS, INTERFERING WITH CONSTRUCTION OPERATION AND PROVIDE TEMPORARY FENCING DURING CONSTRUCTION. REMOVED FENCES, WOODEN OR CHAIN LINK, SHALL BE REPLACED WITH A NEW FENCE OR UNDAMAGED ORIGINAL FENCING. ALL AFFECTED PROPERTY OWNERS SHALL BE NOTIFIED PRIOR TO CONSTRUCTION. REMOVAL AND REPLACEMENT OF EXISTING FENCES SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST AND REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED IN THE PROPOSAL.

18. WHEN IT IS REQUIRED THAT A CONTRACTOR WORK IN PRIVATE PROPERTY, THE CONTRACTOR SHALL DISTRIBUTE LETTERS TO ALL AFFECTED PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING WORK ON EACH PROPERTY. THE LETTER SHALL INCLUDE NAMES AND TELEPHONE NUMBERS OF CONTRACTOR CONTACTS, A DESCRIPTION OF THE WORK TO BE DONE, AND THE TIME FRAME FOR DOING THE WORK. COPIES OF THE LETTER SHALL BE FORWARDED TO THE CITY INSPECTOR. DISTRIBUTION OF LETTERS SHALL BE CONSIDERED AS SUBSIDIARY TO THE COST OF PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

19. THE CONTRACTOR SHALL REMOVE FROM THE PROJECT AREA ALL SURPLUS MATERIAL. THIS SHALL BE INCIDENTAL AND NOT A SEPARATE PAY ITEM. SURPLUS MATERIALS FROM EXCAVATION INCLUDING DIRT, TRASH, ETC. SHALL BE PROPERLY DISPOSED OF AT A SITE ACCEPTABLE TO THE CITY'S FLOOD PLAIN ADMINISTRATOR IF WITHIN THE CITY LIMITS. IF THE LOCATION IS NOT WITHIN THE CITY LIMITS, THE CONTRACTOR SHALL PROVIDE A LETTER STATING SO. NO EXCESS EXCAVATED MATERIAL SHALL BE DEPOSITED IN LOW AREAS OR ALONG NATURAL DRAINAGE WAY WITHOUT WRITTEN PERMISSION FROM THE AFFECTED PROPERTY OWNER AND THE CITY'S FLOOD PLAIN ADMINISTRATOR. IF THE CONTRACTOR PLACES EXCESS MATERIAL IN THE AREAS WITHOUT WRITTEN PERMISSION, HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND HE SHALL REMOVE THE MATERIAL AT HIS OWN COST.

20. ALL EXISTING CONCRETE AND ASPHALT DRIVEWAYS ARE TO BE SAWCUT WHEN CONSTRUCTING A NEW CONCRETE DRIVEWAY APPROACH.

21. CURB RETURN RADII FOR DRIVEWAYS SHALL BE 5 FEET UNLESS OTHERWISE NOTED.

22. ALL ROADWAY DIMENSIONS ARE TO THE BACK-OF-CURB UNLESS OTHERWISE NOTED.

23. (△1) THE CONTRACTOR SHALL USE EXTREME CAUTION IN LOCATING AND PROTECTING ALL EXISTING UNDERGROUND UTILITIES AND INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, SEWER SERVICES, COMMUNICATION, AND FIBER OPTIC CABLES.

24. ALL EXCAVATIONS, TRENCHING AND SHORING OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE U.S. DEPARTMENT OF LABOR, OSHA, "CONST. SAFETY AND HEALTH REGULATIONS", VOL. 29, SUBPART P., PG 128-137, AND ANY AMENDMENTS THERETO.

25. (△1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXCESS TRENCH EXCAVATIONS AND HAULING MATERIALS TO AN APPROVED DISPOSAL SITE. THIS SHALL BE CONSIDERED SUBSIDIARY.

26. DISTANCE BETWEEN ALL WATERLINES AND SANITARY SEWERS SHALL CONFORM TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS (CHP. 290.44 (E) (4) (A&B)).

27. CONTRACTOR'S PERSONNEL SHALL HAVE IDENTIFYING CLOTHING, HATS OR BADGES AT ALL TIMES WHICH IDENTIFY THE CONTRACTOR'S NAME, LOGO OR COMPANY.

28. COSTS ASSOCIATED WITH PROPOSED CONNECTIONS TO EXISTING FACILITIES SHALL BE INCLUDED IN EACH RESPECTIVE BID ITEM. NO SEPARATE PAY, EXCEPT AS SPECIFICALLY INDICATED WITHIN THESE PLANS OR THE CONTRACT DOCUMENTS.

29. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER AND SEWER CONNECTIONS TO ALL HOMES AND BUSINESSES IN WORKING ORDER AT ALL TIMES. EXCEPT FOR BRIEF PRE-NOTIFIED INTERRUPTIONS IN WATER SERVICES. IN NO CASE SHALL SERVICES BE ALLOWED TO REMAIN UNREINSTATED OVERNIGHT.

30. (△1) CONTRACTOR SHALL CONTACT LOCAL SCHOOLS PRIOR TO BEGINNING CONSTRUCTION TO INFORM PRINCIPALS AND ADMINISTRATORS OF CONSTRUCTION IN THE AREA. A NOTE ON THE SCHOOL MARQUEE IS SUGGESTED TO INFORM PARENTS AND STUDENTS OF CONSTRUCTION AND CONSTRUCTION DURATION AND POSSIBLE ALTERNATE ROUTES AROUND CONSTRUCTION SITES.

31. ALL VALVE BOXES AND MANHOLE LIDS SHALL BE SET TO MATCH FINISHED GRADE, UNLESS OTHERWISE NOTED.

32. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS BEFORE CONSTRUCTION BEGINS.

33. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT ELECTRIC POWER AND TELEPHONE POLES ARE NOT DISTURBED DURING CONSTRUCTION. ALL COSTS INCURRED FOR SUPPORTING ELECTRIC POWER AND TELEPHONE POLES SHALL BE INCLUDED IN THE PRICE BID FOR THE CONSTRUCTION OF THE WATER LINE OR SEWER LINE. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

34. ALL STREETS WITHIN THE SCOPE OF THE CONTRACT SHALL BE KEPT ACCESSIBLE TO FIRE TRUCKS, AMBULANCES AND OTHER EMERGENCY VEHICLES.

35. CONTRACTOR SHALL MAINTAIN SUITABLE CONSTRUCTION ACCESS TO PRIVATE PROPERTY OWNERS, THE ENGINEER AND CITY OF SAN ANGELO, AT ALL TIMES DURING CONSTRUCTION.

36. IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN NEAT AND ACCURATE PLANS ON RECORD.

37. (△1) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE SITE DRAINAGE THROUGHOUT THE DURATION OF THIS PROJECT.

38. THE CONTRACTOR SHALL NOT PLACE FILL OR WASTE MATERIAL ON ANY PRIVATE PROPERTY WITHOUT PRIOR WRITTEN PERMISSION FROM THE PROPERTY OWNER AND PROVIDE CITY WITH A COPY. NO EXCESS EXCAVATED MATERIAL SHALL BE DEPOSITED IN LOW AREAS OR ALONG NATURAL DRAINAGE WAYS THAT WILL RESTRICT THE NATURAL FLOW OF WATER. IF THE CONTRACTOR PLACES EXCAVATED MATERIAL IN LOW AREAS THAT WILL CAUSE FLOOD DAMAGE, HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND HE SHALL REMOVE THE FILL AT HIS EXPENSE.

39. THE CONTRACTOR SHALL AVOID DAMAGING ANY EXISTING WATER SPRINKLER SYSTEM THAT MAY BE IN THE CONSTRUCTION AREA AND WILL BE RESPONSIBLE FOR REPAIRS TO ANY HEADS OR LINES OF DAMAGED. REPLACEMENT, AS NECESSARY, SHALL BE AT LIKE OR BETTER MATERIAL AND INSTALLED BY A LICENSED IRRIGATOR, AT THE CONTRACTORS EXPENSE. DAMAGED SPRINKLERS SHALL BE REPLACED THE SAME DAY THEY ARE DAMAGED, TO THE SATISFACTION OF THE CITY, DEVELOPER AND OWNER.

40. ALL DRIVEWAYS, WHICH SHALL BE SAW CUT, SHALL HAVE ACCESS PROVIDED AT ALL TIMES. CLOSURES, PART OR FULL OF ANY DRIVEWAYS, SHALL BE COORDINATED WITH PROPERTY OWNER. FOR DRIVEWAY TIE-INS THAT EXTEND BEYOND THE RIGHT-OF-WAY, THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF SAN ANGELO AND THE PROPERTY OWNER TO OBTAIN PERMISSION TO ACCESS THE PROPERTY AS NECESSARY TO HARMONIZE THE DRIVEWAY CONNECTION.

41. (△1) PI'S AND VPI'S ARE SHOWN IN THE PLANS FOR ALIGNMENT PURPOSES.

42. CONTRACTOR SHALL USE STANDARD FITTINGS SHOWN ON THE PLAN AND DEFLECTED PIPE JOINTS, NO GREATER THAN 75% OF THE MANUFACTURERS RECOMMENDATIONS, TO ACHIEVE THE ALIGNMENT SHOWN IN THE PLANS. PIPELINE O.D. SHALL BE MAINTAINED MINIMUM 5' WITHIN R.O.W. OR PERMANENT EASEMENT.

43. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C651 AND THEN FLUSH AND SAMPLE, AND PROVIDE A HARD COPY OF TEST RESULTS PRIOR TO TESTING THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER. TEST MUST BE APPROVED BY THE CITY OF SAN ANGELO BEFORE THE WATER LINE CAN BE PUT IN SERVICE.

44. (△1) ALL NEWLY INSTALLED WATER PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SCIENCE FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.

45. (△1) CONTRACTOR SHALL INSTALL TEMPORARY BACKFILL AS REQUIRED FOR OPEN TRENCH IN ESTABLISHED ROADWAYS. NO OPEN TRENCH WILL BE ALLOWED IN EXISTING PAVEMENT EXCEPT DURING DAYLIGHT HOURS DURING CONSTRUCTION OPERATIONS. TEMPORARY BACK FILL SHALL BE INSTALLED TO THE FINISHED GRADE OF THE EXISTING PAVEMENT AND SHALL BE MAINTAINED BY THE CONTRACTOR TO ENSURE A SMOOTH DRIVING SURFACE FREE OF RUTTING AND POTHOLES. REPAIR DAMAGED PAVEMENT IN ACCORDANCE WITH SPECIFICATIONS.

46. (△1) DRILL SEEDING SHALL BE ACCOMPLISHED FOR ALL UNIMPROVED SURFACES WITHIN THE RIGHT-OF-WAY AND EASEMENTS AND AS DIRECTED BY THE CITY. CONTRACTOR IS RESPONSIBLE FOR SUCCESSFULLY ESTABLISHING TURF (VIA DRILL SEEDING) IN THE ENTIRE PROJECT LIMITS.

47. (△1) CONTRACTOR SHALL DELIVER ALL SALVAGED ITEMS TO THE CITY OF SAN ANGELO'S BELL STREET YARD.

FREESE AND NICHOLS, INC.
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CITY OF SAN ANGELO, TEXAS
BELL STREET ROADWAY AND UTILITIES IMPROVEMENTS
PHASE II
GENERAL

GENERAL NOTES

F&N JOB NO.	SAN16188
DATE	10/2017
DESIGNED	JWP
DRAWN	EB
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FILE NAME	ph3-trt-gn-notes01.sht

NO.	ISSUES	BY	DATE
△1	ADDENDUM 1	WH	12/05/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET NOTES-1
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100% SUBMITTAL

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EROSION & SEDIMENTATION CONTROL NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH TCEQ'S TPDES AND EPA'S NPDES PROGRAMS FOR CONTROL OF SILT AND EROSION. CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL UPDATE THE SWPPP AS NECESSARY BASED ON FIELD CONDITIONS.
2. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THEY SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL AFTER THE PROPOSED IMPROVEMENTS ARE IN PLACE.
3. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO THE PROJECT FREE OF MUD AND DEBRIS FROM CONSTRUCTION AT ALL TIMES.
4. SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS. PRIOR TO ANY EMBANKMENT OR EXCAVATION WORK BEING DONE. WHEN THE PROJECT IS COMPLETE AND THE ENTIRE PROJECT SITE IS COMPLETELY STABILIZED, THE SEDIMENT CONTROL DEVICES AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER. THE CONTRACTOR HAS THE ULTIMATE RESPONSIBILITY FOR THE EFFECTIVE CONTROL OF EROSION AND SEDIMENTATION.
5. THE SITE SHALL BE REVIEWED WEEKLY AND AFTER ANY MAJOR STORM ADJUSTMENTS/REPAIRS TO THE EROSION CONTROL DEVICES SHALL BE MADE AS DIRECTED BY THE CITY.
6. THE EROSION CONTROL PLANS PROVIDED IN THE PLAN SET DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING ADDITIONAL EROSION CONTROL MEASURES AS REQUIRED BY THE SWPPP OR AS REQUIRED BY FIELD CONDITIONS AND DIRECTED BY THE CITY. THE EROSION CONTROL PLANS ARE PROVIDED AS A COURTESY TO THE CONTRACTOR. HOWEVER, IT IS THE CONTRACTORS RESPONSIBILITY TO MEET ALL REGULATORY REQUIREMENTS FOR EROSION CONTROL.
7. EROSION CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS, OR IN CHANNELS, DRAINAGEWAYS OR BORROW DITCHES AT RISK OF CONTRACTOR. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURES, INCLUDING FLOODING DAMAGE, WHICH MAY OCCUR DUE TO BLOCKED DRAINAGE. AT THE CONCLUSION OF ANY PROJECT, ALL CHANNELS, DRAINAGEWAYS AND BORROW DITCHES IN THE WORK ZONE SHALL BE DREDGED OF ANY SEDIMENT GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF EROSION CONTROL MEASURES.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING, IMPLEMENTATION AND MAINTENANCE OF THE SWPPP. THE INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION MEASURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY THROUGHOUT ALL PHASES OF CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH TCEQ'S TPDES AND THE EPA'S NPDES (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM) REGULATIONS 40-CFR-122, 123, 124 CONCERNING EROSION AND SEDIMENT CONTROL. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING A NOTICE OF INTENT "NOI" TO EPA 72 HOURS PRIOR TO BEGINNING CONSTRUCTION AND NOTICE OF TERMINATION "NOT" TO EPA UPON COMPLETION OF THE PROJECT.
9. (△1) EXCAVATE ACCUMULATED SEDIMENT WITH BACKHOE, TRACK HOE, OR BUCKET-TYPE EXCAVATING APPARATUS ONLY. DO NOT USE A BULLDOZER OR OTHER MOVING EQUIPMENT TO PUSH MATERIAL OUT OF STREAMBED OR OTHERWISE RE-DISTRIBUTE SEDIMENT WITHIN THE STREAMBED: EXCAVATE WITH NO MORE THAN INCIDENTAL FALLBACK (I.E. SMALL SPILLS FROM THE EXCAVATION APPARATUS). EXCAVATE BETWEEN ORDINARY HIGH WATER MARKS (OHWMs), AS MAPPED, FROM THE TOP OF THE STREAM BANK ONLY. PLACE SEDIMENT DIRECTLY INTO A TRUCK OR CONTAINER AND REMOVE FOR DISPOSAL AT AN UPLAND SITE. DO NOT ALLOW EXCAVATED MATERIAL TO DEWATER INTO THE STREAM OR ANY OTHER WATER BODY.

TRAFFIC SIGNS AND PAVEMENT MARKINGS:

1. ALL TRAFFIC SIGNS SHOWN ON THE PLANS WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

PAVING NOTES

1. ALL DRIVEWAYS, WHICH ARE OPEN CUT, SHALL HAVE AT LEAST A TEMPORARY DRIVING SURFACE AT THE END OF EACH DAY. THE TEMPORARY SURFACE SHALL BE CONSIDERED AS A SUBSIDIARY ITEM OF WORK. THE COST OF WHICH SHALL BE INCLUDED IN THE PRICE BID IN THE PROPOSAL FOR VARIOUS BID ITEMS.
2. EXISTING ASPHALT CONCRETE PAVEMENT SHALL BE REMOVED AND DELIVERED TO THE CITY'S MAINTENCE YARD ON ANN STREET. REMOVAL BY MILLING SHALL NOT BE ALLOWED. ASPHALT PAVEMENT REMOVAL IS NOT REFLECTED IN THE ROADWAY EXCAVATION QUANTITIES.

SIDEWALKS AND CURB RAMP NOTES:

1. THE CURB RAMP STANDARD DETAILS ARE INTENDED TO SHOW TYPICAL LAYOUTS FOR THE CONSTRUCTION OF THE CURB RAMPS. THE INFORMATION SHOWN ON THE STANDARD DETAILS MEET THE REQUIREMENTS SHOWN IN THE 2012 TEXAS ACCESSIBILITY STANDARDS(TAS) AND THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN BY THE DEPARTMENT OF JUSTICE.
2. THE CONTRACTOR MAY NOT MAKE CHANGES TO THE SIDEWALK AND CURB RAMP LAYOUT WITHOUT APPROVAL OF THE CITY. THE CONTRACTOR MAY PROPOSE CHANGES TO THE SIDEWALK AND CURB RAMP LAYOUT DUE TO FIELD CONDITIONS, BUT ANY PROPOSED CHANGES MUST BE APPROVED BY THE CITY.
3. CURB RAMP RUNNING SLOPES SHALL NOT BE STEEPER THAN 8.3% (12:1). ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED BY THE CITY.
4. CURB RAMP FLARE SLOPES SHALL NOT BE STEEPER THAN 10% (10:1) AS MEASURED ALONG BACK OF CURB.
5. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2%.
6. (△1) THE MINIMUM WIDTH OF SIDEWALKS AND CURB RAMPS SHALL BE 3 FEET. SIDEWALK WIDTHS UNDER 4 FEET CAN NOT EXCEED 150 FT IN LENGTH.
7. LANDINGS SHALL BE PROVIDED AT THE TOP OF CURB RAMPS. THE LANDING CLEAR LENGTH SHALL BE 5 FEET MINIMUM FROM THE END OF RAMP. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE CURB RAMP, EXCLUDING FLARES. THE LANDING SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
8. IN ALTERATIONS WHERE THERE IS NO LANDING AT THE TOP OF THE CURB RAMP, CURB RAMP FLARES SHALL BE PROVIDED AND SHALL NOT BE STEEPER THAN 8.3% (12:1).
9. WHERE TURNING IS REQUIRED, MANEUVERING SPACE AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE 5 FEET BY 5 FEET MINIMUM. THE SPACE AT THE BOTTOM SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS AND SHALL NOT PROJECT INTO VEHICULAR TRAFFIC LANES.
10. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NORMALLY NOT WALK ACROSS THE RAMP, EITHER BECAUSE THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR BECAUSE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
11. WHERE CURB RAMPS ARE PROVIDED, CROSSWALK MARKINGS SHALL BE REQUIRED AND RAMPS SHALL BE ALIGNED WITH THE CROSSWALK.
12. COUNTER SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT BE STEEPER THAN 5% (20:1) IN ANY DIRECTION.

TRAFFIC CONTROL:

1. THE CONTRACTOR SHALL SUBMIT A WORK SCHEDULE & TRAFFIC CONTROL PLAN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PEDESTRIANS AND MOTORISTS IN THE AREA OF THE TRAFFIC SIGNAL CONSTRUCTION SITE.
3. ROADS AND STREETS SHALL BE KEPT OPEN TO TRAFFIC AT ALL TIMES. CONTRACTOR SHALL ARRANGE CONSTRUCTION SO AS TO CLOSE ONLY ONE LANE IN EACH DIRECTION OF A ROADWAY AT A TIME.
4. ALL CONSTRUCTION OPERATIONS SHALL BE CONDUCTED TO PROVIDE MINIMAL INTERFERENCE TO TRAFFIC. ALL TRAFFIC SIGNAL EQUIPMENT INSTALLATIONS SHALL BE ARRANGED SO AS TO PERMIT CONTINUOUS MOVEMENT OF TRAFFIC IN ALL DIRECTIONS AT ALL TIMES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SIGNAGE NECESSARY DURING CONSTRUCTION.
6. ALL SIGNS, BARRICADES, PAVEMENT MARKINGS AND TRAFFIC CONTROL DEVICES, INCLUDING PLACEMENT, SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. ALL TRAFFIC CONTROL DEVICES USED AT NIGHT SHALL BE REFLECTORIZED AND/OR ILLUMINATED. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT BATTERIES IN ILLUMINATED DEVICES ARE CHARGED SUCH THAT NO DEVICE FAILS TO OPERATE DURING THE NIGHT.
8. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN BARRICADES, WARNING SIGNS, FLASHERS, AND OTHER DEVICES OF THE TYPE AND SIZE INDICATED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT REVISION.
9. IN LIEU OF TYPE D (2" THICK) SURFACE COURSE FOR TEMPORARY PAVEMENT, THE CONTRACTOR MAY SUBSTITUTE ALTERNATIVE 2-COURSE PENETRATION SURFACE TYPE(S) WITH THE UNDERSTANDING THAT AN ACCEPTABLE DRIVING SURFACE IS MAINTAINED TO THE SATISFACTION OF THE CITY.
10. (△1) CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES DURING CONSTRUCTION.
11. (△1) TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES. ONE LANE OF TRAFFIC IN EACH DIRECTION AROUND CONSTRUCTION OPERATIONS IN PROGRESS WITH ADEQUATE SAFEGUARDS WILL BE ACCEPTABLE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
12. (△1) A TRAFFIC CONTROL PLAN WAS PREPARED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL PLAN. CHANGES MADE TO THE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY A PROFESSIONAL ENGINEER AND SUBMITTED FOR APPROVAL BY THE OWNER AT NO ADDITIONAL COST TO THE OWNER. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES. ALL BARRICADES, WARNING SIGNS, AND LIGHTS DEVICES FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS MUST CONFORM TO THE INSTALLATION SHOWN IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION), TXDOT. ALL TRAFFIC CONTROL DEVICES SHALL BE INSPECTED DAILY.

WATER & WASTEWATER NOTES:

1. FOR UTILITY WORK WITHIN UTILITY EASEMENTS, ONCE PIPE OR APPURTENANCES HAVE BEEN INSTALLED OR REHABILITATED, IMMEDIATELY COMMENCE TEMPORARY SURFACE RESTORATION. COMPLETE SURFACE RESTORATION TO THE OWNER'S SATISFACTION WITHIN SEVEN (7) DAYS OF WORK FINISHING ON-SITE. FAILURE TO MAINTAIN SURFACE RESTORATION, AS NOTED ABOVE, MAY RESULT IN SUSPENSION OF WORK UNTIL RESTORATION IS COMPLETE.
2. EXISTING VERTICAL DEFLECTIONS AND PIPE SLOPES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND HAVE NOT BEEN FIELD VERIFIED, UNLESS OTHERWISE NOTED. RIM ELEVATIONS, FLOW LINES, AND HORIZONTAL LOCATIONS OF EXISTING MANHOLES WERE DETERMINED FROM FIELD SURVEY. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON DRAWINGS CONTRACTOR SHALL NOTIFY CITY.
3. MAINTAIN ALL EXISTING WATER AND WASTEWATER CONNECTIONS TO CUSTOMERS IN WORKING ORDER AT ALL TIMES, EXCEPT FOR BRIEF INTERRUPTIONS IN SERVICE FOR WATER AND SEWER SERVICES TO BE REINSTATED. IN NO CASE SHALL SERVICES BE ALLOWED TO REMAIN OUT OF SERVICE OVERNIGHT.
4. PROVIDE AND FOLLOW APPROVED CONFINED SPACE ENTRY PROGRAM IN ACCORDANCE WITH OSHA REQUIREMENTS. CONFINED SPACES SHALL INCLUDE MANHOLES AND ALL OTHER CONFINED SPACES IN ACCORDANCE WITH OSHA'S PERMIT REQUIRED FOR CONFINED SPACES.

WATER:

1. PROVIDE THRUST RESTRAINT BY MEANS OF RESTRAINING JOINTS AT FITTINGS AND CONCRETE BLOCKING. WHEN SPECIFICALLY INDICATED ON THE DRAWINGS, PROVIDE THRUST RESTRAINT AT DESIGNATED JOINTS BEYOND THE FITTINGS. EACH METHOD SHALL BE CAPABLE OF THRUST RESTRAINT INDEPENDENT OF THE OTHER SYSTEM.
2. PROPOSED WATER MAINS SHALL HAVE A MINIMUM COVER OF 36-INCHES COVER ABOVE THE TOP OF PIPE, UNLESS SHOWN OTHERWISE ON THE DRAWINGS OR DETAILS.
3. ELEVATION ADJUSTMENT AT CONNECTIONS MAY BE MADE WITH BENDS, OFFSETS, OR JOINT DEFLECTIONS. JOINT DEFLECTIONS SHALL NOT EXCEED SEVENTY-FIVE PERCENT (75%) OF MANUFACTURER'S RECOMMENDATIONS.
4. TEMPORARY PRESSURE PLUGS REQUIRED FOR SEQUENCING OF CONSTRUCTION AND TESTING OF PROPOSED WATER LINES SHALL BE CONSIDERED SUBSIDIARY TO THE WORK AND SHALL BE INCLUDED IN THE PRICE BID IN THE PROPOSAL FOR VARIOUS BID ITEMS.
5. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
6. CONTRACTOR SHALL DECHLORINATE WATER USED FOR FLUSHING NEW PIPELINE PRIOR TO DISCHARGE TO STORM DRAIN PER TCEQ AND EPA REQUIREMENTS. WATER DISCHARGE WHILE DRAINING, TESTING, OR DISINFECTING PIPELINES SHALL BE DONE IN ACCORDANCE WITH TCEQ GENERAL PERMIT NO. TX670000.
7. ALL BURIED VALVES, FIRE HYDRANTS, METALLIC PIPING, AND METALLIC EQUIPMENT SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH THE SPECIFICATIONS.
8. THE CONTRACTOR SHALL NOT OPERATE WATER MAIN VALVES WITHOUT DIRECT SUPERVISION BY CITY.
9. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY BY-PASS WATER SYSTEMS AS REQUIRED TO MAINTAIN FRESH, CLEAN, POTABLE WATER SUPPLY TO WATER SERVICE CUSTOMERS. ONLY MINIMAL SERVICE SHUTDOWNS WILL BE ALLOWED. CONTRACTOR SHALL NOTIFY THE OWNER AND ALL WATER SERVICE CUSTOMERS OF ANY TEMPORARY WATER SERVICE SHUTDOWNS. REFERENCE SPECIFICATION FOR MORE DETAILS.
10. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR ALL REMOVED AND SALVAGED EQUIPMENT TO BE TRANSPORTED TO THE CITY YARD ON ST. ANN SREET. CONTRACTOR SHALL NOT REUSE ANY SALVAGED EQIPMENT FOR NEW CONSTRUCTION.

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CITY OF SAN ANGELO, TEXAS
BELL STREET ROADWAY AND UTILITIES IMPROVEMENTS PHASE II
GENERAL
GENERAL NOTES

NO.	ISSUES	BY	DATE
△1	ADDENDUM 1	WH	12/05/17

F&N JOB NO. SAN16188
DATE 10/2017
DESIGNED JWP
DRAWN EB
REVISED
CHECKED WH
FILE NAME ph3-trt-gn-notes01.sht

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

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SHEET NOTES-2
SEQ. 4

⚠1 UNIT 8: PAVING IMPROVEMENTS

ITEM	DESCRIPTION	RP-01	RP-02	RP-03	PP-01	PP-02	PP-03	PP-04	PP-05	PP-06	PP-07	PM-01	PM-02	PM-03	QUANTITY	UNIT
8-1	REMOVING CONCRETE (PAV)	2342	2556	880											5778	SY
8-2	REMOVING CONCRETE (DRIVEWAYS)	169													169	SY
8-3	REMOVING CONCRETE (CURB & GUTTER)	1423	1767	541											3731	LF
8-4	REMOVE STAB BASE AND ASPHALT PAVEMENT (8"-20")	6765	7969	2541											17275	SY
8-5	EMBANKMENT (FINAL)(ORD COMP)(TY B)(CL 3)														310	CY
8-6	DRILL SEEDING				218	661	887	447	354	467	151				3185	SY
8-7	FL BS (CMP IN PLC)(TY A)(GR1-2)(6")(Temp Pavt)														333	SY
8-8	CEMENT TREATED SUBGRADE (8")				1346	3063	2867	2695	3093	2670	969				16703	SY
8-9	CEMENT				18.5	42.2	39.5	37.1	42.6	36.8	13.3				230	TN
8-10	D-GR HMA(SQ) TY D PG 64-72 (2" THICK)(Temp Pavt)														333	SY
8-11	BARRICADES, SIGNS AND TRAFFIC HANDLING														10	MO
8-12	TEMP EROSION CONTROL LOGS (INSTALL)				50										50	LF
8-13	TEMP EROSION CONTROL LOGS (REMOVE)				50										50	LF
8-14	TEMP SEDIMENT CONTROL FENCE (INSTALL)					20	355	285							660	LF
8-15	TEMP SEDIMENT CONTROL FENCE (REMOVE)					20	355	285							660	LF
8-16	CONCRETE CURB & GUTTER (STANDARD)				275	566	670	481	76						2068	LF
8-17	CONCRETE CURB & GUTTER (MOUNTABLE)							248	817	900	294				2259	LF
8-18	DRIVEWAYS (CONCRETE)				143	310	216	121							790	SY
8-19	MAILBOX INSTALL-S (TWG POST) TY 1											5	5	1	11	EA
8-20	REMOVE SM RD SIGN SUP & AMS											10	8	0	18	EA
8-21	INST SM RD SIGN SUP & AM											10	8	0	18	EA
8-22	REFLECTOR PAVEMENT MARKING TY 1 (W) 4" (BRK)											384	490	198	1072	LF
8-23	REFLECTOR PAVEMENT MARKING TY 1 (W) 4" (SLD)													145	145	LF
8-24	REFLECTOR PAVEMENT MARKING TY 1 (W) 24" (SLD)											52	18		70	LF
8-25	REFLECTOR PAVEMENT MARKING TY 1 (W) (8" DOTTED)														200	LF
8-26	REFLECTOR PAVEMENT MARKING TY 1 (W) (YEILD LINE)														12	LF
8-27	REFLECTOR PAVEMENT MARKING TY 1 (Y) 4" (SLD)											1538	1958	792	4288	LF
8-28	REFLECTOR PAVEMENT MARKING TY 2 - A - A											19	24	10	53	EA
8-29	REFLECTOR PAVEMENT MARKING TY 1 - C											19	24	10	53	EA

⚠1 UNIT 9: ALT. A - HMAC PAVING

ITEM	DESCRIPTION	RP-01	RP-02	RP-03	PP-01	PP-02	PP-03	PP-04	PP-05	PP-06	PP-07	PM-01	PM-02	PM-03	QUANTITY	UNIT
9-1	FLEX BASE (CMP IN PLACE)(TY A GR 2)(CL 4) (BID ALT A)(12" THICK)				1346	3063	2867	2695	3093	2670	969				16703	SY
9-2	D-GR HMA TY-B PG64-22 (1.5" THICK)(BID ALT A)				1206	2746	2571	2416	2773	2394	868				14974	SY
9-3	D-GR HMA TY-D PG64-22 (2.5" THICK)(BID ALT A)				1206	2746	2571	2416	2773	2394	868				14974	SY
9-4	EXCAVATION (ROADWAY)(BID ALT A)														6921	CY

⚠1 UNIT 10: ALT. B - ROLLER COMPACTED CONCRETE

ITEM	DESCRIPTION	RP-01	RP-02	RP-03	PP-01	PP-02	PP-03	PP-04	PP-05	PP-06	PP-07	PM-01	PM-02	PM-03	QUANTITY	UNIT
10-1	ROLLER COMPACTED CONCRETE (8.5" THICK) (BID ALT B)				1206	2746	2571	2416	2773	2394	868				14974	SY
10-2	EXCAVATION (ROADWAY)(BID ALT B)														3338	CY

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

STATE OF TEXAS
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CITY OF SAN ANGELO, TEXAS
PHASE II
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
GENERAL
GENERAL NOTES

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	WPH	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
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CHECKED DGS
FILE NAME GN-ALL-NOTES01.dwg

SHEET NOTES-3
SEQ. 5

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⚠ UNIT 11: WATER IMPROVEMENTS

ADDENDUM	ITEM	DESCRIPTION	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	W-10	W-11	W-12	W-13	W-14	W-15	W-16	QUANTITY	UNIT
	11-1	20" WATER LINE																82	82	LF
⚠	11-2	16" WATER LINE	102						400	500	500	449	68	500	500	500	500	118	4137	LF
⚠	11-3	16" WATER LINE INSIDE CASING BY OTHER THAN OPEN CUT										51	432						483	LF
	11-4	12" WATER LINE	298	500	500	500	500	84											2382	LF
⚠	11-5	8" WATER LINE										46						127	173	LF
⚠	11-6	2" WATERLINE		38															38	LF
	11-7	30" STEEL CASING BY OTHER THAN OPEN CUT										51	432						483	LF
	11-8	TRENCH SAFETY	400	538	500	500	500	84	400	500	500	495	68	500	500	500	500	327	6812	LF
	11-9	2" COMBINATION AIR VALVE															1		1	EA
⚠	11-10	20" GATE VALVE																1	1	EA
⚠	11-11	16" GATE VALVE	2						1			1	2			1		1	8	EA
⚠	11-12	12" GATE VALVE	2	1		1			1										5	EA
	11-13	8" GATE VALVE	1									1							2	EA
⚠	11-14	6" GATE VALVE				1	1			1	2					1			6	EA
	11-15	12" INSERTA-VALVE						1											1	EA
	11-16	4" BLOW OFF VALVE										1							1	EA
⚠	11-17	FIRE HYDRANTS		1	1	1	1				1							1	6	EA
⚠	11-18	1" WATER SERVICE	1	3	1	2	2		2	2	4	2					3	1	23	EA
⚠	11-19	2" WATER SERVICE WITH DOUBLE 1" SERVICE		1	1	2	1			4						1		1	11	EA
⚠	~~11-20~~	~~1" WATER METER~~	~~1~~	~~2~~	~~2~~		~~1~~												~~6~~	~~EA~~
⚠	~~11-21~~	~~2" WATER METER~~	~~1~~	~~2~~	~~1~~	~~2~~	~~1~~												~~7~~	~~EA~~
	11-22	16" LINE STOP							1										1	EA
	11-23	CONNECTION TO EXISTING 20" WATER LINE																1	1	EA
⚠	11-24	CONNECTION TO EXISTING 16" WATER LINE							1									4	5	EA
	11-25	CONNECTION TO EXISTING 12" WATER LINE						1											1	EA
	11-26	CONNECTION TO EXISTING 8" WATER LINE	1									1							2	EA
⚠	11-27	CONNECTION TO EXISTING 6" WATER LINE				1				1	1					1			4	EA
⚠	11-28	CONNECTION TO EXISTING 2" WATER LINE		2													1	1	4	EA
⚠	11-29	WATER LINE ABANDONMENT GROUT																	336	CY
		20" WATER LINE ABANDONMENT GROUT	5.98															6.71	13	CY
		16" WATER LINE ABANDONMENT GROUT	8.64						19.34	25.86	25.86	27.46	28.96	25.86	25.86	26.27	29.42	7.76	252	CY
		12" WATER LINE ABANDONMENT GROUT	8.06	14.54	14.54	14.54	14.43	2.33											69	CY
		6" WATER LINE ABANDONMENT GROUT									0.94									
		2" WATER LINE ABANDONMENT GROUT		0.16	0.34	0.40	0.46											0.08	2	CY
	11-30	REMOVE EXISTING VALVE			2		1			1	3	1				5	1		14	EA
	11-31	REMOVE EXISTING FIRE HYDRANT		1	1		1				1								4	EA
	11-32	CONCRETE VALLEY GUTTER																5	5	SY
⚠	11-33	CURB AND GUTTER REPAIR							338	313	461	285	16	30		144		24	1611	LF
⚠	11-34	PERMANENT ASPHALT PAVEMENT REPAIR				20	39	68	325	468	481	399	16	28		384	391	34	2653	SY
⚠	11-35	2" WATER SERVICE	1	1	1														3	EA
⚠	11-36	FLEXBASE FOR PARKING LOT REPAIR							19										19	SY
⚠	11-37	20" LINESTOP																1	1	EA

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CITY OF SAN ANGELO, TEXAS
PHASE II
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
GENERAL
GENERAL NOTES

F&N JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
CHECKED DGS
FILE NAME GN-ALL-NOTE02.dwg

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

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SHEET NOTES-4
SEQ. 6

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GENERAL CONSTRUCTION NOTES - CITY OF SAN ANGELO

1. UTILITY LOCATION: THE UTILITIES SHOWN ON THE PLANS WERE COMPILED FROM VARIOUS SOURCES AND ARE INTENDED TO SHOW IN GENERAL THE EXISTENCE AND LOCATION OF UTILITIES IN THE AREA OF CONSTRUCTION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE UTILITY INFORMATION SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES 48 HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES IN ORDER TO DETERMINE IF THERE IS ANY CONFLICT WITH THE PROPOSED FACILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS WITH EXISTING UTILITIES ARE DISCOVERED. THE CONTRACTOR SHALL VERIFY, OR HAVE VERIFIED BY THE APPROPRIATE UTILITY COMPANY, ALL ACTUAL LINE LOCATIONS, ELEVATIONS AND CONFIGURATIONS PRIOR TO CONSTRUCTION IN ORDER TO MAKE ANY NECESSARY TIE-INS OR BY-PASSES. SUCH VERIFICATIONS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

2. UTILITY PROTECTION: THE PROPOSED UTILITY LINES AT TIMES WILL BE LAID CLOSE TO OTHER EXISTING UTILITIES AND STRUCTURES BOTH ABOVE AND BELOW GROUND. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS FOR THE PROTECTION AND SUPPORT OF ALL UTILITY FACILITIES AND EXISTING STRUCTURES (INCLUDING BUT NOT LIMITED TO UTILITY POLES, GAS MAINS, TELEPHONE CABLES, ELECTRIC CABLES, TV CABLES, DRAINAGE PIPES AND STRUCTURES, UTILITY SERVICES, OTHER UTILITIES, FENCES, TREES AND SHRUBS) BOTH ABOVE AND BELOW THE GROUND DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY OWNERS PRIOR TO ANY CONSTRUCTION IN THE AREA AND VERIFY THE ACTUAL LOCATION OF ALL BURIED UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL UNDERGROUND AND OVERHEAD FACILITIES AND BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY CONTRACTOR'S OPERATIONS.

3. THE CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST 48 HOURS PRIOR TO EXCAVATING AT EACH LOCATION:

   CITY OF SAN ANGELO (325) 657-4299
   ATMOS ENERGY (GAS), EARLA AHRENS (325) 650-1167
   AEP-TEXAS
   AT&T, NICK ROSE (325) 315-8993
   FRONTIER COMMUNICATIONS, WILLIAM GATLIN (325) 949-7667
   DIG TESS (UTILITIES) (800) 344-3877
   AEP-TEXAS, KEVIN POOL, 361-290-7046
   SUDDENLINK, CRAIG THORNELL, 325-486-4113

4. WHEN NOTIFYING UTILITY COMPANIES BY CALLING 1-800-DIG-TESS (1-800-344-8377) THE CONTRACTOR SHALL CALL AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AND SHALL PROVIDE MAPSCO GRID NUMBERS FOR THE WORK AREA AND SHALL RECORD THE CONFIRMATION NUMBERS ISSUED BY DIG TESS. THESE NUMBERS AND/OR TICKETS SHALL BE PROVIDED TO THE CITY ON REQUEST.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GENERAL SAFETY AT AND ADJACENT TO THE PROJECT AREA, INCLUDING THE PERSONAL SAFETY OF THE CONSTRUCTION CREW AND GENERAL PUBLIC, AND THE SAFETY OF PUBLIC AND PRIVATE PROPERTY.

6. THE TYPES AND LOCATIONS OF THE TEMPORARY BARRICADES AND SIGNS USED DURING CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PLACEMENT AND MAINTENANCE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR WITH APPROVED TRAFFIC CONTROL PLAN.

7. THE CONTRACTOR SHALL NOTIFY ALL EMERGENCY UNITS AND SCHOOL DISTRICTS OPERATING WITHIN THE AREA OF THE PROPOSED WORK OF STREET OR LANE CLOSURES AND CONSTRUCTION SCHEDULES.

8. THE CONTRACTOR SHALL MAINTAIN FIRE EMERGENCY VEHICLE ACCESS TO FIRE HYDRANTS THROUGHOUT THE DURATION OF THE PROJECT. INACTIVE FIRE HYDRANTS SHALL BE SALVAGED.

9. PRIOR TO PRE-CONSTRUCTION MEETINGS, THE CONTRACTOR SHALL SUBMIT THE NAME OF THE INDEPENDENT TESTING LABORATORY TO BE USED FOR THE CITY'S REVIEW AND APPROVAL. COST OF TESTING SHALL BE SUBSIDARY TO APPROPRIATE BID ITEMS. ALL MATERIAL TESTING SHALL BE COORDINATED WITH THE PROJECT INSPECTOR. THE PROJECT INSPECTOR SHALL BE PRESENT DURING ALL TESTS AND SHALL BE GIVEN A MINIMUM OF 24 HOURS ADVANCED NOTICE PRIOR TO ANY TESTING. ANT TEST RESULTS NOT MEETING THE SPECIFICATIONS SHALL REQUIRE ADDITIONAL INSPECTIONS AND TESTS AT NO ADDITIONAL COST TO THE CITY.

10. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM TO 6:00 PM MON.-FRI. UNLESS OTHERWISE APPROVED OR DIRECTED IN WRITING BY THE PROJECT INSPECTOR.

11. THE CONTRACTOR WILL VIDEO OR PHOTOGRAPH ALL BUILDING FACADES WITHIN THE CONSTRUCTION LIMITS PRIOR TO WORK. VIDEOS SHALL INCLUDE DATE NOTATION AND AUDIO IDENTIFICATION OF PROPERTY. THIS SHALL BE CONSIDERED SUBSIDIARY WORK. CONTRACTOR SHALL SPRAY PAINT ADDRESS #'S ON DRIVE APPROACHES.

12. THE CONTRACTOR SHALL TAKE ADEQUATE MEASURES TO PREVENT EROSION. IN THE EVENT THAT SIGNIFICANT EROSION OCCURS AS A RESULT OF THE CONSTRUCTION, THE CONTRACTOR SHALL RESTORE THE ERODED AREA TO ITS ORIGINAL OR BETTER CONDITION AT HIS OWN EXPENSE.

13. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE CONSTRUCTION PLANS AND/OR PROJECT SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF DRILL SEEDING AS INDICATED IN THE PLANS & SPECS. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION BEGAN.

14. ALL TREES SHOWN ON PLANS AND WITHIN ROW SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED. ALL TREES TO REMAIN IN PLACE SHALL BE PRESERVED & PROTECTED BY THE CONTRACTOR. TREES WITHIN FIVE (5) FEET OF THE PROPOSED CURB LINE OR ANY OTHER TREES WHICH REQUIRE REMOVAL IN ORDER TO FACILITATE THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR AS PART OF THE WORK PERFORMED UNDER THE PAY ITEM FOR "PREPARE RIGHT-OF-WAY" BUT ONLY WITH THE SPECIFIC AUTHORIZATION AND APPROVAL OF THE CITY. STUMPS SHALL BE GROUND AND ROOT SYSTEMS REMOVED TO A CLEAR DEPTH OF 36" BELOW EXISTING GROUND.

15. ALL MAILBOXES, FENCES, DRIVEWAYS, LANDSCAPING, IRRIGATION SYSTEMS, CULVERT PIPES, DRAINAGE DITCHES, AND ANY IMPROVEMENTS ON PRIVATE PROPERTY NOT SCHEDULED FOR REPLACEMENT DURING CONSTRUCTION WHICH ARE DAMAGED OR MOVED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION BY THE CONTRACTOR WITH LIKE MATERIAL AT NO ADDITIONAL COST TO THE CITY OR TO THE AFFECTED PROPERTY OWNER.

1 16. CONTRACTOR SHALL MAKE THE WORK SITE AND ANY OPEN TRENCHES SECURE AND SAFE AT THE END OF EVERY DAY. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ANY FENCING OR ANY OTHER SAFETY EQUIPMENT.

17. THE CONTRACTOR SHALL REMOVE ALL FENCES, LOCATED WITHIN EASEMENTS, INTERFERING WITH CONSTRUCTION OPERATION AND PROVIDE TEMPORARY FENCING DURING CONSTRUCTION. REMOVED FENCES, WOODEN OR CHAIN LINK, SHALL BE REPLACED WITH A NEW FENCE OR UNDAMAGED ORIGINAL FENCING. ALL AFFECTED PROPERTY OWNERS SHALL BE NOTIFIED PRIOR TO CONSTRUCTION. REMOVAL AND REPLACEMENT OF EXISTING FENCES SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST AND REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED IN THE PROPOSAL.

18. WHEN IT IS REQUIRED THAT A CONTRACTOR WORK IN PRIVATE PROPERTY, THE CONTRACTOR SHALL DISTRIBUTE LETTERS TO ALL AFFECTED PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING WORK ON EACH PROPERTY. THE LETTER SHALL INCLUDE NAMES AND TELEPHONE NUMBERS OF CONTRACTOR CONTACTS, A DESCRIPTION OF THE WORK TO BE DONE, AND THE TIME FRAME FOR DOING THE WORK. COPIES OF THE LETTER SHALL BE FORWARDED TO THE CITY INSPECTOR. DISTRIBUTION OF LETTERS SHALL BE CONSIDERED AS SUBSIDIARY TO THE COST OF PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

19. THE CONTRACTOR SHALL REMOVE FROM THE PROJECT AREA ALL SURPLUS MATERIAL. THIS SHALL BE INCIDENTAL AND NOT A SEPARATE PAY ITEM. SURPLUS MATERIALS FROM EXCAVATION INCLUDING DIRT, TRASH, ETC. SHALL BE PROPERLY DISPOSED OF AT A SITE ACCEPTABLE TO THE CITY'S FLOOD PLAIN ADMINISTRATOR IF WITHIN THE CITY LIMITS. IF THE LOCATION IS NOT WITHIN THE CITY LIMITS, THE CONTRACTOR SHALL PROVIDE A LETTER STATING SO. NO EXCESS EXCAVATED MATERIAL SHALL BE DEPOSITED IN LOW AREAS OR ALONG NATURAL DRAINAGE WAY WITHOUT WRITTEN PERMISSION FROM THE AFFECTED PROPERTY OWNER AND THE CITY'S FLOOD PLAIN ADMINISTRATOR. IF THE CONTRACTOR PLACES EXCESS MATERIAL IN THE AREAS WITHOUT WRITTEN PERMISSION, HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND HE SHALL REMOVE THE MATERIAL AT HIS OWN COST.

20. ALL EXISTING CONCRETE AND ASPHALT DRIVEWAYS ARE TO BE SAWCUT WHEN CONSTRUCTING A NEW CONCRETE DRIVEWAY APPROACH.

21. CURB RETURN RADII FOR DRIVEWAYS SHALL BE 5 FEET UNLESS OTHERWISE NOTED.

22. ALL ROADWAY DIMENSIONS ARE TO THE BACK-OF-CURB UNLESS OTHERWISE NOTED.

1 23. THE CONTRACTOR SHALL USE EXTREME CAUTION IN LOCATING AND PROTECTING ALL EXISTING UNDERGROUND UTILITIES AND INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, SEWER SERVICES, COMMUNICATION, AND FIBER OPTIC CABLES.

24. ALL EXCAVATIONS, TRENCHING AND SHORING OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE U.S. DEPARTMENT OF LABOR, OSHA, "CONST. SAFETY AND HEALTH REGULATIONS", VOL. 29, SUBPART P., PG 128-137, AND ANY AMENDMENTS THERETO.

1 25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXCESS TRENCH EXCAVATIONS AND HAULING MATERIALS TO AN APPROVED DISPOSAL SITE. THIS SHALL BE CONSIDERED SUBSIDIARY.

26. DISTANCE BETWEEN ALL WATERLINES AND SANITARY SEWERS SHALL CONFORM TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS (CHP. 290.44 (E) (4) (A&B)).

27. CONTRACTOR'S PERSONNEL SHALL HAVE IDENTIFYING CLOTHING, HATS OR BADGES AT ALL TIMES WHICH IDENTIFY THE CONTRACTOR'S NAME, LOGO OR COMPANY.

28. COSTS ASSOCIATED WITH PROPOSED CONNECTIONS TO EXISTING FACILITIES SHALL BE INCLUDED IN EACH RESPECTIVE BID ITEM. NO SEPARATE PAY, EXCEPT AS SPECIFICALLY INDICATED WITHIN THESE PLANS OR THE CONTRACT DOCUMENTS.

1 29. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER AND SEWER CONNECTIONS TO ALL HOMES AND BUSINESSES IN WORKING ORDER AT ALL TIMES. EXCEPT FOR BRIEF PRE-NOTIFIED INTERRUPTIONS IN WATER SERVICES. IN NO CASE SHALL SERVICES BE ALLOWED TO REMAIN UNREINSTATED OVERNIGHT.

1 30. CONTRACTOR SHALL CONTACT LOCAL SCHOOLS PRIOR TO BEGINNING CONSTRUCTION TO INFORM PRINCIPALS AND ADMINISTRATORS OF CONSTRUCTION IN THE AREA. A NOTE ON THE SCHOOL MARQUEE IS SUGGESTED TO INFORM PARENTS AND STUDENTS OF CONSTRUCTION AND CONSTRUCTION DURATION AND POSSIBLE ALTERNATE ROUTES AROUND CONSTRUCTION SITES.

31. ALL VALVE BOXES AND MANHOLE LIDS SHALL BE SET TO MATCH FINISHED GRADE, UNLESS OTHERWISE NOTED.

32. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS BEFORE CONSTRUCTION BEGINS.

33. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT ELECTRIC POWER AND TELEPHONE POLES ARE NOT DISTURBED DURING CONSTRUCTION. ALL COSTS INCURRED FOR SUPPORTING ELECTRIC POWER AND TELEPHONE POLES SHALL BE INCLUDED IN THE PRICE BID FOR THE CONSTRUCTION OF THE WATER LINE OR SEWER LINE. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

34. ALL STREETS WITHIN THE SCOPE OF THE CONTRACT SHALL BE KEPT ACCESSIBLE TO FIRE TRUCKS, AMBULANCES AND OTHER EMERGENCY VEHICLES.

35. CONTRACTOR SHALL MAINTAIN SUITABLE CONSTRUCTION ACCESS TO PRIVATE PROPERTY OWNERS, THE ENGINEER AND CITY OF SAN ANGELO, AT ALL TIMES DURING CONSTRUCTION.

36. IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN NEAT AND ACCURATE PLANS ON RECORD.

1 37. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE SITE DRAINAGE THROUGHOUT THE DURATION OF THIS PROJECT.

38. THE CONTRACTOR SHALL NOT PLACE FILL OR WASTE MATERIAL ON ANY PRIVATE PROPERTY WITHOUT PRIOR WRITTEN PERMISSION FROM THE PROPERTY OWNER AND PROVIDE CITY WITH A COPY. NO EXCESS EXCAVATED MATERIAL SHALL BE DEPOSITED IN LOW AREAS OR ALONG NATURAL DRAINAGE WAYS THAT WILL RESTRICT THE NATURAL FLOW OF WATER. IF THE CONTRACTOR PLACES EXCAVATED MATERIAL IN LOW AREAS THAT WILL CAUSE FLOOD DAMAGE, HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND HE SHALL REMOVE THE FILL AT HIS EXPENSE.

39. THE CONTRACTOR SHALL AVOID DAMAGING ANY EXISTING WATER SPRINKLER SYSTEM THAT MAY BE IN THE CONSTRUCTION AREA AND WILL BE RESPONSIBLE FOR REPAIRS TO ANY HEADS OR LINES OF DAMAGED. REPLACEMENT, AS NECESSARY, SHALL BE AT LIKE OR BETTER MATERIAL AND INSTALLED BY A LICENSED IRRIGATOR, AT THE CONTRACTORS EXPENSE. DAMAGED SPRINKLERS SHALL BE REPLACED THE SAME DAY THEY ARE DAMAGED, TO THE SATISFACTION OF THE CITY, DEVELOPER AND OWNER.

40. ALL DRIVEWAYS, WHICH SHALL BE SAW CUT, SHALL HAVE ACCESS PROVIDED AT ALL TIMES. CLOSURES, PART OR FULL OF ANY DRIVEWAYS, SHALL BE COORDINATED WITH PROPERTY OWNER. FOR DRIVEWAY TIE-INS THAT EXTEND BEYOND THE RIGHT-OF-WAY, THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF SAN ANGELO AND THE PROPERTY OWNER TO OBTAIN PERMISSION TO ACCESS THE PROPERTY AS NECESSARY TO HARMONIZE THE DRIVEWAY CONNECTION.

1 41. PI'S AND VPI'S ARE SHOWN IN THE PLANS FOR ALIGNMENT PURPOSES.

42. CONTRACTOR SHALL USE STANDARD FITTINGS SHOWN ON THE PLAN AND DEFLECTED PIPE JOINTS, NO GREATER THAN 75% OF THE MANUFACTURERS RECOMMENDATIONS, TO ACHIEVE THE ALIGNMENT SHOWN IN THE PLANS. PIPELINE O.D. SHALL BE MAINTAINED MINIMUM 5' WITHIN R.O.W. OR PERMANENT EASEMENT.

43. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C651 AND THEN FLUSH AND SAMPLE, AND PROVIDE A HARD COPY OF TEST RESULTS PRIOR TO TESTING THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER. TEST MUST BE APPROVED BY THE CITY OF SAN ANGELO BEFORE THE WATER LINE CAN BE PUT IN SERVICE.

44. ALL NEWLY INSTALLED WATER PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SCIENCE FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.

1 45. CONTRACTOR SHALL INSTALL TEMPORARY BACKFILL AS REQUIRED FOR OPEN TRENCH IN ESTABLISHED ROADWAYS. NO OPEN TRENCH WILL BE ALLOWED IN EXISTING PAVEMENT EXCEPT DURING DAYLIGHT HOURS DURING CONSTRUCTION OPERATIONS. TEMPORARY BACK FILL SHALL BE INSTALLED TO THE FINISHED GRADE OF THE EXISTING PAVEMENT AND SHALL BE MAINTAINED BY THE CONTRACTOR TO ENSURE A SMOOTH DRIVING SURFACE FREE OF RUTTING AND POTHOLES. REPAIR DAMAGED PAVEMENT IN ACCORDANCE WITH SPECIFICATIONS.

1 46. DRILL SEEDING SHALL BE ACCOMPLISHED FOR ALL UNIMPROVED SURFACES WITHIN THE RIGHT-OF-WAY AND EASEMENTS AND AS DIRECTED BY THE CITY. CONTRACTOR IS RESPONSIBLE FOR SUCCESSFULLY ESTABLISHING TURF (VIA DRILL SEEDING) IN THE ENTIRE PROJECT LIMITS.

1 47. CONTRACTOR SHALL DELIVER ALL SALVAGED ITEMS TO THE CITY OF SAN ANGELO'S BELL STREET YARD.

100% SUBMITTAL

FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144
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CITY OF SAN ANGELO, TEXAS
BELL STREET ROADWAY AND UTILITIES IMPROVEMENTS
PHASE III
GENERAL
GENERAL NOTES

NO.	ISSUES	BY	DATE
1	ADDENDUM 1	WH	12/05/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
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FAN JOB NO.	SAN16188
DATE	12/2017
DESIGNED	JWP
DRAWN	EB
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FILE NAME	ph2-trt-gn-notes01.shl

SHEET NOTES-1
SEQ. 3

EROSION & SEDIMENTATION CONTROL NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH TCEQ'S TPDES AND EPA'S NPDES PROGRAMS FOR CONTROL OF SILT AND EROSION. CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL UPDATE THE SWPPP AS NECESSARY BASED ON FIELD CONDITIONS.

2. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THEY SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL AFTER THE PROPOSED IMPROVEMENTS ARE IN PLACE.

3. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO THE PROJECT FREE OF MUD AND DEBRIS FROM CONSTRUCTION AT ALL TIMES.

4. SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS. PRIOR TO ANY EMBANKMENT OR EXCAVATION WORK BEING DONE. WHEN THE PROJECT IS COMPLETE AND THE ENTIRE PROJECT SITE IS COMPLETELY STABILIZED, THE SEDIMENT CONTROL DEVICES AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER. THE CONTRACTOR HAS THE ULTIMATE RESPONSIBILITY FOR THE EFFECTIVE CONTROL OF EROSION AND SEDIMENTATION.

5. THE SITE SHALL BE REVIEWED WEEKLY AND AFTER ANY MAJOR STORM ADJUSTMENTS/REPAIRS TO THE EROSION CONTROL DEVICES SHALL BE MADE AS DIRECTED BY THE CITY.

6. THE EROSION CONTROL PLANS PROVIDED IN THE PLAN SET DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING ADDITIONAL EROSION CONTROL MEASURES AS REQUIRED BY THE SWPPP OR AS REQUIRED BY FIELD CONDITIONS AND DIRECTED BY THE CITY. THE EROSION CONTROL PLANS ARE PROVIDED AS A COURTESY TO THE CONTRACTOR. HOWEVER, IT IS THE CONTRACTORS RESPONSIBILITY TO MEET ALL REGULATORY REQUIREMENTS FOR EROSION CONTROL.

7. EROSION CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS, OR IN CHANNELS, DRAINAGEWAYS OR BORROW DITCHES AT RISK OF CONTRACTOR. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURES, INCLUDING FLOODING DAMAGE, WHICH MAY OCCUR DUE TO BLOCKED DRAINAGE. AT THE CONCLUSION OF ANY PROJECT, ALL CHANNELS, DRAINAGEWAYS AND BORROW DITCHES IN THE WORK ZONE SHALL BE DREDGED OF ANY SEDIMENT GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF EROSION CONTROL MEASURES.

8. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING, IMPLEMENTATION AND MAINTENANCE OF THE SWPPP. THE INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION MEASURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY THROUGHOUT ALL PHASES OF CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH TCEQ'S TPDES AND THE EPA'S NPDES (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM) REGULATIONS 40-CFR-122, 123, 124 CONCERNING EROSION AND SEDIMENT CONTROL. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING A NOTICE OF INTENT "NOI" TO EPA 72 HOURS PRIOR TO BEGINNING CONSTRUCTION AND NOTICE OF TERMINATION "NOT" TO EPA UPON COMPLETION OF THE PROJECT.

△1 9. EXCAVATE ACCUMULATED SEDIMENT WITH BACKHOE, TRACK HOE, OR BUCKET-TYPE EXCAVATING APPARATUS ONLY. DO NOT USE A BULLDOZER OR OTHER MOVING EQUIPMENT TO PUSH MATERIAL OUT OF STREAMBED OR OTHERWISE RE-DISTRIBUTE SEDIMENT WITHIN THE STREAMBED; EXCAVATE WITH NO MORE THAN INCIDENTAL FALLBACK (I.E. SMALL SPILLS FROM THE EXCAVATION APPARATUS). EXCAVATE BETWEEN ORDINARY HIGH WATER MARKS (OHWMs), AS MAPPED, FROM THE TOP OF THE STREAM BANK ONLY. PLACE SEDIMENT DIRECTLY INTO A TRUCK OR CONTAINER AND REMOVE FOR DISPOSAL AT AN UPLAND SITE. DO NOT ALLOW EXCAVATED MATERIAL TO DEWATER INTO THE STREAM OR ANY OTHER WATER BODY.

TRAFFIC SIGNS AND PAVEMENT MARKINGS:

1. ALL TRAFFIC SIGNS SHOWN ON THE PLANS WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

PAVING NOTES

1. ALL DRIVEWAYS, WHICH ARE OPEN CUT, SHALL HAVE AT LEAST A TEMPORARY DRIVING SURFACE AT THE END OF EACH DAY. THE TEMPORARY SURFACE SHALL BE CONSIDERED AS A SUBSIDIARY ITEM OF WORK. THE COST OF WHICH SHALL BE INCLUDED IN THE PRICE BID IN THE PROPOSAL FOR VARIOUS BID ITEMS.

2. EXISTING ASPHALT CONCRETE PAVEMENT SHALL BE REMOVED AND DELIVERED TO THE CITY'S MAINTENCE YARD ON ANN STREET. REMOVAL BY MILLING SHALL NOT BE ALLOWED. ASPHALT PAVEMENT REMOVAL IS NOT REFLECTED IN THE ROADWAY EXCAVATION QUANTITIES.

SIDEWALKS AND CURB RAMP NOTES:

1. THE CURB RAMP STANDARD DETAILS ARE INTENDED TO SHOW TYPICAL LAYOUTS FOR THE CONSTRUCTION OF THE CURB RAMPS. THE INFORMATION SHOWN ON THE STANDARD DETAILS MEET THE REQUIREMENTS SHOWN IN THE 2012 TEXAS ACCESSIBILITY STANDARDS(TAS) AND THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN BY THE DEPARTMENT OF JUSTICE.

2. THE CONTRACTOR MAY NOT MAKE CHANGES TO THE SIDEWALK AND CURB RAMP LAYOUT WITHOUT APPROVAL OF THE CITY. THE CONTRACTOR MAY PROPOSE CHANGES TO THE SIDEWALK AND CURB RAMP LAYOUT DUE TO FIELD CONDITIONS, BUT ANY PROPOSED CHANGES MUST BE APPROVED BY THE CITY.

3. CURB RAMP RUNNING SLOPES SHALL NOT BE STEEPER THAN 8.3% (12:1). ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED BY THE CITY.

4. CURB RAMP FLARE SLOPES SHALL NOT BE STEEPER THAN 10% (10:1) AS MEASURED ALONG BACK OF CURB.

5. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2%.

△1 6. THE MINIMUM WIDTH OF SIDEWALKS AND CURB RAMPS SHALL BE 3 FEET. SIDEWALK WIDTHS UNDER 4 FEET CAN NOT EXCEED 150 FT IN LENGTH.

7. LANDINGS SHALL BE PROVIDED AT THE TOP OF CURB RAMPS. THE LANDING CLEAR LENGTH SHALL BE 5 FEET MINIMUM FROM THE END OF RAMP. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE CURB RAMP, EXCLUDING FLARES. THE LANDING SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.

8. IN ALTERATIONS WHERE THERE IS NO LANDING AT THE TOP OF THE CURB RAMP, CURB RAMP FLARES SHALL BE PROVIDED AND SHALL NOT BE STEEPER THAN 8.3% (12:1).

9. WHERE TURNING IS REQUIRED, MANEUVERING SPACE AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE 5 FEET BY 5 FEET MINIMUM. THE SPACE AT THE BOTTOM SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS AND SHALL NOT PROJECT INTO VEHICULAR TRAFFIC LANES.

10. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NORMALLY NOT WALK ACROSS THE RAMP, EITHER BECAUSE THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR BECAUSE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.

11. WHERE CURB RAMPS ARE PROVIDED, CROSSWALK MARKINGS SHALL BE REQUIRED AND RAMPS SHALL BE ALIGNED WITH THE CROSSWALK.

12. COUNTER SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT BE STEEPER THAN 5% (20:1) IN ANY DIRECTION.

TRAFFIC CONTROL:

1. THE CONTRACTOR SHALL SUBMIT A WORK SCHEDULE & TRAFFIC CONTROL PLAN.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PEDESTRIANS AND MOTORISTS IN THE AREA OF THE TRAFFIC SIGNAL CONSTRUCTION SITE.

3. ROADS AND STREETS SHALL BE KEPT OPEN TO TRAFFIC AT ALL TIMES. CONTRACTOR SHALL ARRANGE CONSTRUCTION SO AS TO CLOSE ONLY ONE LANE IN EACH DIRECTION OF A ROADWAY AT A TIME.

4. ALL CONSTRUCTION OPERATIONS SHALL BE CONDUCTED TO PROVIDE MINIMAL INTERFERENCE TO TRAFFIC. ALL TRAFFIC SIGNAL EQUIPMENT INSTALLATIONS SHALL BE ARRANGED SO AS TO PERMIT CONTINUOUS MOVEMENT OF TRAFFIC IN ALL DIRECTIONS AT ALL TIMES.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SIGNAGE NECESSARY DURING CONSTRUCTION.

6. ALL SIGNS, BARRICADES, PAVEMENT MARKINGS AND TRAFFIC CONTROL DEVICES, INCLUDING PLACEMENT, SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

7. ALL TRAFFIC CONTROL DEVICES USED AT NIGHT SHALL BE REFLECTORIZED AND/OR ILLUMINATED. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT BATTERIES IN ILLUMINATED DEVICES ARE CHARGED SUCH THAT NO DEVICE FAILS TO OPERATE DURING THE NIGHT.

8. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN BARRICADES, WARNING SIGNS, FLASHERS, AND OTHER DEVICES OF THE TYPE AND SIZE INDICATED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT REVISION.

9. IN LIEU OF TYPE D (2" THICK) SURFACE COURSE FOR TEMPORARY PAVEMENT, THE CONTRACTOR MAY SUBSTITUTE ALTERNATIVE 2-COURSE PENETRATION SURFACE TYPE(S) WITH THE UNDERSTANDING THAT AN ACCEPTABLE DRIVING SURFACE IS MAINTAINED TO THE SATISFACTION OF THE CITY.

△1 10. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES DURING CONSTRUCTION.

△1 11. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES. ONE LANE OF TRAFFIC IN EACH DIRECTION AROUND CONSTRUCTION OPERATIONS IN PROGRESS WITH ADEQUATE SAFEGUARDS WILL BE ACCEPTABLE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

△1 12. A TRAFFIC CONTROL PLAN WAS PREPARED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL PLAN. CHANGES MADE TO THE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY A PROFESSIONAL ENGINEER AND SUBMITTED FOR APPROVAL BY THE OWNER AT NO ADDITIONAL COST TO THE OWNER. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES. ALL BARRICADES, WARNING SIGNS, AND LIGHTS DEVICES FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS MUST CONFORM TO THE INSTALLATION SHOWN IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION), TXDOT. ALL TRAFFIC CONTROL DEVICES SHALL BE INSPECTED DAILY.

WATER & WASTEWATER NOTES:

1. FOR UTILITY WORK WITHIN UTILITY EASEMENTS, ONCE PIPE OR APPURTENANCES HAVE BEEN INSTALLED OR REHABILITATED, IMMEDIATELY COMMENCE TEMPORARY SURFACE RESTORATION. COMPLETE SURFACE RESTORATION TO THE OWNER'S SATISFACTION WITHIN SEVEN (7) DAYS OF WORK FINISHING ON-SITE. FAILURE TO MAINTAIN SURFACE RESTORATION, AS NOTED ABOVE, MAY RESULT IN SUSPENSION OF WORK UNTIL RESTORATION IS COMPLETE.

2. EXISTING VERTICAL DEFLECTIONS AND PIPE SLOPES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND HAVE NOT BEEN FIELD VERIFIED, UNLESS OTHERWISE NOTED. RIM ELEVATIONS, FLOW LINES, AND HORIZONTAL LOCATIONS OF EXISTING MANHOLES WERE DETERMINED FROM FIELD SURVEY. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON DRAWINGS CONTRACTOR SHALL NOTIFY CITY.

3. MAINTAIN ALL EXISTING WATER AND WASTEWATER CONNECTIONS TO CUSTOMERS IN WORKING ORDER AT ALL TIMES, EXCEPT FOR BRIEF INTERRUPTIONS IN SERVICE FOR WATER AND SEWER SERVICES TO BE REINSTATED. IN NO CASE SHALL SERVICES BE ALLOWED TO REMAIN OUT OF SERVICE OVERNIGHT.

4. PROVIDE AND FOLLOW APPROVED CONFINED SPACE ENTRY PROGRAM IN ACCORDANCE WITH OSHA REQUIREMENTS. CONFINED SPACES SHALL INCLUDE MANHOLES AND ALL OTHER CONFINED SPACES IN ACCORDANCE WITH OSHA'S PERMIT REQUIRED FOR CONFINED SPACES.

WATER:

1. PROVIDE THRUST RESTRAINT BY MEANS OF RESTRAINING JOINTS AT FITTINGS AND CONCRETE BLOCKING. WHEN SPECIFICALLY INDICATED ON THE DRAWINGS, PROVIDE THRUST RESTRAINT AT DESIGNATED JOINTS BEYOND THE FITTINGS. EACH METHOD SHALL BE CAPABLE OF THRUST RESTRAINT INDEPENDENT OF THE OTHER SYSTEM.

2. PROPOSED WATER MAINS SHALL HAVE A MINIMUM COVER OF 36-INCHES COVER ABOVE THE TOP OF PIPE, UNLESS SHOWN OTHERWISE ON THE DRAWINGS OR DETAILS.

3. ELEVATION ADJUSTMENT AT CONNECTIONS MAY BE MADE WITH BENDS, OFFSETS, OR JOINT DEFLECTIONS. JOINT DEFLECTIONS SHALL NOT EXCEED SEVENTY-FIVE PERCENT (75%) OF MANUFACTURER'S RECOMMENDATIONS.

4. TEMPORARY PRESSURE PLUGS REQUIRED FOR SEQUENCING OF CONSTRUCTION AND TESTING OF PROPOSED WATER LINES SHALL BE CONSIDERED SUBSIDIARY TO THE WORK AND SHALL BE INCLUDED IN THE PRICE BID IN THE PROPOSAL FOR VARIOUS BID ITEMS.

5. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.

6. CONTRACTOR SHALL DECHLORINATE WATER USED FOR FLUSHING NEW PIPELINE PRIOR TO DISCHARGE TO STORM DRAIN PER TCEQ AND EPA REQUIREMENTS. WATER DISCHARGE WHILE DRAINING, TESTING, OR DISINFECTING PIPELINES SHALL BE DONE IN ACCORDANCE WITH TCEQ GENERAL PERMIT NO. TX670000.

7. ALL BURIED VALVES, FIRE HYDRANTS, METALLIC PIPING, AND METALLIC EQUIPMENT SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH THE SPECIFICATIONS.

8. THE CONTRACTOR SHALL NOT OPERATE WATER MAIN VALVES WITHOUT DIRECT SUPERVISION BY CITY.

9. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY BY-PASS WATER SYSTEMS AS REQUIRED TO MAINTAIN FRESH, CLEAN, POTABLE WATER SUPPLY TO WATER SERVICE CUSTOMERS. ONLY MINIMAL SERVICE SHUTDOWNS WILL BE ALLOWED. CONTRACTOR SHALL NOTIFY THE OWNER AND ALL WATER SERVICE CUSTOMERS OF ANY TEMPORARY WATER SERVICE SHUTDOWNS. REFERENCE SPECIFICATION FOR MORE DETAILS.

10. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR ALL REMOVED AND SALVAGED EQUIPMENT TO BE TRANSPORTED TO THE CITY YARD ON ST. ANN SREET. CONTRACTOR SHALL NOT REUSE ANY SALVAGED EQIPMENT FOR NEW CONSTRUCTION.

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CITY OF SAN ANGELO, TEXAS
BELL STREET ROADWAY AND UTILITIES IMPROVEMENTS
PHASE III
GENERAL
GENERAL NOTES

NO.	ISSUES	BY	DATE
△1	ADDENDUM 1	WH	12/05/17

F&N JOB NO. SAN16188
DATE 12/2017
DESIGNED JWP
DRAWN EB
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CHECKED WH
FILE NAME ph2-trt-gn-notes01.sht

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SHEET NOTES-2
SEQ. 4

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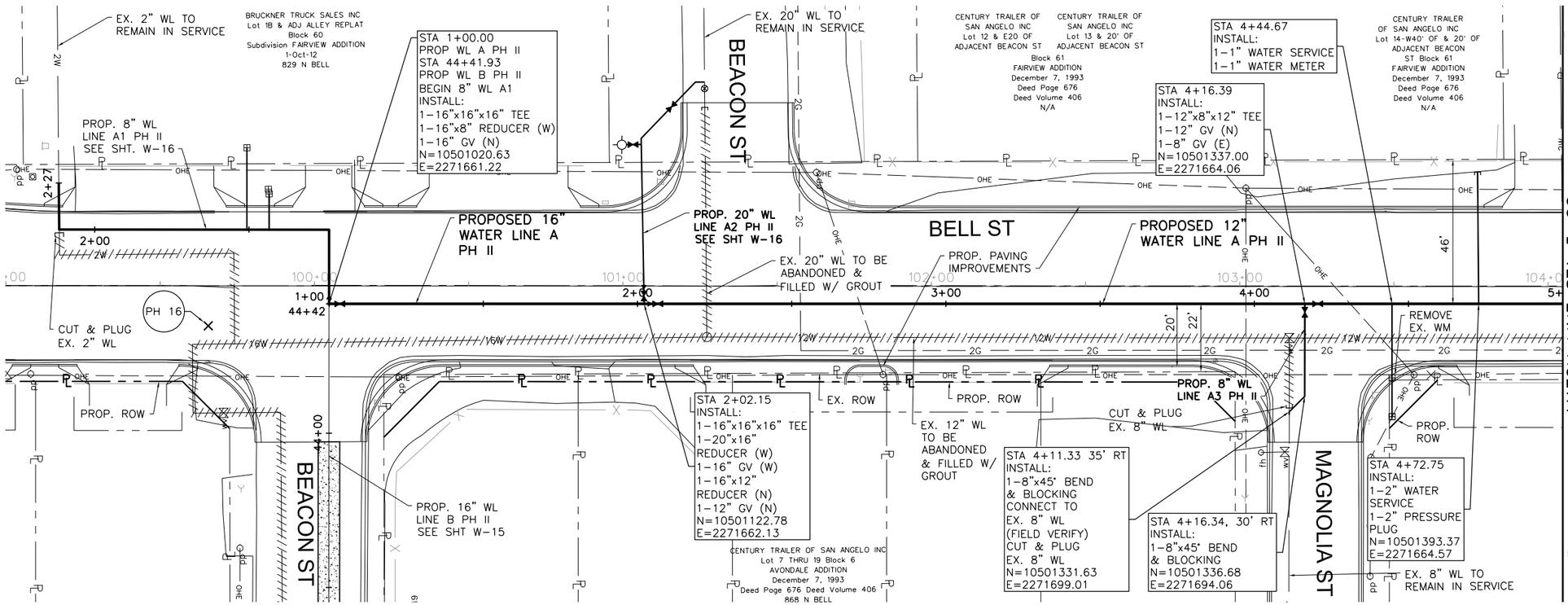
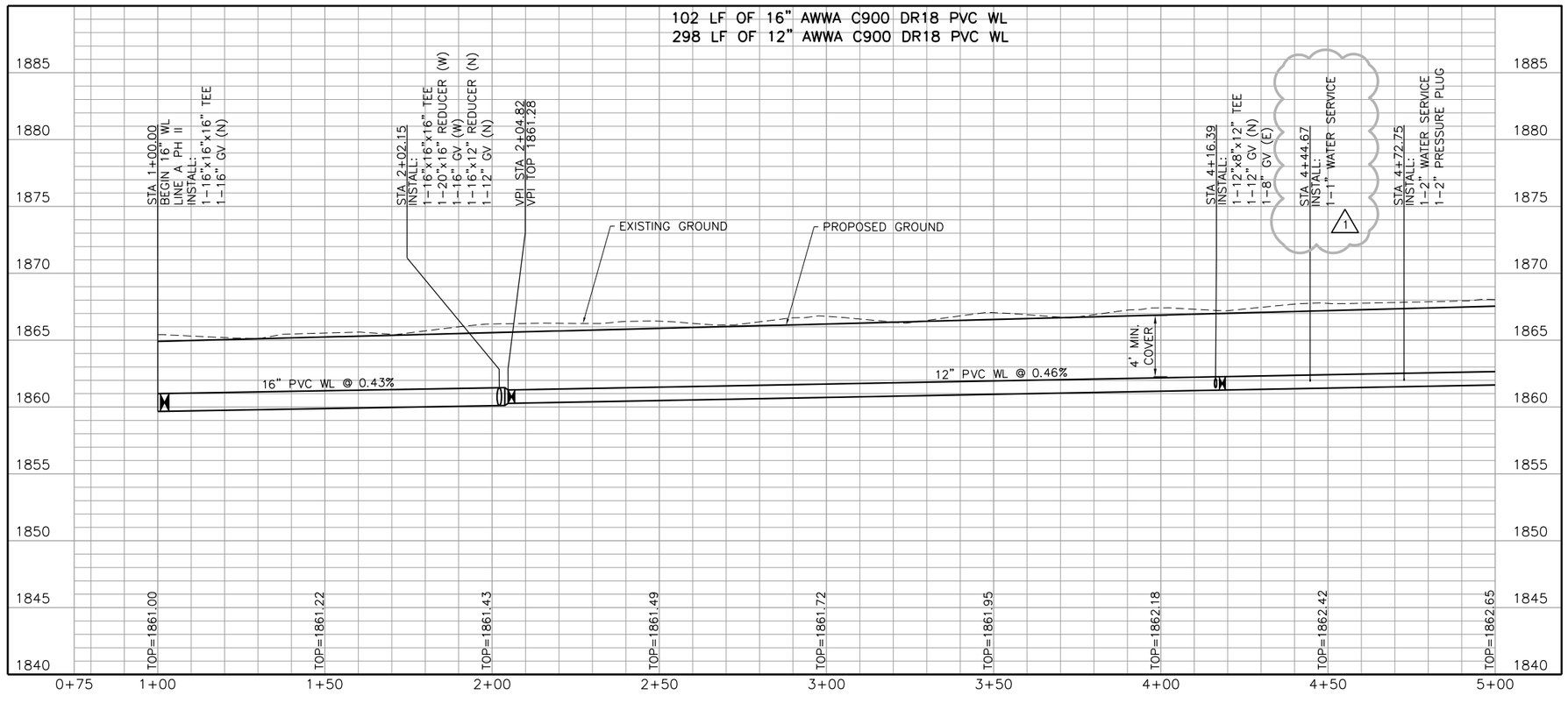


CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
2. LINE STOP AND PLUG SHALL BE INSTALLED AFTER PROPOSED 16" WATER LINE A HAS BEEN BROUGHT INTO SERVICE TO INCLUDE ASSOCIATED DISTRIBUTION LINE CONNECTION.
3. IF IN-LINE VALVES ARE FUNCTIONAL, LINE STOP WILL NOT BE REQUIRED.



Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

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109794
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CITY OF SAN ANGELO, TEXAS
PHASE II
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
CIVIL
PLAN AND PROFILE
STA 1+00 TO STA 5+00

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

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SHEET W-1
SEQ. 65

100% SUBMITTAL

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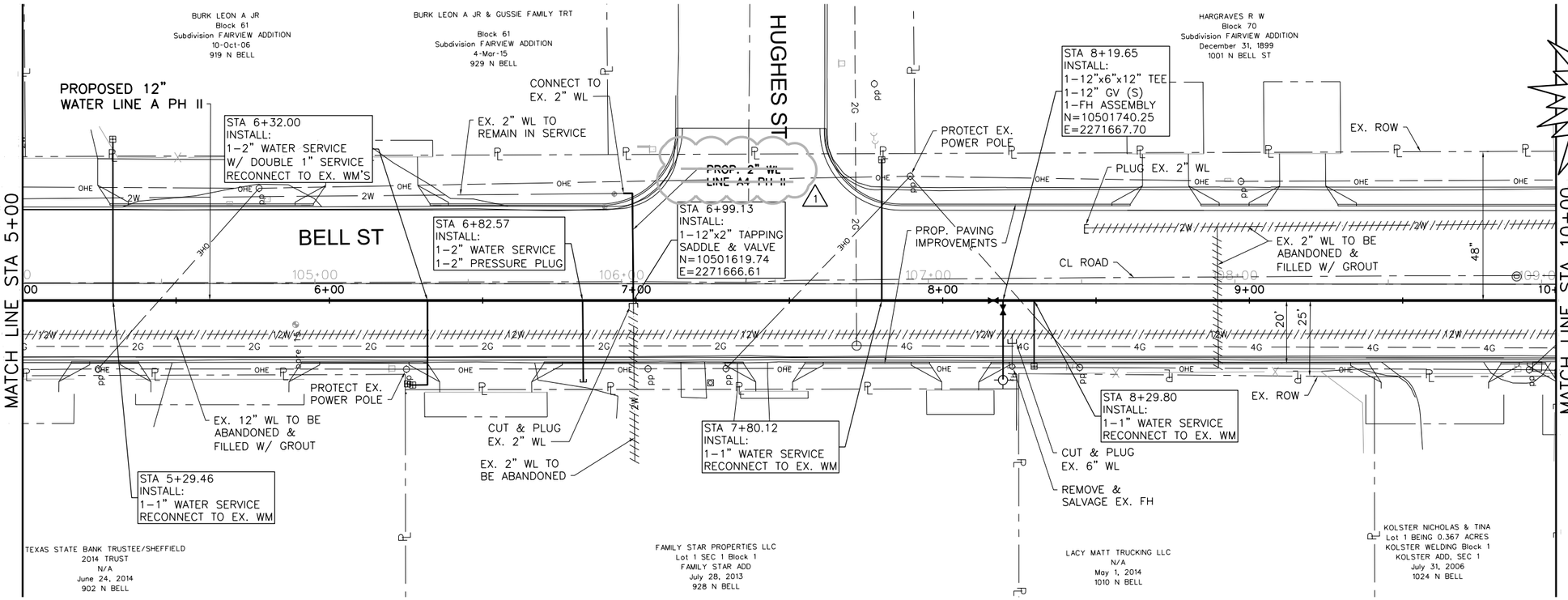

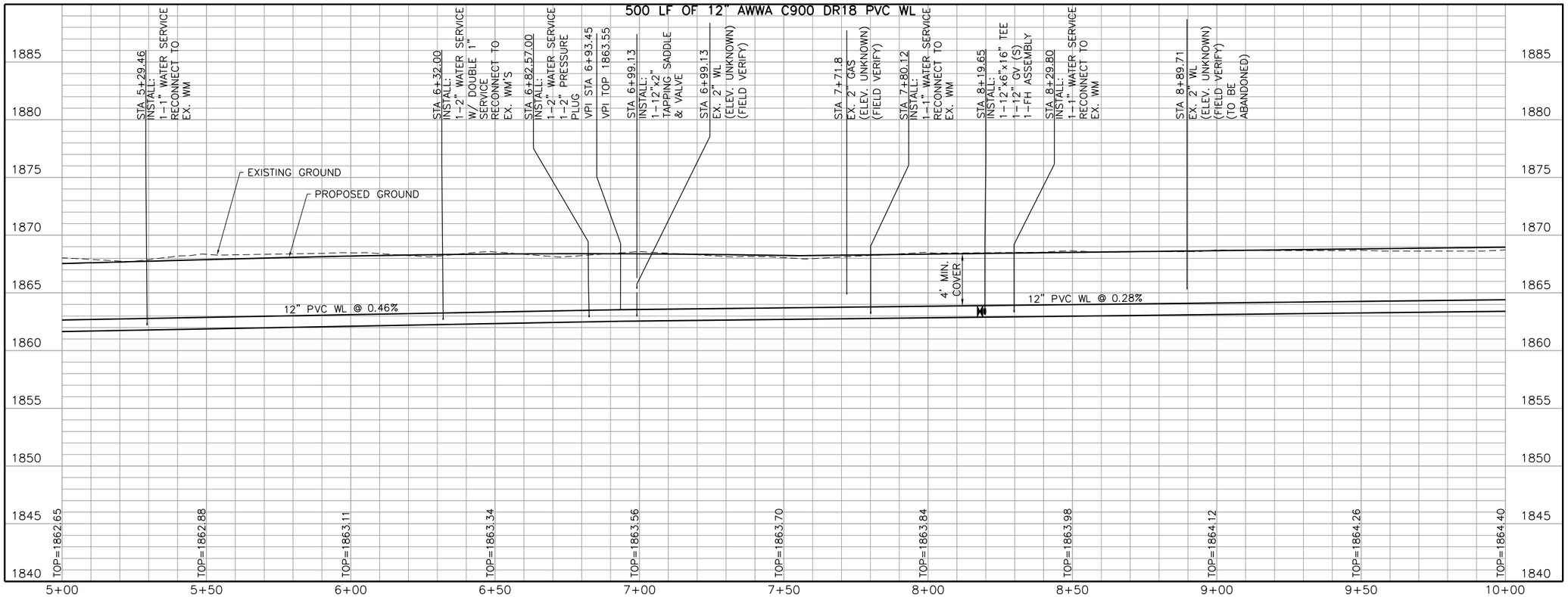

CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

NORTH

0 20' 40'
SCALE IN FEET
HORIZONTAL

0 5' 10'
SCALE IN FEET
VERTICAL

NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.

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CITY OF SAN ANGELO, TEXAS
PHASE II
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
CIVIL
PLAN AND PROFILE
STA 5+00 TO STA 10+00

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
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FILE NAME WL LINE A PHII.dwg

SHEET W-2
SEQ. 66

100% SUBMITTAL

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MATCH LINE STA 10+00

MATCH LINE STA 14+90

ELLIS ST
(ASPHALT PAVEMENT)

N. SCHROEDER AVE

N. SCHROEDER AVE

EX. 6" WL TO BE ABANDONED & FILLED W/ GROUT

STA 12+03.25, 10.20' RT
INSTALL:
1-6"x6"x6" TEE
1-6" GV
1-FH ASSEMBLY
N=10500006.12
E=2272792.40

STA 12+03.25
INSTALL:
1-16"x6"x16" TEE
1-6" GV (S)
N=10500016.33
E=2272792.44

PROP. WATER SERVICE

EX. ROW

PROP. WATER SERVICE

481 SY OF PERMANENT ASPHALT PAVING REPAIR

PROPOSED 16" WATER LINE B PHASE II

BLOCK 6

7 LF OF CURB & GUTTER REPAIR

EX. ROW

REMOVE & SALVAGE EX. GV

EX. 16" WL TO BE ABANDONED & FILLED W/ GROUT

35.7'

14.1'

3.7'

EX. ROW

196 LF OF CURB & GUTTER REPAIR

REMOVE & SALVAGE EX. FH

EX. ROW

261 LF OF CURB & GUTTER REPAIR

STA 10+98.69
INSTALL:
1-1" WATER SERVICE
RECONNECT TO EX. WM
N 10500016.75
E 2272687.88

STA 12+03.25, 24.71' RT
INSTALL:
1-1" WATER SERVICE
RECONNECT TO EX. WM
N 10499991.62
E 2272792.34

STA 12+03.25, 7.17' RT
INSTALL:
1-1" WATER SERVICE
RECONNECT
TO EX. WM
N 10500009.16
E 2272792.41

STA 14+87.82
INSTALL:
1-1" WATER SERVICE
RECONNECT TO EX. WM
N 10500017.07
E 2273076.99

REMOVE & SALVAGE EX. GV

STA 12+06.77, 29.67' RT
INSTALL:
1-6"x45° BEND
CONNECT TO EX. 6" WL
CUT & PLUG EX. 6" WL (N)
N=10499986.65
E=2272795.83

STA 12+03.25, 26.15' RT
INSTALL:
1-6"x45° BEND
N=10499990.18
E=2272792.33

EX. 8" SS

EX. 6" WL TO REMAIN IN SERVICE

CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

NORTH

0 20' 40'
SCALE IN FEET
HORIZONTAL

0 5' 10'
SCALE IN FEET
VERTICAL

NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
2. ONE LANE MAY BE CLOSED DURING ACTIVE WORK PERIODS ONLY. MAINTAIN ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS IN ACCORDANCE WITH TXDOT TRAFFIC CONTROL PLAN STANDARD TCP (1-2)-12.

500 LF OF 16" AWWA C900 DR18 PVC WL

VPI STA 10+42.53
VPI TOP 1849.00

STA 10+98.69
INSTALL:
1-1" WATER
SERVICE
RECONNECT TO
EX. WM

VPI STA 11+60.84
VPI TOP 1848.53

STA 12+03.25
INSTALL:
1-6"x6"x6" TEE
1-6" GV (S)

STA 12+06.77
EX. 6" WL
(TO BE
ABANDONED)
(FIELD VERIFY)

VPI STA 14+10.58
VPI TOP 1845.83

STA 14+87.82
INSTALL:
1-1" WATER
SERVICE
RECONNECT TO
EX. WM

EXISTING GROUND

4' MIN. COVER

16" PVC WL @ 0.10%

16" PVC WL @ 0.40%

16" PVC WL @ 1.08%

16" PVC WL @ 2.92%

STA 12+26.81
EX. 8" SS
(FIELD VERIFY)

TOP	1848.97	1848.77	1848.57	1848.10	1847.56	1847.03	1846.49	1845.95	1844.68	1843.51

1870 1865 1860 1855 1850 1845 1840 1835 1830 1825

10+00 10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50 14+90

100% SUBMITTAL

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

STATE OF TEXAS
AARON B. CONNE
109794
LICENSED
PROFESSIONAL ENGINEER

21 Dec 2017

FREESE NICHOLS

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Web - www.freese.com

CITY OF SAN ANGELO, TEXAS
PHASE II
BELL ST. ROADWAY & UTILITY IMPROVEMENTS

CIVIL
PLAN AND PROFILE
STA 10+00 TO STA 15+00

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
CHECKED DGS
REVISED -
FILE NAME WL LINE A PHII (1).dwg

SHEET W-9
SEQ. 73

ACAD Rel: 21.0s (LMS Tech)
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Last Saved: 12/21/2017 9:52 AM Saved By: sb

Plot Date: 12/21/2017 9:57 AM Plot By: sb Filename: N:\WTU\Drawings\WL LINE A PHII (1).dwg

MATCH LINE STA 14+90

STA 15+35.45
INSTALL:
1-4" BOV
N 10500016.87
E 2273124.62

69 LF INSTALLED BY OTHER THAN OPEN CUT

EX. 16" WL TO BE ABANDONED & FILLED W/ GROUT

258 LF OF CURB & GUTTER REPAIR

PROPOSED 16" WATER LINE B PH II

399 SY OF PERMANENT ASPHALT PAVING REPAIR

ELLIS ST (ASPHALT PAVEMENT)

EX. ROW

EX. TXDOT ROW

PI STA 19+45.75
INSTALL:
1-16"x22.5° BEND
& BLOCKING
1-16"x11.25° BEND
& BLOCKING
N=10500199.08
E=2273335.59
△ 35°45'35"

PI STA 19+15.11
INSTALL:
1-16"x22.5° BEND
& BLOCKING
1-16"x11.25° BEND
& BLOCKING
N=10500173.73
E=2273352.79
△ 34°43'07"

STA 17+90.00
INSTALL:
1-16" GV
N=10500048.62
E=2273351.53

STA 17+86.50
INSTALL:
1-1" WATER SERVICE
RECONNECT TO
EX. WM

STA 17+75.00
INSTALL:
1-16"x8"x16" TEE
1-8" GV (E)
N 10500033.63
E 2273351.38

EX. CITY ROW

LOWRIE AVE (ASPHALT PAVEMENT)

STA 17+75.00
INSTALL:
1-1" SERVICE
RECONNECT
TO EX. WM
N 10500033.41
E 2273373.12

STA 17+75.00, 29.08' RT
INSTALL:
1-8"x45° BEND
& BLOCKING
N=10500033.33
E=2273380.46

STA 17+62.93, 42.20' RT
INSTALL:
1-8"x45° BEND
& BLOCKING
END 8" WL
CONNECT TO
EX. 8" WL
N=10500021.88
E=2273391.69

PI STA 17+53.93
INSTALL:
1-16"x45° BEND
& BLOCKING
N=10500015.97
E=2273343.10
△ 45°00'09"

PI STA 17+65.47
INSTALL:
1-16"x45° BEND
& BLOCKING
N=10500024.09
E=2273351.29
△ 44°39'39"

REMOVE & SALVAGE EX. GV

27 LF OF CURB & GUTTER REPAIR

EX. 8" SS

EX. 12" SS

51 LF OF 30" STEEL CASING INSTALLED BY OTHER THAN OPEN CUT

MATCH LINE STA 20+00

EX. 16" WL TO BE ABANDONED & FILLED W/ GROUT

EX. TXDOT ROW

EX. CITY ROW

POULTER SUBDIVISION OF BLOCKS 7 & 8 KERBLE'S ADDITION CAB. A SLIDE 199 BLOCK 8

CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

NORTH

0 20' 40'
SCALE IN FEET
HORIZONTAL

0 5' 10'
SCALE IN FEET
VERTICAL

NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE WITH TXDOT 48 HOURS PRIOR TO BEGINNING CONSTRUCTION ACTIVITY IN TXDOT ROW.
3. NO LANE CLOSURES WILL BE ALLOWED ON FRONTAGE ROAD. PROVIDE TEMPORARY TRAFFIC CONTROL IN ACCORDANCE WITH TXDOT TRAFFIC CONTROL PLAN STANDARD TCP (1-1)-12.
2. ONE LANE MAY BE CLOSED DURING ACTIVE WORK PERIODS FOR ELLIS ST AND LOWRIE AVE. MAINTAIN ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS IN ACCORDANCE WITH TXDOT TRAFFIC CONTROL PLAN STANDARD TCP (1-2)-12.

500 LF OF 16" AWWA C900 DR18 PVC WL

VPI STA 14+91.47
VPI TOP 1843.47

STA 15+35.45
INSTALL:
1-4" BOV

VPI STA 16+73.35
VPI TOP 1846.40

STA 17+62.41
EX. 16" WL
(FIELD VERIFY)
(TO BE ABANDONED)

STA 17+75
INSTALL:
1-16"x8"x16" TEE
1-8" GV (E)

STA 17+86.50
INSTALL:
1-1" WATER SERVICE
RECONNECT TO
EX. WM

STA 17+90
INSTALL:
1-16" GV

STA 19+27.43
EX. SS
FL 1849.0
(FIELD VERIFY)

STA 19+30.72
EX. GAS
(FIELD VERIFY)

EXISTING GROUND

2-8'x3' CULVERTS

4' MIN. COVER

16" PVC WL @ -0.11%

16" PVC WL @ 2.83%

16" PVC WL @ 0.10%

ADD CEMENT STABILIZED SAND FROM TOP OF SS TO TOP OF WL ONCE SS HAS BEEN ADJUSTED

51 LF OF 30" STEEL CASING INSTALLED BY OTHER THAN OPEN CUT

69 LF INSTALLED BY OTHER THAN OPEN CUT

TOP 1843.51	TOP 1843.46	TOP 1843.40	TOP 1844.32	TOP 1845.74	TOP 1846.42	TOP 1846.47	TOP 1846.52	TOP 1846.57	TOP 1846.62	TOP 1846.67	TOP 1846.72
14+90	15+50	16+00	16+50	17+00	17+50	18+00	18+50	19+00	19+50	20+00

100% SUBMITTAL

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Texas Registered Engineering Firm F-2144

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21 Dec 2017

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CITY OF SAN ANGELO, TEXAS
PHASE II
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
CIVIL
PLAN AND PROFILE
STA 15+00 TO STA 20+00

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
CHECKED DCS
REVISED
FILE NAME WL LINE A PHII (1).dwg

SHEET W-10
SEQ. 74

ACAD Rel: 21.0s (LMS Tech)
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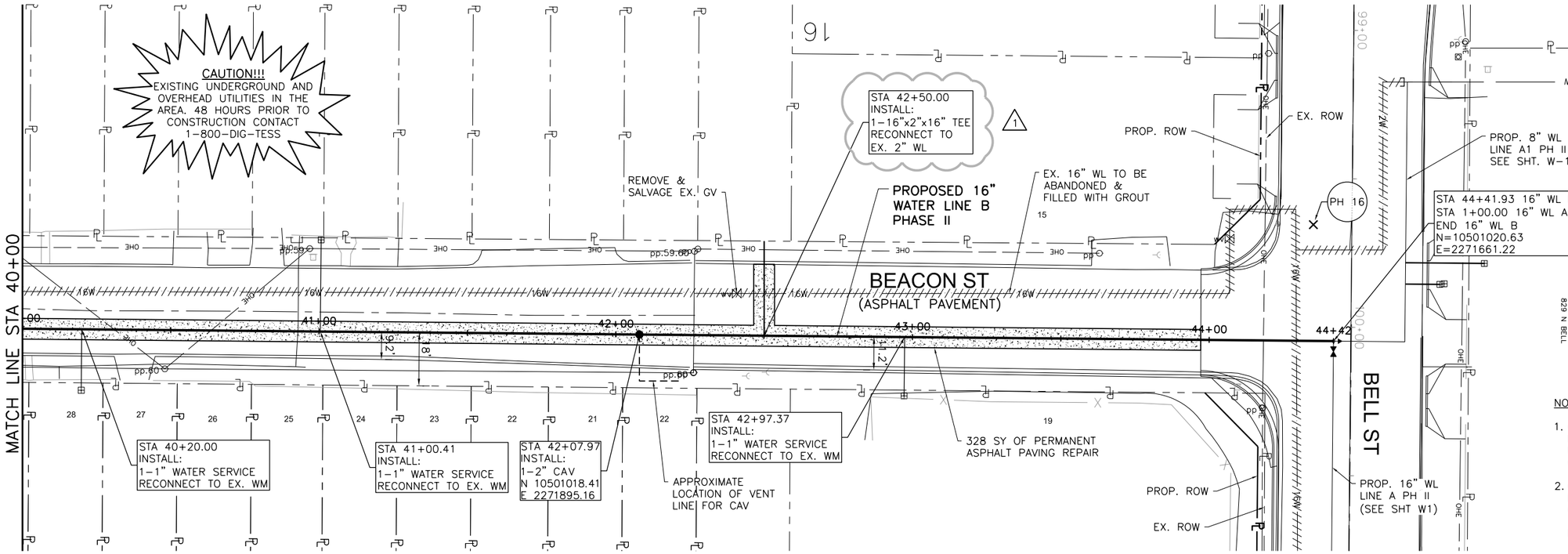
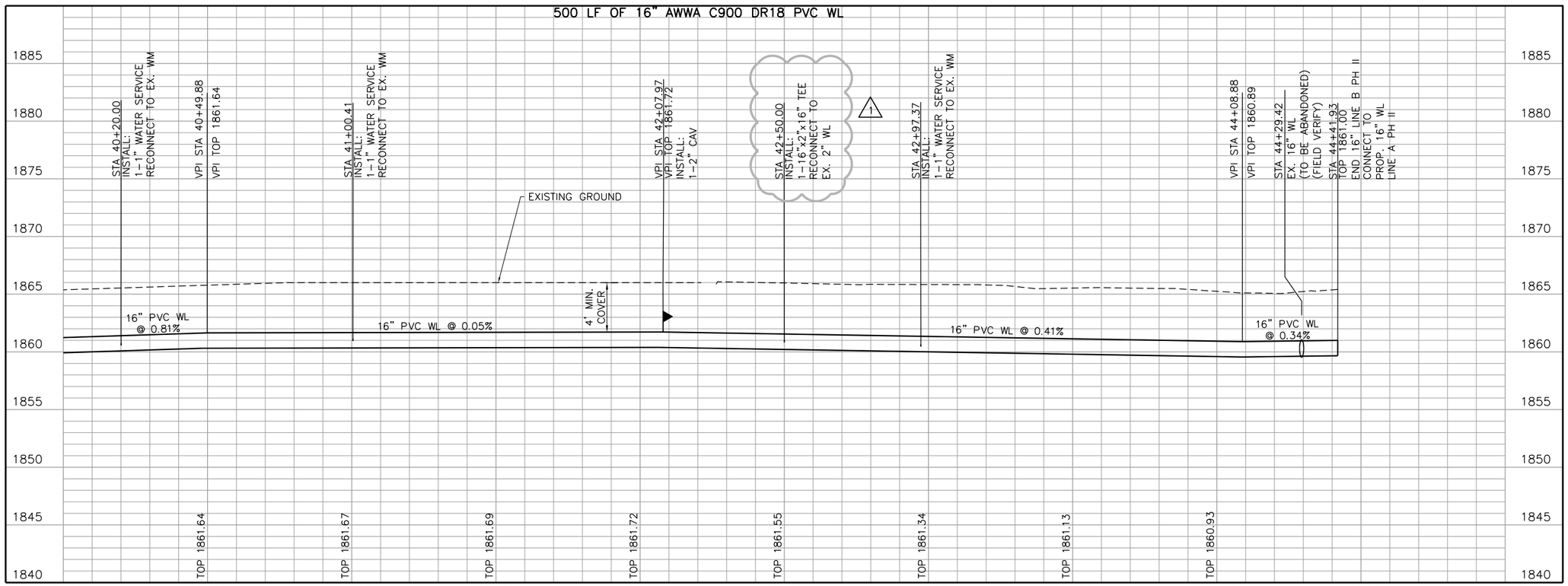


NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
2. ONE LANE MAY BE CLOSED DURING ACTIVE WORK PERIODS ONLY. MAINTAIN ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS IN ACCORDANCE WITH TXDOT TRAFFIC CONTROL PLAN STANDARD TCP (1-2)-12.



Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144
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21 Dec 2017
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CITY OF SAN ANGELO, TEXAS
PHASE II
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
CIVIL
PLAN AND PROFILE
STA 40+00 TO END

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

F&N JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
REVISED -
CHECKED DCS
FILE NAME WL LINE A PHII (1).dwg

SHEET W-15
SEQ. 79

100% SUBMITTAL

ACAD Rel: 21.0s (LMS Tech)
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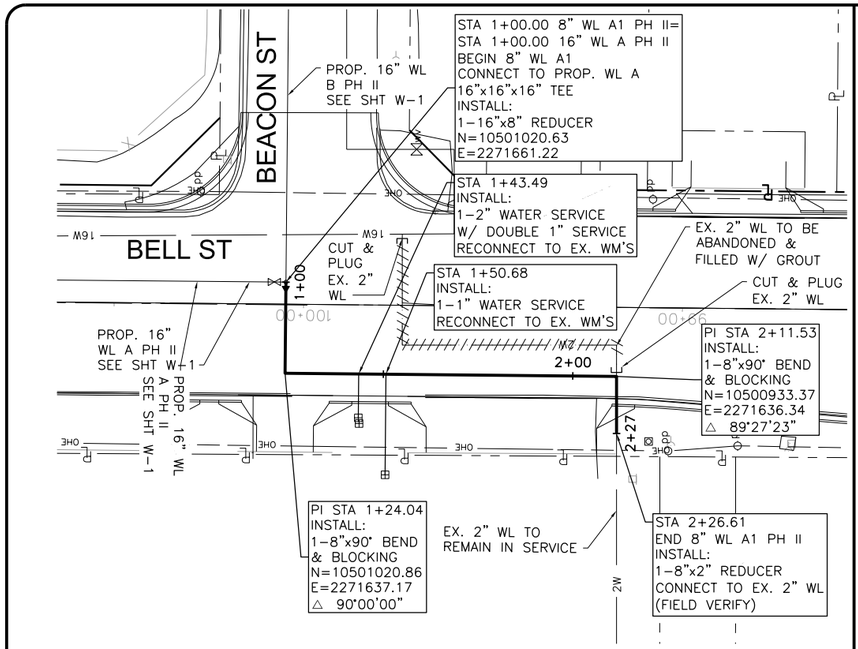
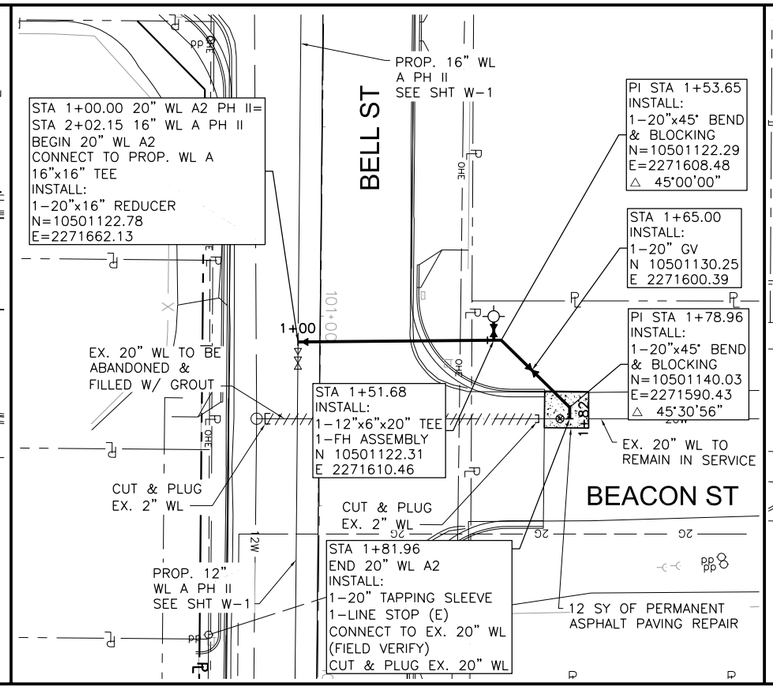
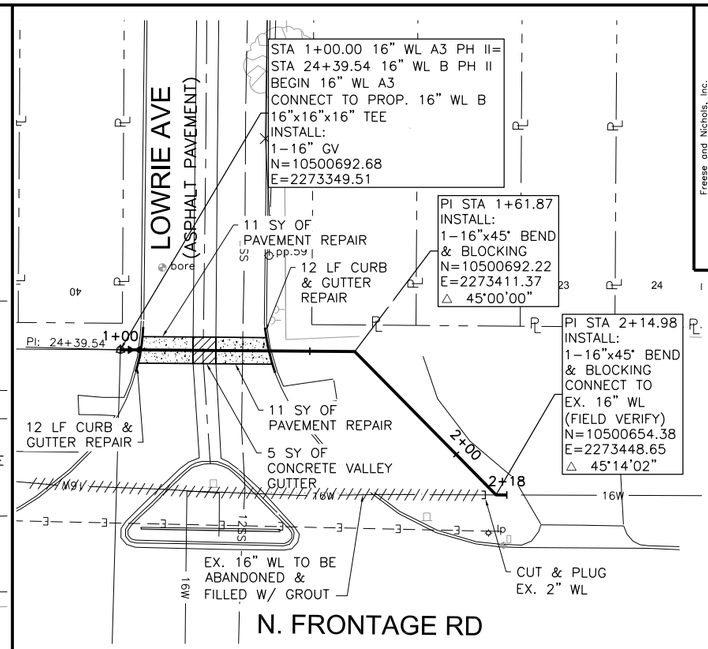






8" WATER LINE A1 PLAN

20" WATER LINE A2 PLAN

16" WATER LINE A3 PLAN

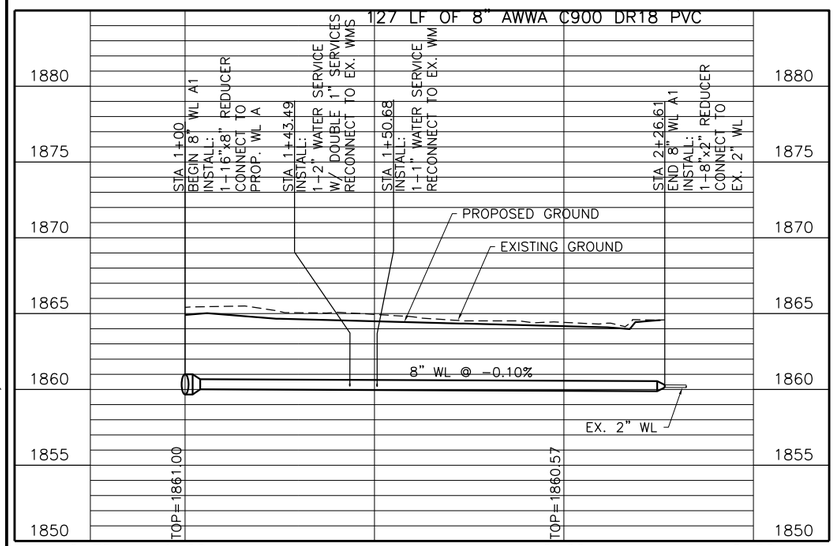
CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

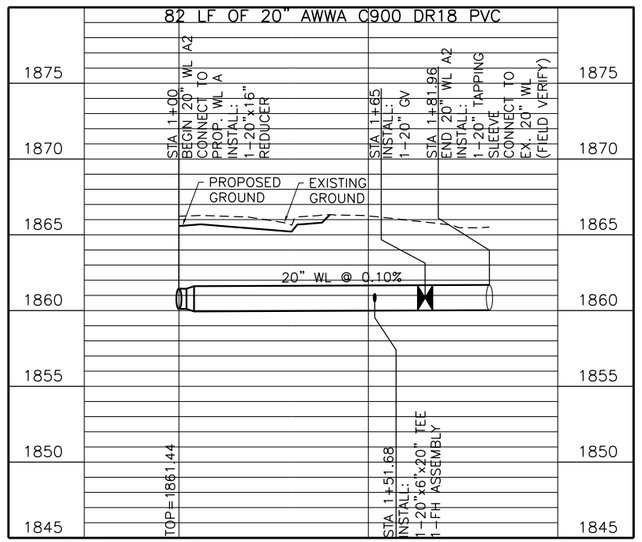
NOTES:

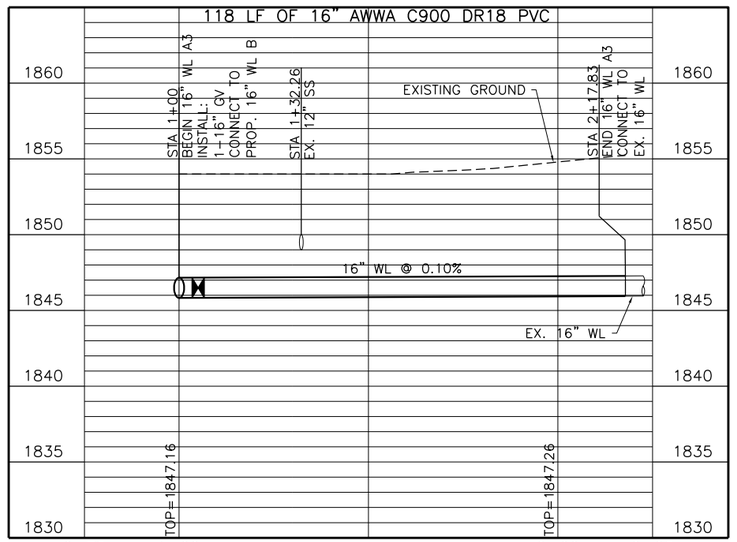
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.

SCALE IN FEET HORIZONTAL: 0, 20', 40'

SCALE IN FEET VERTICAL: 0, 5', 10'







8" WATER LINE A1 PROFILE

20" WATER LINE A2 PROFILE

16" WATER LINE A3 PROFILE

100% SUBMITTAL

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

AARON B. CONNE
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STATE OF TEXAS

21 Dec 2017

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CITY OF SAN ANGELO, TEXAS
PHASE II
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
CIVIL
WATER LINE LATERALS

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
CHECKED DCS
REVISED
FILE NAME CV-PPL-PL-WTRLATS.dwg

SHEET W-16
SEQ. 80

ACAD Rel: 21.0s (LMS Tech)
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Last Saved: 12/21/2017 8:38 AM Saved By: sb

Plot Date: 12/21/2017 8:38 AM Plot By: sb Filename: N:\WTU\Drawings\CV-PPL-PL-WTRLATS.dwg

⚠1 UNIT 13: PAVING IMPROVEMENTS

ITEM	DESCRIPTION	RP-01	RP-02	RP-03	PP-01	PP-02	PP-03	PP-04	PP-05	PP-06	PP-07	PP-08	PM-01	PM-02	PM-03	EP-01	EP-02	EP-03	QUANTITY	UNIT
13-1	REMOVING CONCRETE PAVEMENT (6"-8" THICK)		556	1918															2474	SY
13-2	REMOVING CONCRETE (DRIVEWAYS AND SIDEWALK)	193	418	671															1282	SY
13-3	REMOVING CONCRETE (CURB & GUTTER)	1714	1135	1238															4087	LF
13-4	REMOVE ASPHALT PAVEMENT (4" AVG DEPTH)	6840	7045	5135															19020	SY
13-5	EMBANKMENT (FINAL)(ORD COMP)(TY B)(CL 3)																		300	CY
13-6	DRILL SEEDING				307	509	497	493	153	494	498	442							3393	SY
13-7	FL BS (CMP IN PLC)(TY A)(GR1-2)(6")(TCP TEMP PAVT)																		820	SY
13-8	CEMENT TREATED SUBGRADE (8")				2043	2853	2973	3164	1134	3075	2863	2001							20106	SY
13-9	CEMENT				28.2	39.4	41	43.7	15.6	42.4	39.5	27.6							277.4	TN
13-10	D-GR HMA(SQ) TY D PG 64-72 (2" THICK)(TCP TEMP PAVT)																		820	SY
13-11	BARRICADES, SIGNS AND TRAFFIC HANDLING																		12	MO
13-12	ROCK FILTER DAMS															48			48	LF
13-13	REMOVE ROCK FILTER DAMS															48			48	LF
13-14	TEMP SEDIMENT CONTROL FENCE (INSTALL)															660	603	35	1298	LF
13-15	TEMP SEDIMENT CONTROL FENCE (REMOVE)															660	603	35	1298	LF
13-16	TEMP EROSION CONTROL LOGS (INSTALL)															0	80	40	120	LF
13-17	TEMP EROSION CONTROL LOGS (REMOVE)															0	80	40	120	LF
13-18	CONCRETE CURB & GUTTER (STANDARD)				444	801	833	743	224	854	715	613							5227	LF
13-19	CONCRETE CURB & GUTTER (SAWTOOTH)						40												40	LF
13-20	DRIVEWAYS (CONCRETE)				189	158	35	183	69	69	281	227							1211	SY
13-21	CONCRETE SIDEWALKS (4")				113	248	273	231	78	262	247	181							1633	SY
13-22	CURB RAMPS (TY 7)				1	1	2	2	0	2	2	0							10	EA
13-23	MAILBOX INSTALL-S (TWG POST) TY 1												1	0	3				4	EA
13-24	MAILBOX (GANG TYPE)(RELOCATE)(INST 4" CONC PAD)													1					1	EA
13-25	RELOCATE SM RD SIGN SUP & AMS												0	3	5				8	EA
13-26	REMOVE SM RD SIGN SUP & AMS												6	5	3				14	EA
13-27	INST SM RD SIGN SUP & AM												6	5	3				14	EA
13-28	REFLECTOR PAVEMENT MARKING TY 1 (W) 4" (BRK)												474	400	378				1252	LF
13-29	REFLECTOR PAVEMENT MARKING TY 1 (W) 8" (SLD)													79					79	LF
13-30	REFLECTOR PAVEMENT MARKING TY 1 (W) 24" (SLD)												74	68	32				174	LF
13-31	REFLECTOR PAVEMENT MARKING TY 1 (W) (ARROW)													2					2	EA
13-32	REFLECTOR PAVEMENT MARKING TY 1 (Y) 4" (SLD)												1898	2792	1376				6066	LF
13-33	REFLECTOR PAVEMENT MARKING TY 1 (Y) 12" (SLD)													191					191	LF
13-34	REFLECTOR PAVEMENT MARKING TY 2 - A - A												24	76	17				117	EA
13-35	REFLECTOR PAVEMENT MARKING TY 1 - C													4					4	EA

⚠1 UNIT 14: ALT. A - HMAC PAVING

ITEM	DESCRIPTION	RP-01	RP-02	RP-03	PP-01	PP-02	PP-03	PP-04	PP-05	PP-06	PP-07	PP-08	PM-01	PM-02	PM-03	EP-01	EP-02	EP-03	QUANTITY	UNIT
14-1	FLEX BASE (CMP IN PLACE)(TY A GR 2)(CL 4) (BID ALT A)				2043	2853	2973	3164	1134	3075	2863	2001							20106	SY
14-2	D-GR HMA TY-B PG64-22 (BID ALT A)				1840	2570	2679	2851	1021	2770	2579	1803							18113	SY
14-3	D-GR HMA TY-D PG64-22 (BID ALT A)				1840	2570	2679	2851	1021	2770	2579	1803							18113	SY
14-4	EXCAVATION (ROADWAY)(BID ALT. A)																		8048	CY

⚠1 UNIT 15: ALT. B - ROLLER COMPACTED CONCRETE

ITEM	DESCRIPTION	RP-01	RP-02	RP-03	PP-01	PP-02	PP-03	PP-04	PP-05	PP-06	PP-07	PP-08	PM-01	PM-02	PM-03	EP-01	EP-02	EP-03	QUANTITY	UNIT
15-1	ROLLER COMPACTED CONCRETE (8.5" THICK) (BID ALT B)				1840	2570	2679	2851	1021	2770	2579	1803							18113	SY
15-2	EXCAVATION (ROADWAY)(BID ALT. B)																		3881	CY

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

WAYNE P. HARTT
118231
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STATE OF TEXAS
12-21-2017

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CITY OF SAN ANGELO, TEXAS
PHASE III
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
CIVIL
QUANTITY TAKE OFF

NO.	ISSUE	BY	DATE
⚠1	ADDENDUM NO. 1	WPH	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO.	DATE	DESIGNED	DRAWN	REVISED	CHECKED
SAN16188	OCT 2017	ABC	SB	-	DGS

FILE NAME GN-ALL-NOTES04.dwg

SHEET NOTES-03
SEQ. 5

100% SUBMITTAL

ACAD Rel: 21.0s (LMS Tech)
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Last Saved: 12/20/2017 1:09 PM Saved By: sb

Plot Date: 12/20/2017 3:25 PM Plot By: sb Filename: N:\WTU\Drawings\GN-ALL-NOTES04.dwg

⚠1 UNIT 16: WATER IMPROVEMENTS

ADDENDUM	ITEM	DESCRIPTION	W-1	W-2	W-3	W-4	W-5	W-6	W-7	QUANTITY	UNIT
⚠1	16-1	16" WATER LINE	400	500	500	451	460	500	284	3095	LF
	16-2	16" WATER LINE INSIDE OF CASING				90				90	LF
	16-3	16" WATER LINE BY OTHER THAN OPEN CUT				49	40			89	LF
	16-4	30" STEEL CASING OTHER THAN BY OPEN CUT				90				90	LF
	16-5	TRENCH SAFETY	400	500	500	451	460	500	284	3095	LF
	16-6	2" COMBINATION AIR VALVE	1			1			1	3	EA
	16-7	16" GATE VALVE	1	1	1	1	1		1	6	EA
	16-8	12" GATE VALVE					1			1	EA
	16-9	10" GATE VALVE	1	1						2	EA
⚠1	16-10	8" GATE VALVE		1			1			2	EA
⚠1	16-11	6" GATE VALVE	1	1	3		4		1	10	EA
	16-12	4" BLOW-OFF VALVE				1				1	EA
⚠1	16-13	FIRE HYDRANTS		1	1		1		1	4	EA
	16-14	1" WATER SERVICE	1	1	1		1	1		5	EA
	16-15	2" WATER SERVICE WITH DOUBLE 1" SERVICES				1				1	EA
⚠1	16-16	~~1" WATER METER~~	~~1~~	~~2~~			~~1~~	~~1~~		~~5~~	~~EA~~
	16-17	16" LINE STOP							1	1	EA
	16-18	CONNECTION TO EXISTING 16" WATER LINE	1						1	2	EA
	16-19	CONNECTION TO EXISTING 12" WATER LINE					1			1	EA
	16-20	CONNECTION TO EXISTING 10" WATER LINE	1	1						2	EA
	16-21	CONNECTION TO EXISTING 8" WATER LINE		1						1	EA
	16-22	CONNECTION TO EXISTING 6" WATER LINE	1		2	1	1			5	EA
	16-23	CONNECTION TO EXISTING 2" WATER LINE					1			1	EA
	16-24	WATER LINE ABANDONMENT GROUT								184	CY
		16" WATER LINE ABANDONMENT GROUT	20.69	25.86	25.86	25.86	25.86	25.86	13.96	163.93	CY
⚠1		10" WATER LINE ABANDONMENT GROUT	3.03	9.23						12.26	CY
		12" WATER LINE ABANDONMENT GROUT					1.63			1.63	CY
		6" WATER LINE ABANDONMENT GROUT			1.82	1.24	1.09		1.53	5.67	CY
		2" WATER LINE ABANDONMENT GROUT					0.02			0.02	CY
⚠1	16-25	REMOVE EXISTING VALVE	2	5	4	3	3		2	19	EA
	16-26	REMOVE EXISTING FIRE HYDRANT		1			1		1	3	EA
	16-27	REMOVE EXISTING WATER METER					1	1		2	EA
	16-28	PERMANENT CURB AND GUTTER REPAIR	15	9	21					45	LF
	16-29	CEMENT STABILIZED SAND		12						12	CY
	16-30	PERMANENT ASPHALT PAVEMENT REPAIR	44	15	63		27			149	SY

⚠1 UNIT 17: SANITARY SEWER IMPROVEMENTS

ADDENDUM	ITEM	DESCRIPTION	SS-1	SS-2	SS-3	SS-4	QUANTITY	UNIT
	17-1	21" SANITARY SEWER LINE	500	297		36.45	834	LF
⚠1	17-2	10" PRESSURE RATED SANITARY SEWER				72.44	73	LF
	17-3	8" SANITARY SEWER LINE		129	240		369	LF
	17-4	8" SANITARY SEWER LINE INSIDE OF STEEL CASING		74	236		310	LF
	17-5	8" PRESSURE RATED SANITARY SEWER				72.44	73	LF
	17-6	16" STEEL CASING BY OTHER THAN OPEN CUT		74	236		310	LF
	17-7	TRENCH SAFETY	500	426	240	36.45	1203	LF
⚠1	17-8	4' DIAMETER MANHOLE		2	2		4	EA
⚠1	17-9	5' DIAMETER MANHOLE	2	2			4	EA
	17-10	5' DIAMETER DROP MANHOLE	1	1	1		3	EA
	17-11	CONNECTION TO EXISTING 24" SANITARY SEWER LINE	1				1	EA
	17-12	SANITARY SEWER LINE ABANDONMENT GROUT					68	CY
		18" SANITARY SEWER LINE ABANDONMENT GROUT	10.75				11	CY
		15" SANITARY SEWER LINE ABANDONMENT GROUT	8.27	14.82			24	CY
⚠1		12" SANITARY SEWER LINE ABANDONMENT GROUT		14.54	14.02		29	CY
		8" SANITARY SEWER LINE ABANDONMENT GROUT	3.01				4	CY
	17-13	REMOVE/ABANDON EXISTING MANHOLE	2	2	1	1	6	EA
	17-14	BY-PASS PUMPING					1	LS
	17-15	PERMANENT ASPHALT PAVEMENT REPAIR		16			16	SY

⚠1 UNIT 18: DRAINAGE IMPROVEMENTS

ITEM	DESCRIPTION	C-26 to C-30	C-28	C-31	QUANTITY	UNIT
18-1	EXCAVATION (CHANNEL)	800			**800**	**CY**
18-2	SLOPED HEADWALL		15		**15**	**CY**
18-3	RIPRAP CONCRETE 5"			6	**6**	**CY**
18-4	RIPRAP STONE, COMMON, 18"			20	**20**	**CY**
18-5	TXDOT TYPE C223 RAIL			148	**148**	**LF**
18-6	CONCRETE BOX CULVERT 10' X 5'			144	**144**	**LF**
18-7	REINFORCED CONCRETE PIPE, 18", CLASS IV		388		**388**	**LF**
18-8	WINGWALL PW-1 (HW=7')			4	**4**	**EA**

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

STATE OF TEXAS
AARON B. CONINE
109794
LICENSED PROFESSIONAL ENGINEER
21 Dec 2017

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Fort Worth, Texas 76109-4895
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Fax: (817) 735-7491
Web – www.freese.com

CITY OF SAN ANGELO, TEXAS
PHASE III
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
CIVIL
QUANTITY TAKE OFF

NO.	ISSUE	BY	DATE
⚠1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

F&N JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
CHECKED DGS
FILE NAME GN-ALL-NOTES04.dwg

SHEET NOTES-04
SEQ. 6

100% SUBMITTAL

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Plot Date: 12/20/2017 1:06 PM Plot By: sb Filename: N:\WTU\Drawings\GN-ALL-NOTES04.dwg

SWANSON JACK W
Lot 10&11 & W 1/2 of lot 12, Block 40, Fairview Addition Subdivision
6-Oct-98
1514 PULLIAM ST

SWANSON JACK W
Lot 13&14 & E 1/2 of lot 12, Block 40, Fairview Addition Subdivision
December 31, 1899
1526 PULLIAM ST

MDH PROPERTIES LTD
Lot 3-5, Block 40, Fairview Addition Subdivision
29-Aug-07
1517 UPTON ST

MDH PROPERTIES LTD
Lot 1&2, Block 40, Fairvie... Addition Subdivision
28-Aug-07
N/A

ORTEGA MOISES ESCOBAR
Lot 11, Block 41, Fairview Addition Subdivision
6-Sep-10
1512 UPTON ST

CAUTION!!!
PROTECT FRONTIER COMMUNICATIONS MANHOLE

CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

MATCH LINE STA 20+00

MATCH LINE STA 25+00

BELL ST

Upton St

EX. ROW

PROP. 6' SIDEWALK AT BACK OF CURB

PROP. CURB

ABANDON SSMH

PROPOSED 21" SS LINE A PH III SEE SHT. SS-3

PROPOSED 16" WATER LINE A PH III

PROP. 8" SS LINE A3 PH III (SEE SHT SS-4)

EX. TxDOT TYPE C SD INLET

40 LF BY OTHER THAN OPEN CUT

STA 20+72.29, 75' LT
INSTALL:
1-6"x90° BEND
N=10498842.00
E=2271629.32

STA 20+72.44
PROP. 6" WL
LINE A7
INSTALL:
1-16"x6" TEE
1-6" GV (W)
N=10498842.00
E=2271704.15

STA 21+35.30, 36' RT
INSTALL:
1-6"x45° BEND
CONNECT TO
EX. 6" WL
(FIELD VERIFY)
N=10498904.78
E=2271739.84

STA 21+50.00
PROP. 6" WL
LINE A8
INSTALL:
1-16"x6" TEE
1-6" GV (E)
N=10498919.55
E=2271704.25

PI STA 21+66.51
N=10498936.06
E=2271704.35
△ 2°03'17"

STA 21+50.03, 19' RT
INSTALL:
1-6"x45° BEND
N=10498919.54
E=2271723.18
△ 45°00'00"

STA 23+53.00
INSTALL:
1-16" GV
N=10499119.07
E=2271707.15

PI STA 23+57.14
INSTALL:
1-16"x45° BEND
N=10499122.12
E=2271709.96
△ 45°00'00"

STA 23+62.48
PROP. 12" WL
LINE A9
INSTALL:
1-16"x12" TEE
1-12" GV (E)
N=10499127.45
E=2271709.79

STA 23+62.07, 9.91' RT
INSTALL:
1-1" WATER SERVICE

STA 23+62.03, 10.88' RT
INSTALL:
1-12"x45° BEND & BLOCKING
△ 45°00'00"

PI STA 23+40.21
INSTALL:
1-16"x45° BEND
N=10499109.66
E=2271698.48
△ 44°36'09"

PI STA 24+38.75
INSTALL:
1-16"x45° BEND
N=10499198.71
E=2271695.97
△ 45°00'00"

REMOVE & SALVAGE EX. FH

REMOVE EX. WATER METER

CUT & PLUG EX. 12" WL

STA 23+78.15, 28' RT
INSTALL:
1-12"x45° BEND
CONNECT TO
EX. 12" WL
N=10499144.27
E=2271737.51

STA 24+19.26, 8' RT
INSTALL:
1-6" TEE
1-6" GV (N)
1-FH ASSEMBLY
1-6"X2" REDUCER
CONNECT TO
EX. 2" WL
(FIELD VERIFY)
N=10499184.50
E=2271715.41

PI STA 24+23.39
INSTALL:
1-16"x45° BEND
N=10499188.30
E=2271707.26
△ 45°00'00"

STA 24+19.58
INSTALL:
1-16"x6" TEE
1-6" GV
(FIELD VERIFY)
N=10499184.50
E=2271707.41

SOBOTRAN LLC
Block 8
BELL ADDITION
October 30, 2014
1614 PULLIAM

GUERRA GABRIEL
Block 8
BELL ADDITION
June 2, 2015
420 N BELL

MDH PROPERTIES LTD
Block 8
BELL ADDITION
August 28, 2007
422 N BELL

MDH PROPERTIES LTD
Block 8
BELL ADDITION
August 28, 2007
432 N BELL

B & W TRAILER CO INC
Lot 1,2 & 3 Block 1
BELL ADDITION
July 12, 1988
Deed Page 576
Deed Volume 94
518 N BELL

NOTES BY SYMBOL "⬡"

1. EX. 16" WL TO BE ABANDONED & FILLED W/ GROUT.
2. REMOVE & SALVAGE EX. GATE VALVES.
3. PROTECT EX. INLET.
4. EX. 6" WL TO BE ABANDONED & FILLED W/ GROUT.
5. PROVIDE 9 SY PERMANENT ASPHALT PAVEMENT REPAIR. SEE SHT DT-5.
6. PROTECT EX. POWER POLE.
7. PROVIDE 18 SY PERMANENT ASPHALT PAVEMENT REPAIR. SEE SHT DT-5.
8. EX. 12" SS TO BE ABANDONED & FILLED W/ GROUT.
9. EX. 2" WL TO BE ABANDONED & FILLED W/ GROUT.
10. EX. 12" WL TO BE ABANDONED & FILLED W/ GROUT.
11. EX. 12" WL TO REMAIN IN SERVICE.

16" WATER LINE A
500 LF OF 16" PVC AWWA C900 DR18

STA 20+72.44
INSTALL:
1-16"x8" TEE
1-8" GV (W)

STA 21+50
INSTALL:
1-16"x6" TEE
1-6" GV (E)

STA 23+50
INSTALL:
1-16" GV

STA 23+62.48
INSTALL:
1-16"x12" TEE
1-12" GV (E)

STA 23+79.31
EX. 12" WL
(TO BE ABANDONED)

VPI STA 23+89.51
TOP 1833.00

STA 24+19.55
INSTALL:
1-16"x6" TEE
1-6" GV

EXISTING GROUND

PROPOSED GROUND

EX. TxDOT TYPE C 10' SD INLET FL=1830.17 (FIELD VERIFY)

STA 21+42.3
EX. 3" ATMOS GAS (FIELD VERIFY)

EX. 30" CL III RCP SD 4' LEFT OF WL

4' MIN. COVER

16" WL @ 0.96%

16" WL @ 1.79%

STA 21+40.11
EX. 6" SS TO BE REPLACED BY PROP. 8" SS LINE A3 PH III
FL 1826.15

40 LF BY OTHER THAN OPEN CUT

TOP= 1829.25 | TOP= 1830.21 | TOP= 1831.18 | TOP= 1832.14 | TOP= 1833.19 | TOP= 1834.97

1855 1850 1845 1840 1835 1830 1825 1820 1815 1810

20+00 21+00 22+00 23+00 24+00 25+00

NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.

NORTH

SCALE IN FEET HORIZONTAL
0 20' 40'

SCALE IN FEET VERTICAL
0 5' 10'

100% SUBMITTAL

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

STATE OF TEXAS
AARON B. CONNER
109794
LICENSED
PROFESSIONAL ENGINEER

21 Dec 2017

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CITY OF SAN ANGELO, TEXAS
PHASE III
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
WATER LINE A
PLAN AND PROFILE
STA 20+00 TO STA 25+00

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
CHECKED DCS
REVISED
FILE NAME WATER LINE A PHIII.dwg

SHEET W-5
SEQ. 91

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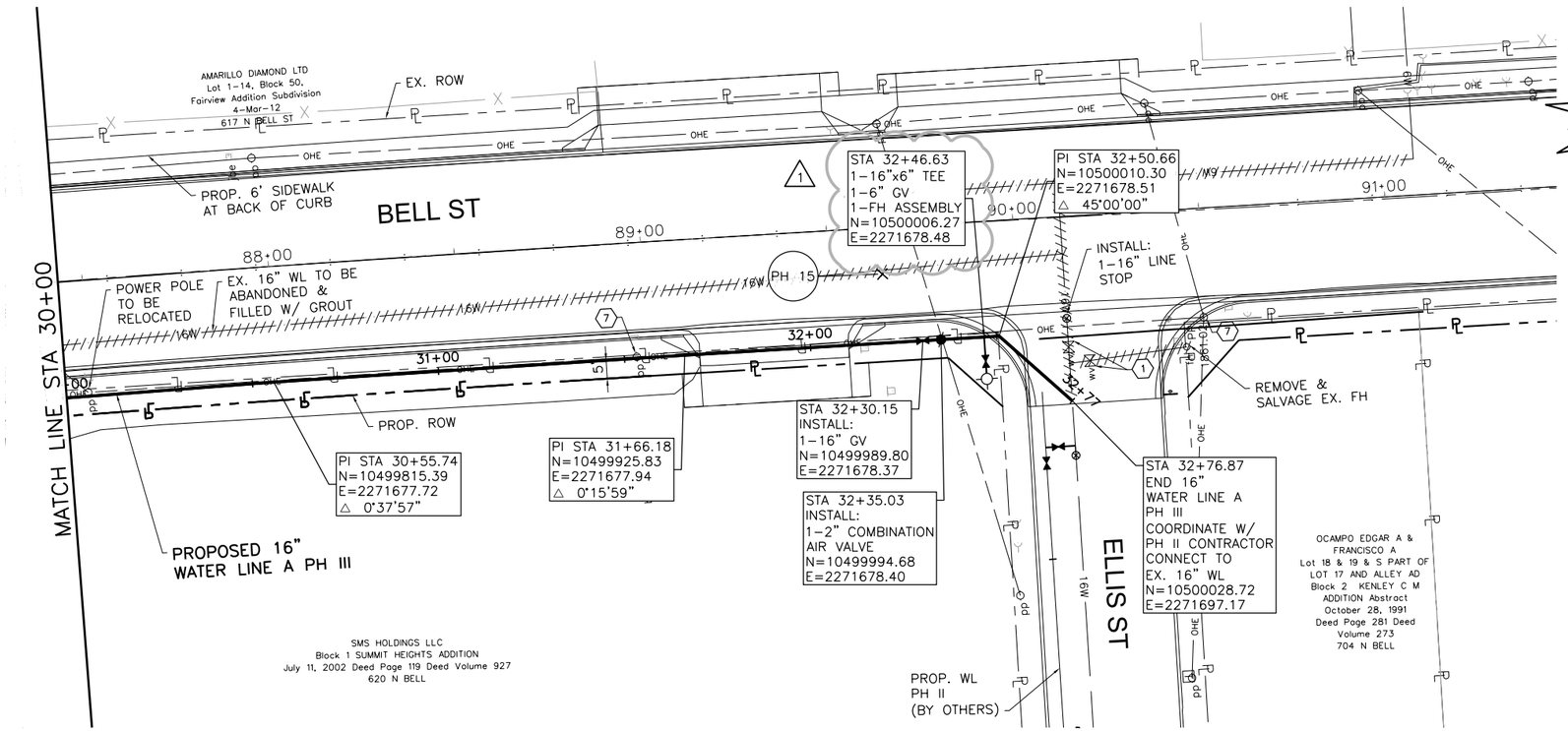


CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
2. ROLL HORIZONTAL BEND TO ACHIEVE VERTICAL DEFLECTION ANGLE.

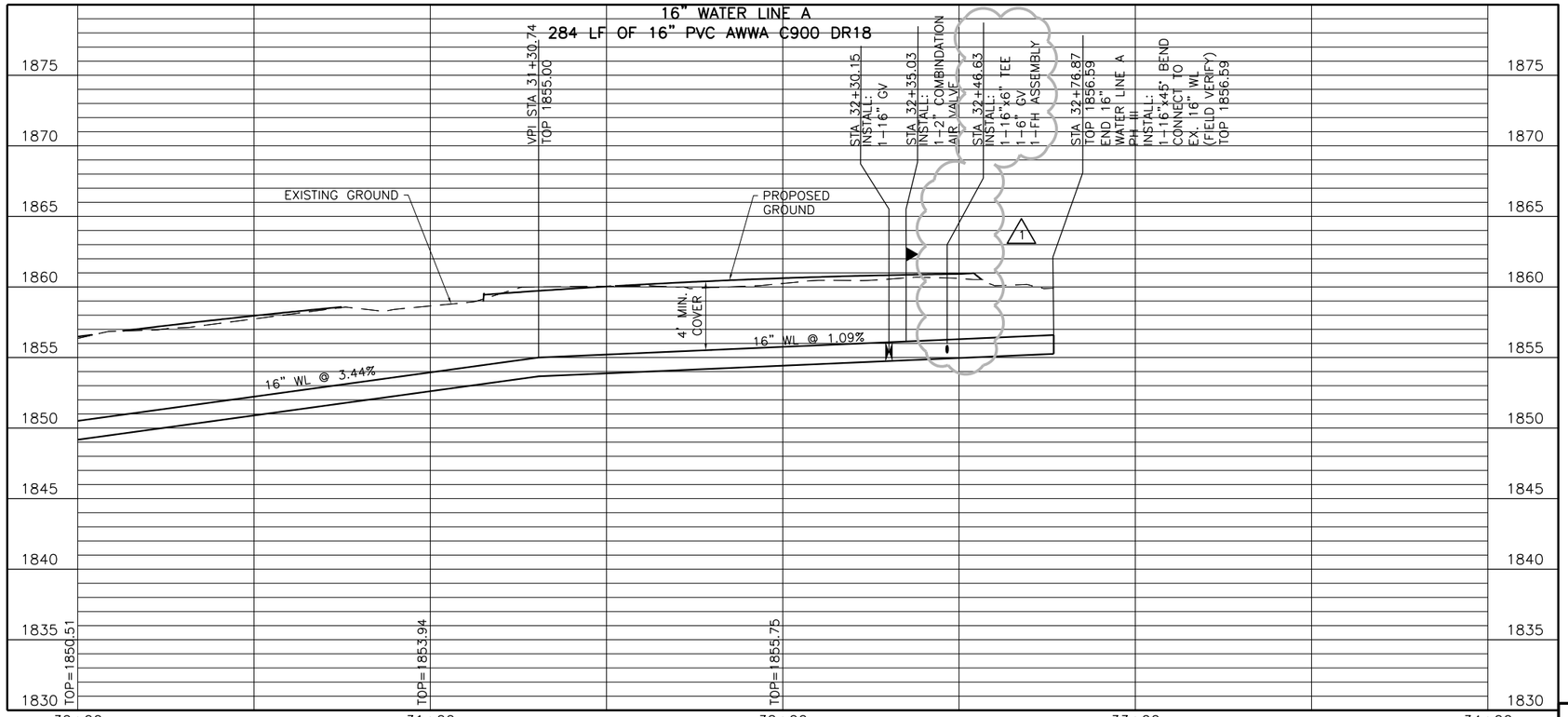
NOTES BY SYMBOL "⬡"

1. REMOVE & SALVAGE EX. GATE VALVES.
2. PROTECT EX. INLET.
3. EX. 6" WL TO BE ABANDONED & FILLED W/ GROUT.
4. PROVIDE 9 SY PERMANENT ASPHALT PAVEMENT REPAIR. SEE SHT DT-5.
5. PROTECT EX. POWER POLE.
6. PROVIDE 18 SY PERMANENT ASPHALT PAVEMENT REPAIR. SEE SHT DT-5.
7. POWER POLE TO BE RELOCATED.

NORTH

0 20' 40'
SCALE IN FEET HORIZONTAL

0 5' 10'
SCALE IN FEET VERTICAL



100% SUBMITTAL

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Texas Registered Engineering Firm F-2144

AARON B. CONNE
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STATE OF TEXAS

21 Dec 2017

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CITY OF SAN ANGELO, TEXAS
PHASE III
BELL ST. ROADWAY & UTILITY IMPROVEMENTS
WATER LINE A
PLAN AND PROFILE
STA 30+00 TO END

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. SAN16188
DATE OCT 2017
DESIGNED ABC
DRAWN SB
REVISED -
CHECKED DCS
FILE NAME WATER LINE A PHII.dwg

SHEET W-7
SEQ. 93

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Plot Date: 12/21/2017 8:51 AM Plot By: sb Filename: N:\WTU\Drawings\WATER LINE A PHII.dwg

MATCH LINE STA 10+00

TxDOT ROW

PULLMAN ST
FM 380

236 LF OF 16" STEEL CASING BY OTHER THAN OPEN CUT

EX. CONCRETE PAVEMENT

CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

STA 13+31.70
PROP. SS A PH III=
STA 0+00
PROP. SS LINE A3
INSTALL:
1-5'∅ DROP SSMH
N=10498909.66
E=2271650.23

EX. 12" SS TO REMAIN IN SERVICE

REMOVE EX. SSMH & CONNECT TO EX. 12" SS

PROPOSED 8" SANITARY SEWER LINE A PH III

STA 14+76.14
END WASTEWATER LINE A PH III
INSTALL:
1-4'∅ SSMH
N=10499054.11
E=2271650.26

5' MIN.

BELL ST

FL 6" (IN)=1827.99
FL 8" (IN)=1827.99
FL 12∅ (IN) W=1827.99
FL 12" (OUT) S=1827.99
1835.24

PROPOSED 16" WL (SEE SHT. W-5)

PROPOSED 6" WL (SEE SHT. W-5)

PROPOSED 10" SS LINE A3 (SEE SHT. SS-4)

STA 0+71.22
INSTALL:
1-4'∅ SSMH
CONNECT TO EX. 8" SS LINE
N=10498909.66
E=2271721.45

EX. 6" SS TO REMAIN IN SERVICE

PROP. ROW

TxDOT ROW

OCAMPO EDGAR
A & FRANCISCO A
BELL ADDITION
June 21, 2006
1606 PULLIAM

SOBOTRAN LLC
Block 8
BELL ADDITION
October 30, 2014
1614 PULLIAM

GUERRA GABRIEL
Block 8
BELL ADDITION
June 2, 2015
420 N BELL

MDH PROPERTIES LTD
Block 8
BELL ADDITION
August 28, 2007
422 N BELL

MDH PROPERTIES LTD
Block 8
BELL ADDITION
August 28, 2007
432 N BELL

NOTES:

1. EXISTING SANITARY SEWER MUST REMAIN IN SERVICE UNTIL PROPOSED HAS BEEN TESTED, ACCEPTED AND PUT INTO SERVICE.
2. CONTRACTOR SHALL CONTACT AREA TXDOT INSPECTOR A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION ACTIVITY WITHIN OR UNDERNEATH TXDOT ROW.

NOTES BY SYMBOL "⬡"

1. EX. 16" WL TO BE ABANDONED & FILLED W/ GROUT.
2. EX. 12" SS TO BE ABANDONED AND FILLED W/ GROUT.
3. EX. 6" WL TO BE ABANDONED AND FILLED W/ GROUT.
4. PROPOSED ROAD IMPROVEMENTS.

NORTH
0 20' 40'
SCALE IN FEET
HORIZONTAL

0 5' 10'
SCALE IN FEET
VERTICAL

8" SANITARY SEWER LINE A
476 LF OF 8" PVC ASTM D3034

EXISTING GROUND

PROPOSED GROUND

STA 11+34.65
EX. 6" WL
FL UNKNOWN
(FIELD VERIFY)

STA 12+64.03
PROP. 6" WL

STA 13+34.4
EX. 3" ATMOS GAS
FL UNKNOWN
(FIELD VERIFY)

8" SS @ 0.40%

STA 10+00.00

STA 12+36.15
END CASING

236 LF OF 16" STEEL CASING BY OTHER THAN OPEN CUT

Q_{CAP} = 0.55 MGD
Q_{REQ} = 0.54 MGD

STA 13+31.70
RIM 1835.04
INSTALL:
1-5'∅ DROP SSMH

FL 8" (OUT)=1821.39 (S)
FL 8" (IN)=1821.49 (N)
FL 8" (IN)=1825.89 (E)
FL 6" (IN)=1827.99 (E)
FL 8" (IN) 1827.99 (W)

STA 14+76.14
RIM 1836.15
END WASTEWATER LINE A PH III
INSTALL:
1-4'∅ WWMH

FL 8" (OUT)=1822.07

FL=1833.28
FL=1834.04
FL=1834.34
FL=1835.10
FL=1835.87

10+00 11+00 12+00 13+00 14+00 15+00

1845 1840 1835 1830 1825 1820 1815 1810 1805 1800 1795

Freese and Nichols, Inc.
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21 Dec 2017

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CITY OF SAN ANGELO, TEXAS
PHASE III

BELL ST. ROADWAY & UTILITY IMPROVEMENTS

SANITARY SEWER LINE A

PLAN AND PROFILE
STA 10+00 TO END

F&N JOB NO.	SAN16188
DATE	OCT 2017
DESIGNED	ABC
DRAWN	SB
CHECKED	DCS
FILE NAME	WASTEWATER LINE A PH III.dwg

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET
SS-3

SEQ.
96

100% SUBMITTAL

ACAD Rel: 21.0s (LMS Tech)
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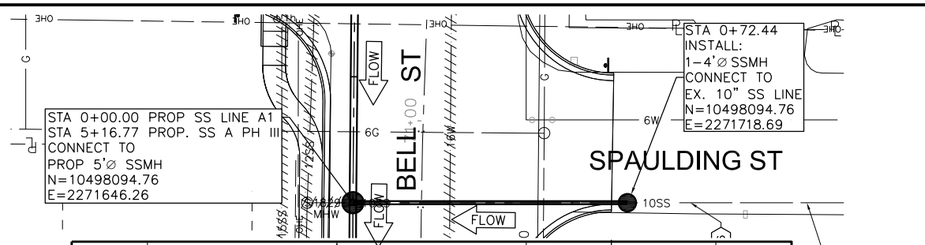
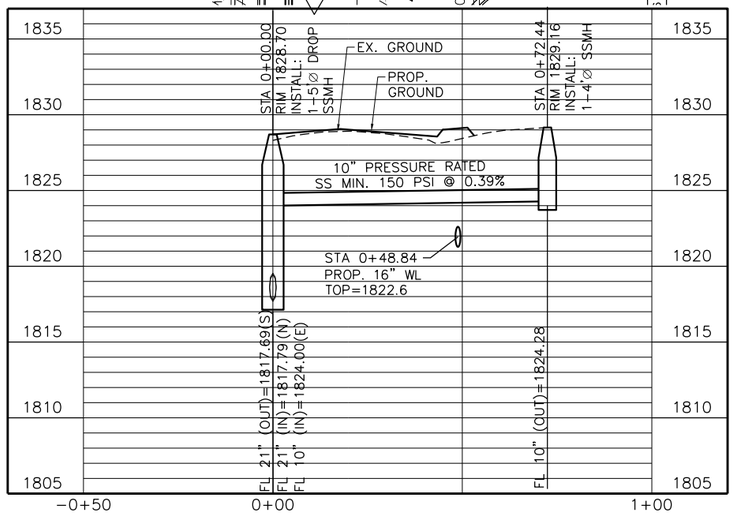
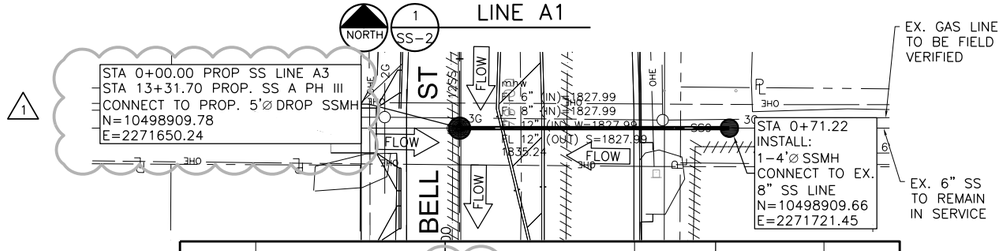
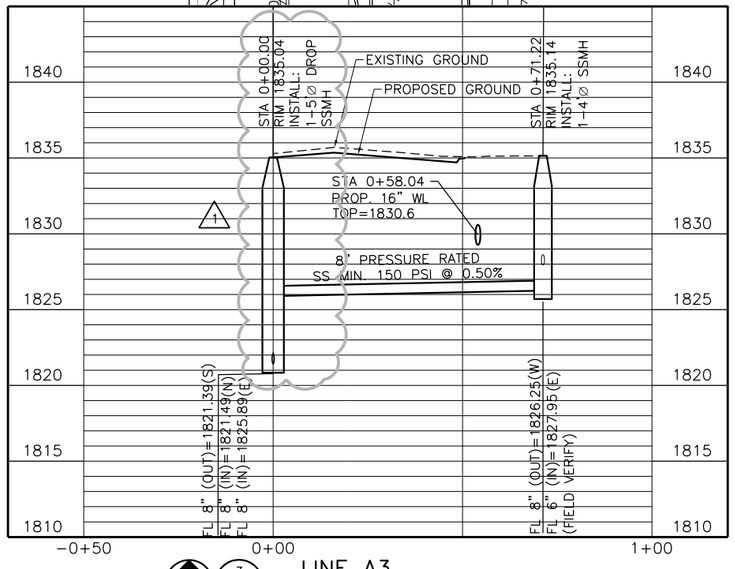


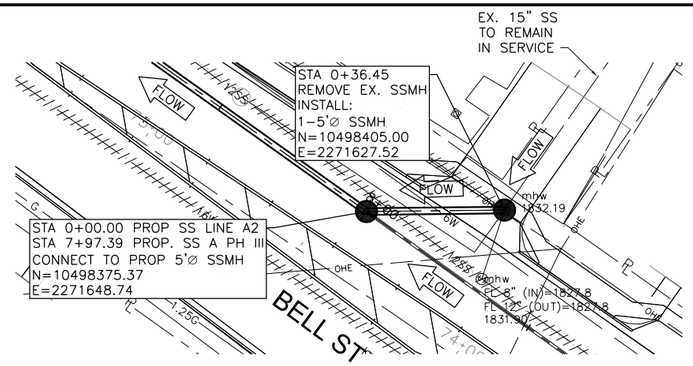


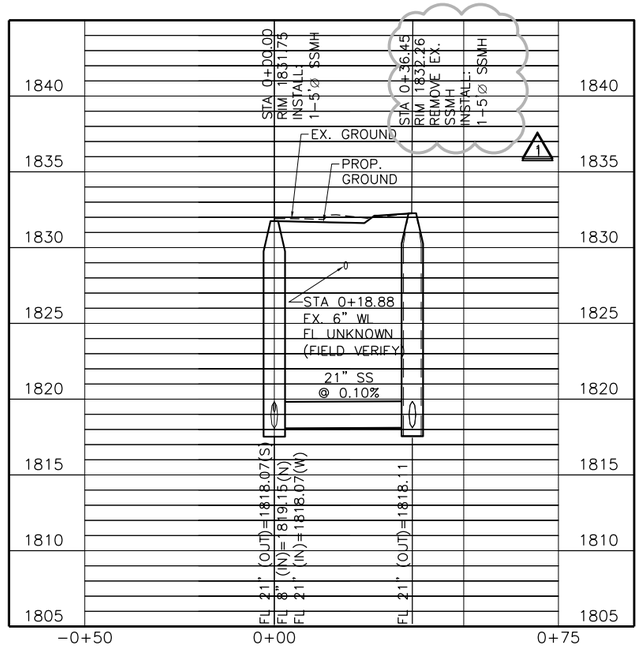
1 NORTH SS-2 LINE A1





NORTH 3 SS-3 LINE A3





NORTH 2 SS-2 LINE A2

CAUTION!!!
EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA. 48 HOURS PRIOR TO CONSTRUCTION CONTACT 1-800-DIG-TESS

0 20' 40'
SCALE IN FEET
HORIZONTAL

0 5' 10'
SCALE IN FEET
VERTICAL

NOTES:

1. EXISTING SANITARY SEWER MUST REMAIN IN SERVICE UNTIL PROPOSED HAS BEEN TESTED, ACCEPTED AND PUT INTO SERVICE.

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Texas Registered Engineering Firm F-2144
STATE OF TEXAS
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109794
LICENSED PROFESSIONAL ENGINEER
21 Dec 2017

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Web - www.freese.com

CITY OF SAN ANGELO, TEXAS
PHASE III
PUBLIC UTILITY IMPROVEMENTS

BELL ST. ROADWAY & UTILITIES

PLAN AND PROFILE

SANITARY SEWER LINE A

SANITARY SEWER LATS A1, A2 & A3

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 1	ABC	12/20/17

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

F&N JOB NO.	SAN16188
DATE	OCT 2017
DESIGNED	ABC
DRAWN	SB
CHECKED	DGS
FILE NAME	WASTEWATER LINE A PH III.dwg

SHEET SS-4
SEQ. 97

100% SUBMITTAL

ACAD Rel: 21.0s (LMS Tech)
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Last Saved: 12/20/2017 12:10 PM Saved By: sb
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