

SEWER LINE IMPROVEMENTS

TRUNK LINE "P"

ODESSA, TEXAS

The right place in Texas™

Odessa



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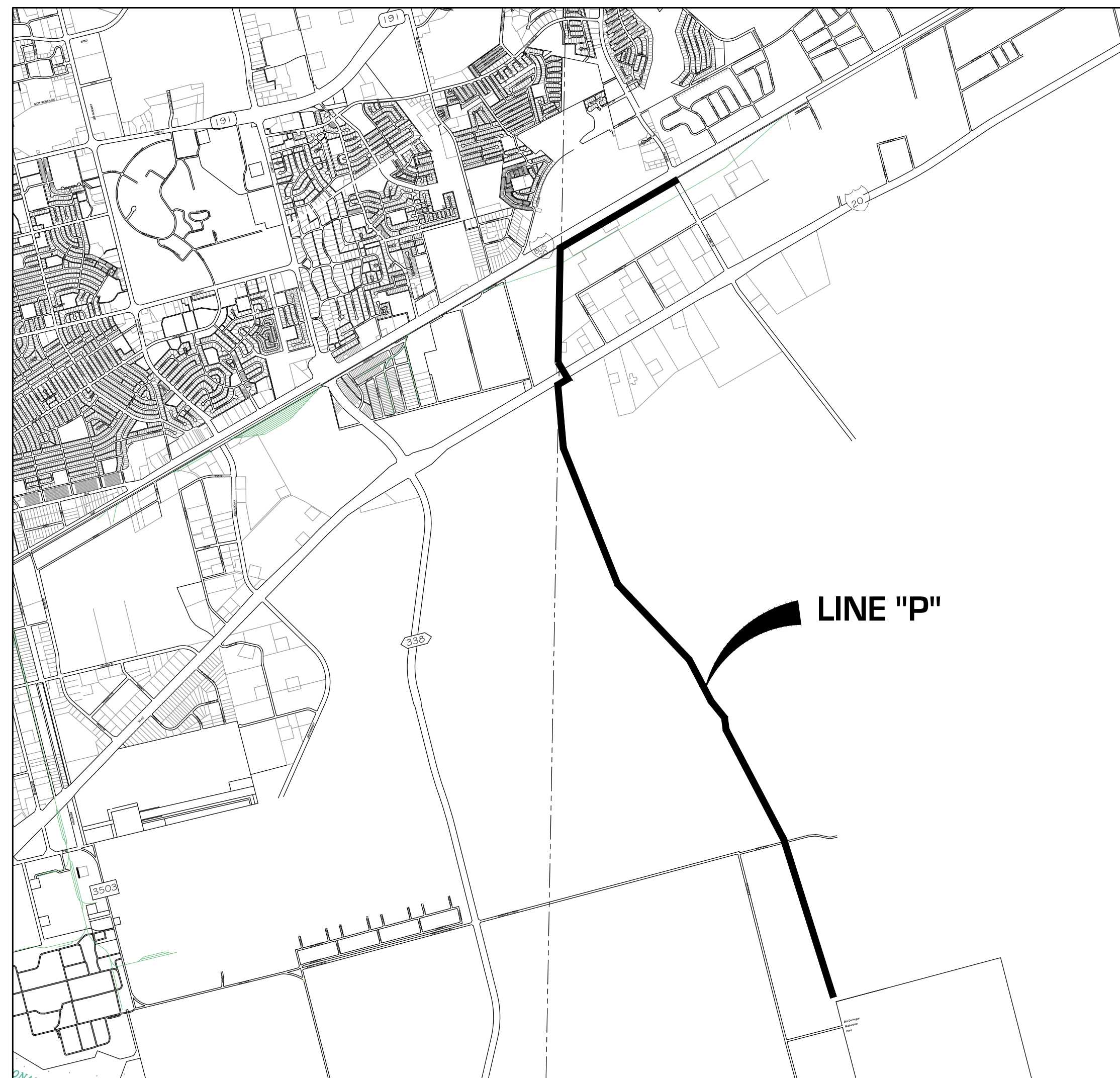
CITY COUNCIL

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STEVEN P THOMPSON
DETRA WHITE

TOM SPRAWLS
MARI WILLIS
DENISE SWANNER

CITY MANAGER
MICHAEL MARRERO

PUBLIC WORKS/
UTILITIES DIRECTOR
THOMAS KERR, P.E.



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LCA JOB No. 2018-043
C.O.O. JOB No. 190370-22

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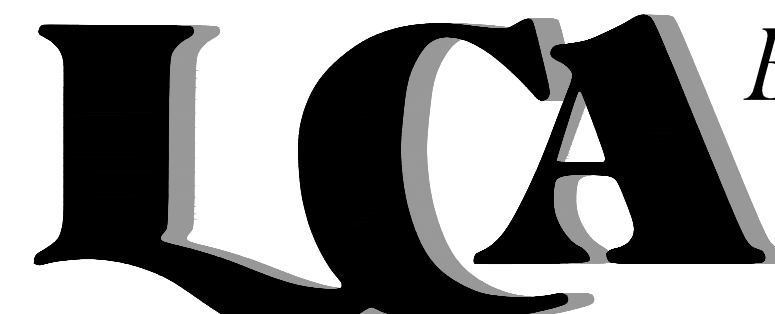
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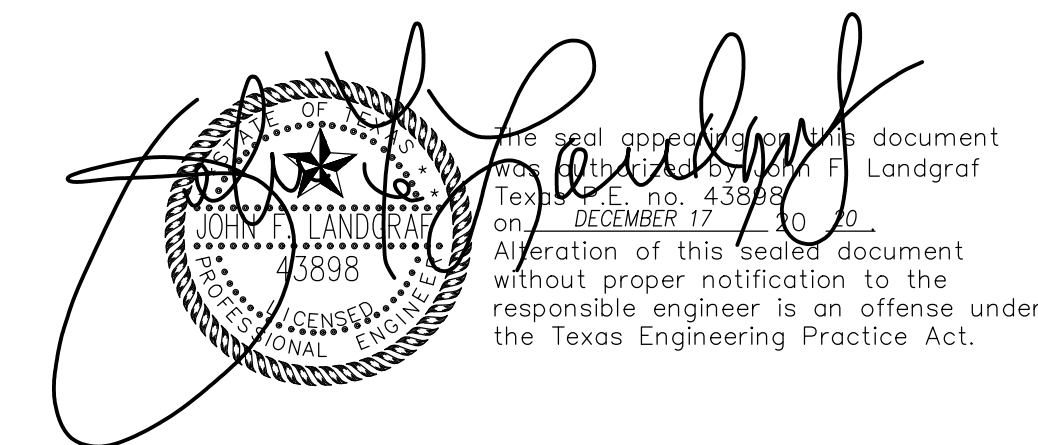
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Know what's below.
Call before you dig.



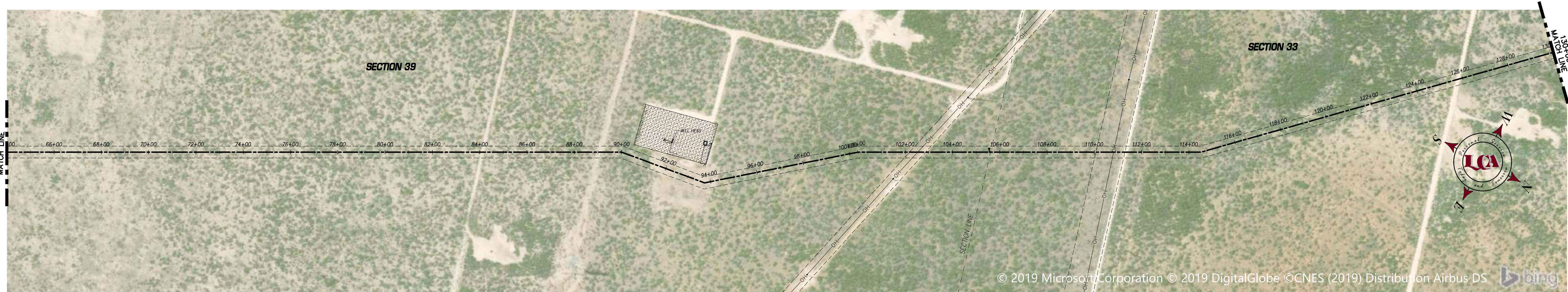
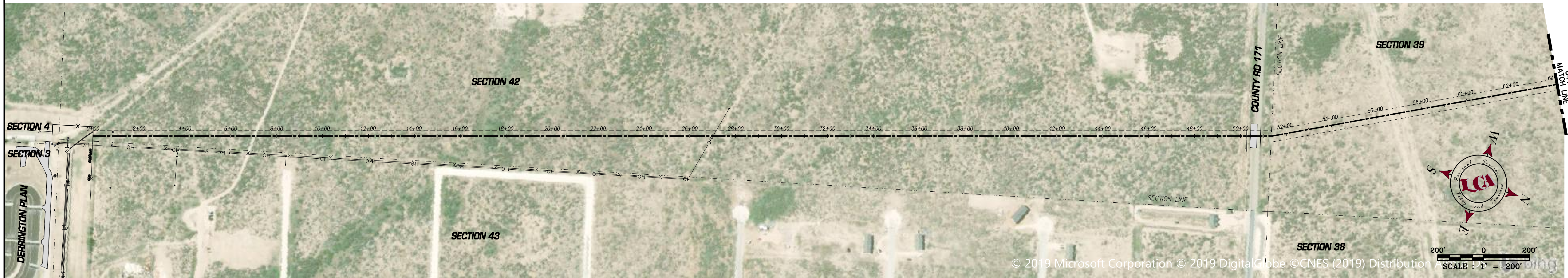
Personal Service, Today and Tomorrow



NOTE:
THE CONTRACTOR SHALL CONSTRUCT
THIS PROJECT USING MATERIALS &
METHODS THAT COMPLY WITH STANDARD
CITY OF ODESSA SPECIFICATIONS & DETAILS.

For Construction

THIS DOCUMENT IS RELEASED FOR PURPOSE OF
CONSTRUCTION UNDER THE AUTHORITY OF
JOHN F. LANDGRAF, TEXAS P.E. No. 43898
MARCH 2020



Professional Engineer Seal
 State of Texas
 No. 3898
 Date: DECEMBER 17, 2019
 Landgraf
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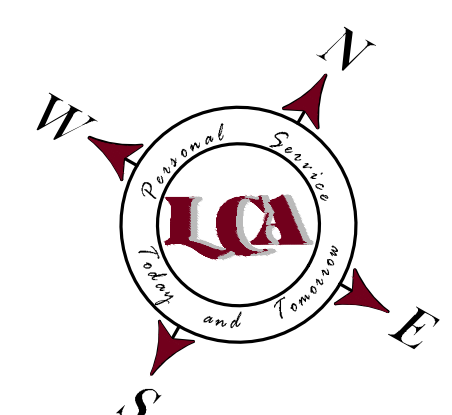
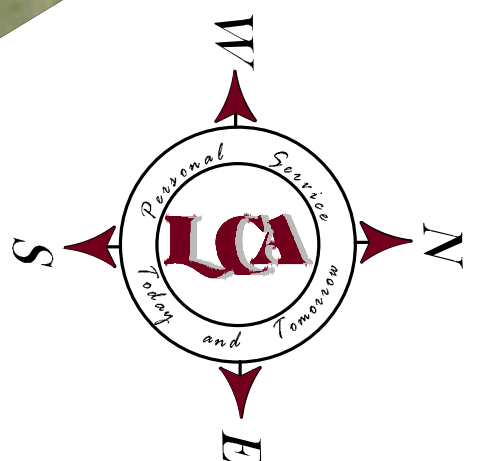
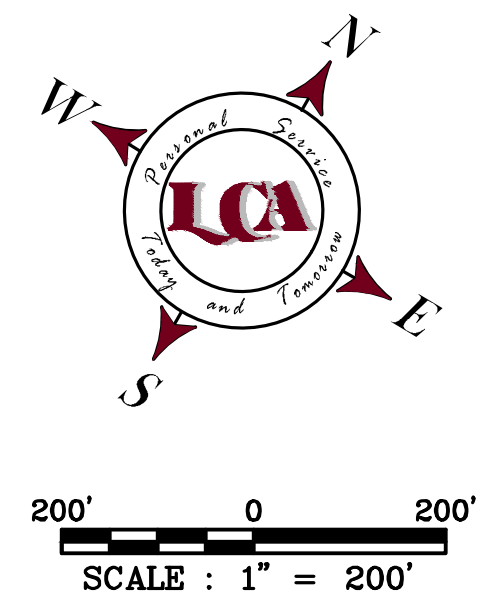
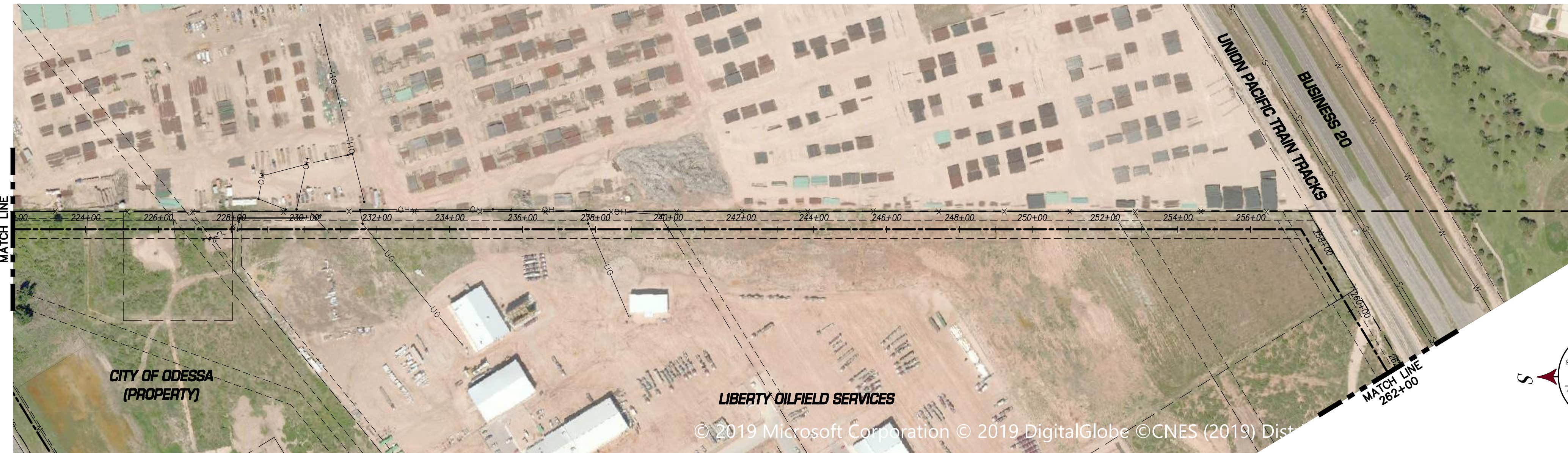
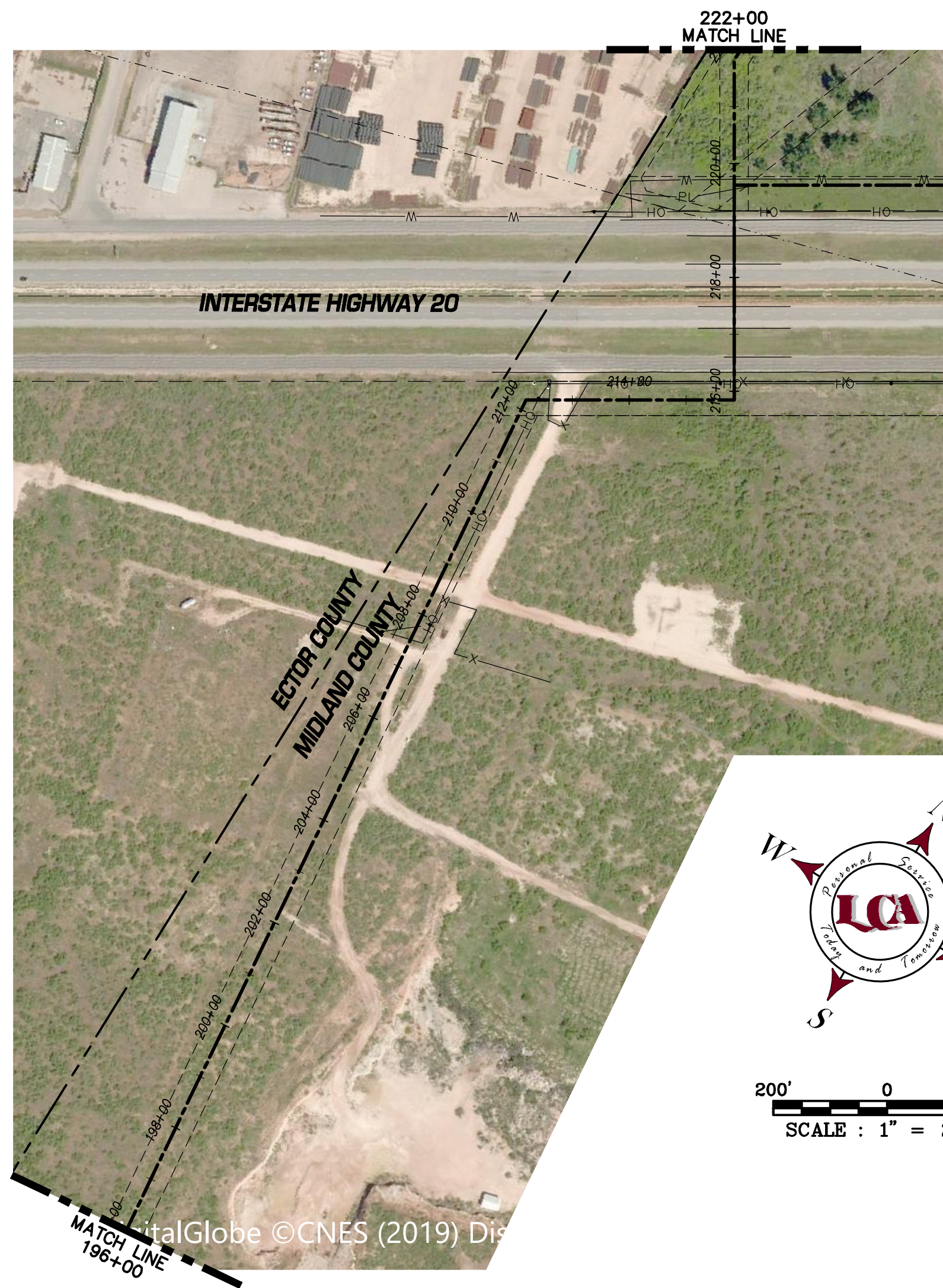
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CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

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FOR CONSTRUCTION

EXISTING CONDITIONS
SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS



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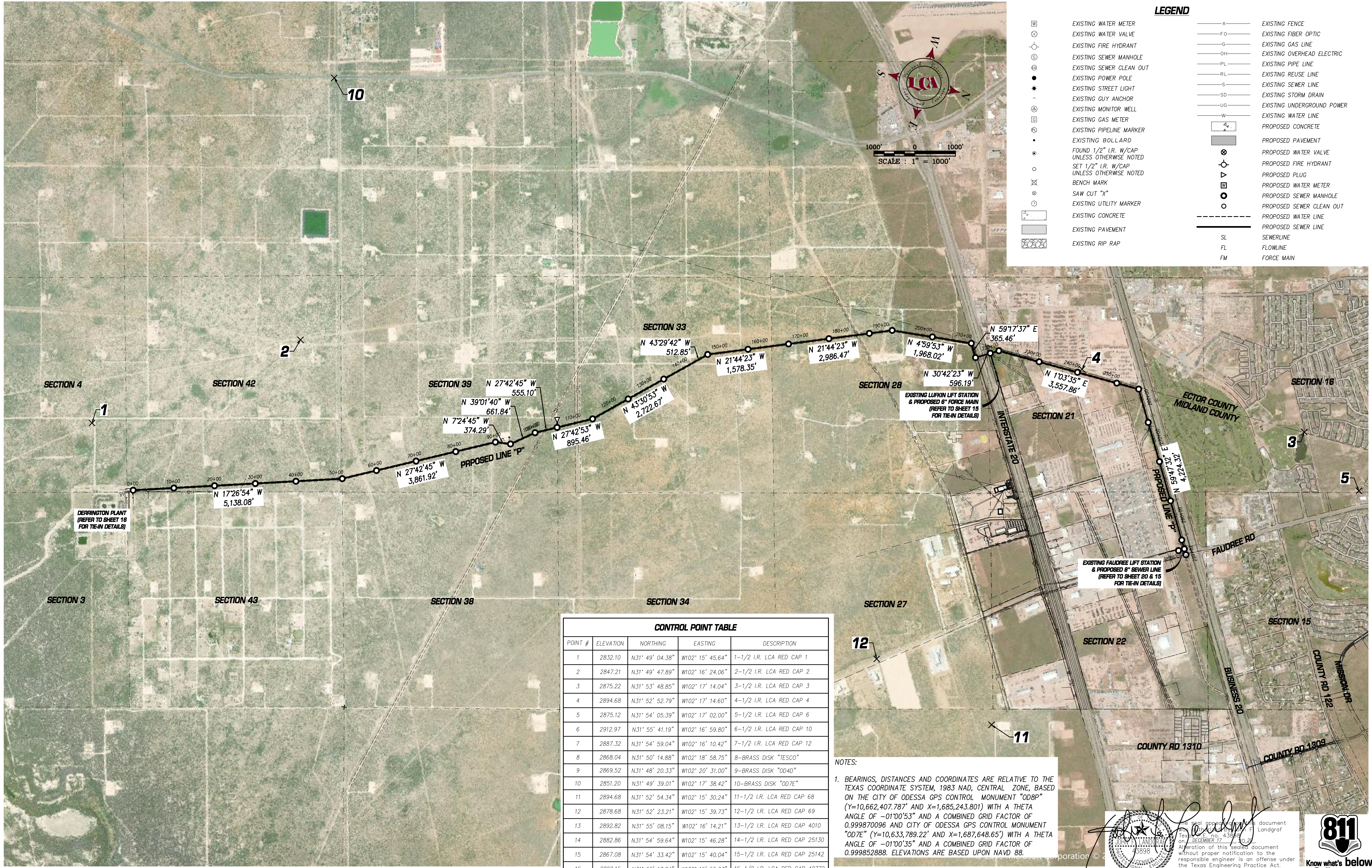
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EXISTING CONDITIONS
SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS

[Signature]
 I hereby seal and approve this document
 on DECEMBER 17, 2020
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Know what's below. Call before you dig.



LEGEND

⊗	EXISTING WATER METER	—X—	EXISTING FENCE
⊙	EXISTING WATER VALVE	—FO—	EXISTING FIBER OPTIC
⊕	EXISTING FIRE HYDRANT	—G—	EXISTING GAS LINE
⊖	EXISTING SEWER MANHOLE	—OH—	EXISTING OVERHEAD ELECTRIC
⊗	EXISTING SEWER CLEAN OUT	—PL—	EXISTING PIPE LINE
●	EXISTING POWER POLE	—RL—	EXISTING REUSE LINE
⊙	EXISTING STREET LIGHT	—S—	EXISTING SEWER LINE
⊕	EXISTING GUY ANCHOR	—SD—	EXISTING STORM DRAIN
⊖	EXISTING MONITOR WELL	—UG—	EXISTING UNDERGROUND POWER
⊗	EXISTING GAS METER	—W—	EXISTING WATER LINE
⊕	EXISTING PIPELINE MARKER	▭	PROPOSED CONCRETE
●	EXISTING BOLLARD	▭	PROPOSED PAVEMENT
⊙	FOUND 1/2" I.R. W/CAP UNLESS OTHERWISE NOTED	⊗	PROPOSED WATER VALVE
⊕	SET 1/2" I.R. W/CAP UNLESS OTHERWISE NOTED	⊕	PROPOSED FIRE HYDRANT
⊖	BENCH MARK	⊖	PROPOSED PLUG
⊗	SAW CUT "X"	⊗	PROPOSED WATER METER
⊕	EXISTING UTILITY MARKER	⊕	PROPOSED SEWER MANHOLE
⊖	EXISTING CONCRETE	⊖	PROPOSED SEWER CLEAN OUT
▭	EXISTING PAVEMENT	---	PROPOSED WATER LINE
▭	EXISTING RIP RAP	---	PROPOSED SEWER LINE
		SL	SEWERLINE
		FL	FLOWLINE
		FM	FORCE MAIN

CONTROL POINT TABLE

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	2832.10	N31° 49' 04.38"	W102° 15' 45.64"	1-1/2 I.R. LCA RED CAP 1
2	2847.21	N31° 49' 47.89"	W102° 16' 24.06"	2-1/2 I.R. LCA RED CAP 2
3	2875.22	N31° 53' 48.85"	W102° 17' 14.04"	3-1/2 I.R. LCA RED CAP 3
4	2894.68	N31° 52' 52.79"	W102° 17' 14.60"	4-1/2 I.R. LCA RED CAP 4
5	2875.12	N31° 54' 05.39"	W102° 17' 02.00"	5-1/2 I.R. LCA RED CAP 6
6	2912.97	N31° 55' 41.19"	W102° 16' 59.80"	6-1/2 I.R. LCA RED CAP 10
7	2887.32	N31° 54' 59.04"	W102° 16' 10.42"	7-1/2 I.R. LCA RED CAP 12
8	2868.04	N31° 50' 14.88"	W102° 18' 58.75"	8-BRASS DISK "TESCO"
9	2869.52	N31° 48' 20.33"	W102° 20' 31.00"	9-BRASS DISK "0040"
10	2851.20	N31° 49' 39.01"	W102° 17' 38.42"	10-BRASS DISK "007E"
11	2894.68	N31° 52' 54.34"	W102° 15' 30.24"	11-1/2 I.R. LCA RED CAP 68
12	2878.68	N31° 52' 23.21"	W102° 15' 39.73"	12-1/2 I.R. LCA RED CAP 69
13	2892.82	N31° 55' 08.15"	W102° 16' 14.21"	13-1/2 I.R. LCA RED CAP 4010
14	2882.86	N31° 54' 59.64"	W102° 15' 46.28"	14-1/2 I.R. LCA RED CAP 25130
15	2867.08	N31° 54' 33.42"	W102° 15' 40.04"	15-1/2 I.R. LCA RED CAP 25142
16	2892.15	N31° 55' 17.84"	W102° 15' 55.03"	16-1/2 I.R. LCA RED CAP 42772

NOTES:

1. BEARINGS, DISTANCES AND COORDINATES ARE RELATIVE TO THE TEXAS COORDINATE SYSTEM, 1983 NAD, CENTRAL ZONE, BASED ON THE CITY OF ODESSA GPS CONTROL MONUMENT "008P" (Y=10,662,407.787" AND X=1,685,243.801") WITH A THETA ANGLE OF -01°00'53" AND A COMBINED GRID FACTOR OF 0.999870096 AND CITY OF ODESSA GPS CONTROL MONUMENT "007E" (Y=10,633,789.22" AND X=1,687,648.65") WITH A THETA ANGLE OF -01°00'35" AND A COMBINED GRID FACTOR OF 0.999852888. ELEVATIONS ARE BASED UPON NAVD 88.

Professional Engineer
 JOHN A. LANDGRAF
 License No. 43589
 Expires December 17, 2020
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CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

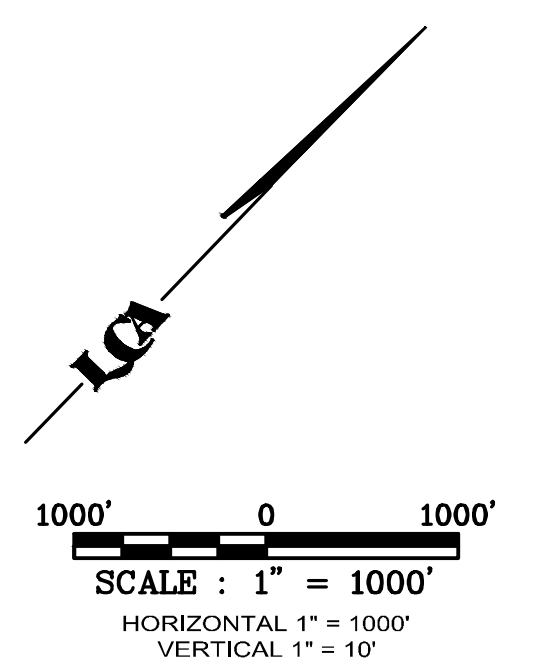
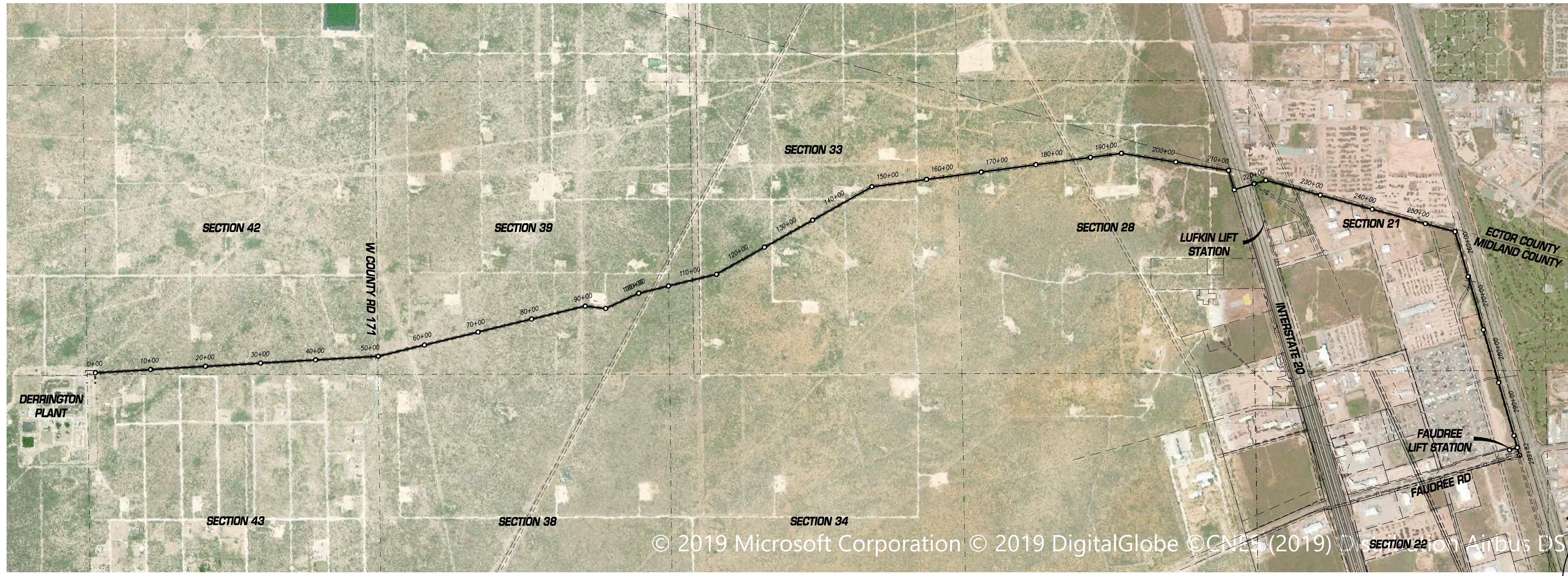
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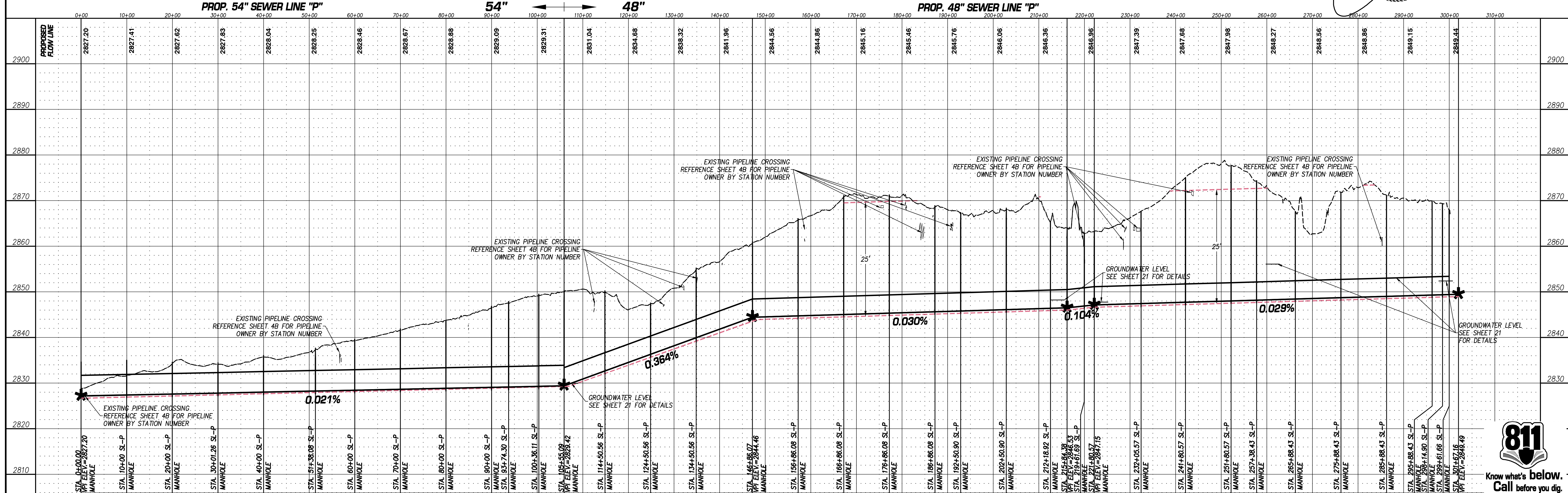
MASTER PLAN
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS

Seq. 04 of 30
 Page No. 04



Professional Engineer Seal for F. Landgraf, State of Texas, No. 43594, Exp. 12/31/2025. The seal appears on this document on DECEMBER 17, 2025. Alteration of this sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.

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FOR CONSTRUCTION

SEWER LINE P MASTER PLAN & PROFILE
 SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS



GENERAL NOTES

WATER & SEWER GENERAL NOTES:

- CONTRACTOR SHALL SUBMIT BARRICADE/SIGN PLAN TO THE CITY OF ODESSA FOR APPROVAL.
- LOCATION OF ALL PIPELINES AND UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR. NO SEPARATE ITEM PAYMENT WILL BE PAID FOR ANY INSTALLATION PROBLEMS CAUSED BY THE UNDERGROUND UTILITIES AND PIPELINES ENCOUNTERED DURING THIS PROJECT.
- NEW PIPES CROSSING EXISTING UTILITIES SHALL MEET THE REQUIREMENT SET FORTH BY THE APPLICABLE REGULATORY AGENCY.
- PIPELINE LOCATION SHALL BE A MINIMUM OF 5 FEET FROM EXISTING POWER POLES 3' FROM TELEPHONE RISERS AND OTHER UTILITIES. DEFLECT AROUND POWER POLES, SEE NOTE 3.
- LEFT BLANK INTENTIONALLY.
- REPAIR/REPLACE CALICHES/PVM'T TO EXISTING OR BETTER CONDITIONS AFTER INSTALLATION OF PIPELINE. THIS SECTION APPLIES TO ALL WATER TAPS AND ALL PVM'T CUTS. SEE DETAILS.
- LEFT BLANK INTENTIONALLY.
- THE LOCATION OF ALL EXISTING WATER AND WASTEWATER FACILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND FOR INFORMATION PURPOSES ONLY.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT SEPARATION DISTANCE & CROSSING PROVISIONS ARE MAINTAINED AND/OR PROVIDED FOR PER TCEQ & CITY REQUIREMENTS.
- CONTRACTOR SHALL SAW CUT (NEAT STRAIGHT EDGE) ALL EXISTING PAVEMENT/CURB & GUTTER BEFORE REMOVAL.
- CONTRACTOR SHALL VERIFY LOCATION & DEPTH OF ALL CONFLICTING UTILITIES & PIPELINES (PUBLIC & PRIVATE).
- BEARINGS, DISTANCES AND COORDINATES ARE RELATIVE TO THE TEXAS COORDINATE SYSTEM, 1983 NAD, CENTRAL ZONE, BASED ON THE CITY OF ODESSA GPS CONTROL MONUMENT "OD8P" (Y=10,662,407.787' AND X=1,685,243.801) WITH A THETA ANGLE OF -01°00'53" AND A COMBINED GRID FACTOR OF 0.999870096 AND CITY OF ODESSA GPS CONTROL MONUMENT "OD7E" (Y=10,633,789.22' AND X=1,687,648.65') WITH A THETA ANGLE OF -01°00'35" AND A COMBINED GRID FACTOR OF 0.999852888. ELEVATIONS ARE BASED UPON NAVD 88.
- CONTRACTOR TO MAINTAIN THROUGH TRAFFIC ON OR AROUND, ALL EXCAVATIONS OF COUNTY, RURAL, OIL FIELD OR RANCH ROADS UNTIL RETURNED TO FULL SERVICE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ABIDE BY THE TEXAS ONE-CALL LAW AND ITS REQUIREMENTS FOR NOTIFICATION PRIOR TO DIGGING. REFER TO THE "SPECIAL CONDITIONS" SECTION IN THE JOB SPECIFICATIONS FOR MORE SPECIFIC REQUIREMENTS FOR PARTICULAR PIPELINE OWNERS/OPERATORS. OIL & GAS PIPELINES HAVE BEEN IDENTIFIED DURING THE COURSE OF THE DESIGN OF LINE P AND NOTED ON THE PLAN SHEETS. THE LINES IDENTIFIED MAY OR MAY NOT BE THE ENTIRETY OF LINES CROSSING THE LINE P ALIGNMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE PIPELINE REPRESENTATIVES ARE CONTACTED SINCE MANY HAVE REQUIREMENTS SUCH AS BEING PRESENT (OR OTHER) DURING EXCAVATION ACTIVITIES AROUND THEIR LINES. THE TABLE DEVELOPED WITH PIPELINE CONTACTS SHOWN ON PAGE 04B OF THE PLAN SHEETS IS A BEST EFFORT TO IDENTIFY THE PIPELINE CONTACTS FOR A SECONDARY CONVENIENCE. IN THE EVENT THESE HAVE CHANGED, THE CONTRACTOR WILL DETERMINE THE CORRECT CONTACT AND PROCEED ACCORDINGLY.
- THE PRIVATE ELECTRIC POWER POLE LOCATED AT ~STATION 211+75 SHALL BE CONTRACTOR'S RESPONSIBILITY TO RELOCATED TO AVOID A CONFLICT. THE POLE DELIVERS POWER TO A WATER WELL, THEREFORE THE RELOCATION OF THE POLE NOTED ON PLAN SHEET P12 SHALL BE COORDINATED TO MINIMIZE THE DOWN-TIME BASED ON THE OWNER'S REQUIREMENTS. THE RELOCATION QUALITY OF INSTALL SHALL BE EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
- THE CONTRACTOR SHALL TAKE NOTE OF THE CASING SIZES CALLED OUT UNDER ROAD AND/OR RAILROAD CROSSINGS ON THE PLAN SHEETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE CASING SIZE(S) ARE APPROPRIATE FOR THE MAXIMUM O.D. OF THE PIPE SELECTED AND USED. CASING I.D SHALL BE A MINIMUM OF SIX (6) INCHES GREATER THAN THE GREATEST O.D. OF THE PIPELINE INCLUDING FITTINGS, COUPLINGS, AND BELLS AND ACCOMMODATE THE APPROPRIATE CASING SPACERS AS DEPICTED ON THE CITY OF ODESSA STANDARD PIPE ENCASEMENT DETAIL.
- CONTRACTOR TO CONFIRM THAT THE PLAINS PIPELINE HAS REMOVED THE 6" PIPELINE PRIOR TO CONSTRUCTION.
- IN THOSE CASES WHERE GROUNDWATER IS ENCOUNTERED THE CONTRACTOR SHALL ABIDE BY THE CITY OF ODESSA STANDARD CONSTRUCTION SPECIFICATIONS, SECTION 31 23 19, "DEWATERING" FOUND IN THE "SPECIAL SPECIFICATIONS" OF THE TECHNICAL SPECIFICATIONS.
- THE CONTRACTOR SHALL ENSURE A MINIMUM OF 10 FEET OF EARTHEN MATERIAL BE PLACED ABOVE THE TOP OF PIPE WHEN INTERACTION WITH THE GROUNDWATER TABLE IS PRESENT. MATERIAL MAY BE OF NATIVE SOILS EXCLUDING ANY ROCKS, BRUSH, FOREIGN DEBRIS, OR VOIDS. COVER IS REQUIRED WHENEVER CONSTRUCTION HAS HALTED FOR ANY LENGTH OF PIPE WITHOUT PLAN SPECIFIED BACKFILL IN PLACE. TEMPORARY BACKFILL TO PREVENT FLOTATION IS NOT INTENDED TO REPLACE THE BACKFILL REQUIREMENTS IN THE PLANS AND SPECIFICATIONS. FOR INSTALLATION OF PIPE WITH AN OUTSIDE DIAMETER OF LESS THAN 54", TEMPORARY BACKFILL REQUIREMENTS MAY BE REDUCED WHEN APPROVED BY THE CIVIL ENGINEER.

ESTIMATED QUANTITIES

2	EA.	54" TEE MANHOLE (0'-3' DEPTH)
5	EA.	54" TEE MANHOLE (3'-10' DEPTH)
5	EA.	54" TEE MANHOLE (10'-20' DEPTH)
1	EA.	54" TEE MANHOLE (20'+ DEPTH)
1	EA.	54"x48"x48" TEE MANHOLE (20'+ DEPTH)
8	EA.	48" TEE MANHOLE (10'-20' DEPTH)
13	EA.	48" TEE MANHOLE (20'+ DEPTH)
1	EA.	TEE BASE MANHOLE W/6" STUB OUT
1	EA.	TEE BASE MANHOLE W/8" STUB OUT
1	EA.	48" STD. CITY OF ODESSA MANHOLE
1	EA.	SPECIAL 96" MH (FAUDREE)
562	L.F.	54" SEWER LINE (0'-3' DEPTH)
4,998	L.F.	54" SEWER LINE (3'-10' DEPTH)
2,638	L.F.	54" SEWER LINE (10'-15' DEPTH)
2,201	L.F.	54" SEWER LINE (15'-20' DEPTH)
318	L.F.	54" SEWER LINE (20'+ DEPTH)
2,651	L.F.	48" SEWER LINE (10'-15' DEPTH)
4,679	L.F.	48" SEWER LINE (15'-20' DEPTH)
12,098	L.F.	48" SEWER LINE (20'+ DEPTH)
149	L.F.	8" SEWER LINE
738	L.F.	6" FORCE MAIN LINE
5	L.F.	8" SEWER LINE PLUG & ABANDON
15	L.F.	42 SEWER LINE PLUG & ABANDON
420	L.F.	60" CASING W/48" PIPE
60	L.F.	66" CASING
16	S.Y.	PAVEMENT REPAIR
1	L.S.	JUNCTION BOX
78	EA.	FIBERGLASS PIPELINE MARKERS
3	EA.	GALVANIZED FENCE GATE
5	EA.	CHAIN LINK FENCE GATE
2	EA.	WATER TIGHT MANHOLE COVER
49	ACRES	REVEGETATION
20	L.F.	36" SEWER LINE
1	L.S.	LIFT STATION DEMO
21,220	L.F.	12' CALICHE SERVICE ROAD
1	L.S.	PRIVATE POWER POLE & GUY WIRE RELOCATED

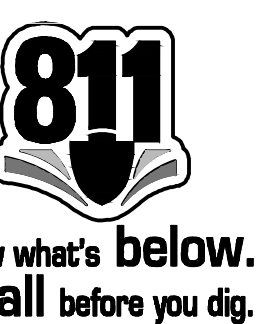
- ALL MATERIALS CONSTRUCTION, TESTING AND WORKMANSHIP SHALL COMPLY WITH THE CITY OF ODESSA'S STANDARD SPECIFICATIONS OR TXDOT, RAILROAD, PIPELINE REQUIREMENTS, UNLESS SPECIFIED OTHERWISE IN THESE PLANS OR APPROVED BY THE OWNER IN WRITING.
- DURING THE CONSTRUCTION OF THIS PROJECT, ANY INTERPRETATION OF THE STANDARD SPECIFICATIONS OR ANY MATTER WHICH REQUIRES THE APPROVAL OF THE OWNER MUST BE APPROVED BY THE CITY'S PUBLIC WORKS DEPARTMENT BEFORE ANY CONSTRUCTION INVOLVING THAT DECISION COMMENCES. ASSUMPTIONS ABOUT WHAT THOSE DECISIONS MIGHT BE, WHICH ARE MADE DURING THE BIDDING PHASE, WILL HAVE NO BEARING ON THE DECISION.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS BEFORE AND DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND NOTIFYING ALL AUTHORIZED INSPECTORS AND PERSONS IN CHARGE OF PRIVATE OR PUBLIC UTILITIES AFFECTED BY THIS PROJECT PRIOR TO CONSTRUCTION COMMENCEMENT.
- THE SIZE AND LOCATION OF ALL EXISTING UNDERGROUND UTILITIES IDENTIFIED IN THESE CONSTRUCTION PLANS (INCLUDING SERVICE LATERALS) ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION (BOTH HORIZONTALLY & VERTICALLY) PRIOR TO CONSTRUCTION COMMENCEMENT AND PROTECT THE SAME DURING CONSTRUCTION. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT. THE CITY OR ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL PROVIDE AN OSHA-APPROVED TRENCH SAFETY PROGRAM SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS AND PROVIDE DAILY INSPECTIONS DURING CONSTRUCTION TO ENSURE THAT THE PROVISIONS OF THE PLAN ARE BEING MET. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE SAFETY OF ALL PERSONS WORKING OR PRESENT IN AND AROUND THE TRENCH.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL PUBLIC UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT. ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, ETC. MUST BE ADJUSTED TO PROPER LINE AND GRADE BY THE CONTRACTOR PRIOR TO AND AFTER THE PLACEMENTS OF THE FINAL GRADE AND/OR PAVEMENT. ANY REMOVAL OR DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE AND SHALL BE APPROVED BY THE CITY, SAID EXISTING IMPROVEMENTS SHALL ALSO INCLUDE, BUT NOT BE LIMITED TO, BERMS, DITCHES, FENCES, VEGETATION, ETC.
- CONTRACTOR SHALL IMMEDIATELY REPORT ANY DIFFERENCES BETWEEN THE INFORMATION IDENTIFIED IN THESE PLANS AND THE CONDITIONS IN THE FIELD TO THE ENGINEER.
- WHERE TRENCHING IS UTILIZED DURING CONSTRUCTION NO MORE THAN 100 FEET OF THE TRENCH SHALL BE OPEN AT ANY GIVEN TIME. NO EXCAVATIONS SHALL BE LEFT OPEN OVERNIGHT UNLESS PRIOR APPROVAL IS GRANTED BY THE OWNER. WHERE A TRENCH IS LEFT OPEN DURING NON-WORKING HOURS, ORANGE SAFETY FENCE SHALL BE INSTALLED WITHIN 5 FEET AROUND THE TRENCH PERIMETER. ALL EXCAVATIONS IN PAVED AREAS WHICH CANNOT BE COMPLETELY BACKFILLED PRIOR TO BEING SUBJECTED TO TRAFFIC SHALL BE COVERED WITH STEEL SHEETING AND ANCHORED TO PAVEMENT. ALL OPEN PITS IN THE 1-20 TXDOT R.O.W. WILL BE SECURED BY EITHER CONCRETE OR WATER-FILLED BARRIERS WHILE OPEN.

- PAVEMENT PRESERVATION TECHNIQUES SHALL BE UTILIZED BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION. NO TRACK EQUIPMENT IS ALLOWED ON ANY CITY STREET, CURB OR PRIVATE PAVING UNLESS PRIOR APPROVAL IS GIVEN BY THE CITY.
- CONTRACTOR SHALL NOT CLOSE A STREET TO TRAFFIC OF INTERFERE WITH TRAFFIC MOVEMENT ON A STREET WITHOUT NOTIFYING THE CITY ENGINEER, TXDOT ENGINEER, COUNTY ENGINEER AND SECURING PERMISSION TO DO SO. WHEN ANY STREET SECTION OF A STREET, OR STREET SHOULDER IS CLOSED, OR TRAFFIC FLOW IS RESTRICTED. THE CONTRACTOR SHALL FURNISH A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) FOR REVIEW AND APPROVAL BY THE CITY ENGINEER OR HIS DESIGNEE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING BARRICADES, WARNING AND DIRECTING SIGNS, LIGHTS, TRAFFIC CONTROL DEVICES, FLAGS AND PROVIDE FLAG MEN ALONG THE ENTIRE STREET WITHIN THE LIMITS OF THE PROJECT IN ACCORDANCE WITH THE APPROVED TRAFFIC CONTROL PLAN AND TMUTCD STANDARDS, ALL BARRICADES SHALL BE EQUIPPED WITH FLASHERS AND BE KEPT BURNING BETWEEN THE HOURS OF SUNSET AND SUNRISE.
- CONTRACTOR SHALL PROTECT ALL EXISTING TREES AT THE PROJECT SITE. NO EXISTING TREE SHALL BE TRIMMED OR REMOVED WITHOUT AUTHORIZATION FROM THE OWNER UNLESS NOTED OTHERWISE ON THE PLANS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING, TO THE ORIGINAL CONDITION OR BETTER, ANY DAMAGES TO EXISTING VEGETATION, PAVEMENTS, SIDEWALKS, DRIVEWAYS, FENCES, OR OTHER STRUCTURES AT HIS EXPENSE, EXCEPT AS NOTED IN THE PLANS. ALL SUCH WORK IS SUBSIDIARY TO THE OVER ALL JOB.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING AND PROTECTING ALL MATERIAL AND EQUIPMENT STORED ON THE JOBSITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIALS IN A SAFE AND WORKMANLIKE MANNER TO PREVENT INJURIES DURING AND AFTER WORK HOURS.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING MATERIALS TESTING FOR THE SCOPE OF THIS PROJECT IN ACCORDANCE WITH THE CITY OF ODESSA'S SPECIFICATIONS. ALL MATERIALS TESTING SHALL BE PERFORMED BY A QUALIFIED INDEPENDENT MATERIALS TESTING LAB. (SEE CITY OF ODESSA SPECIAL CONDITIONS 1.16)
- CONTRACTOR SHALL MAINTAIN ACCESS TO EACH AND EVERY PROPERTY ADJACENT TO, OR IMPACTED BY, CONSTRUCTION BY THE PROVISION OF TEMPORARY ACCESS AS NECESSARY AND AMENABLE TO THE PROPERTY OWNER. NO SEPARATE PAY FOR ITEMS COVERED IN THE PLANS, SPECIFICATIONS, OR NOTES WILL BE CONSIDERED UNLESS SPECIFICALLY ESTABLISHED IN THE UNIT COST BREAKDOWN OR BID FORM, IF PROVIDED. ALL ITEMS NOT SPECIFICALLY CALLED FOR ON THE PLANS OR IN THE SPECIFICATIONS BUT REASONABLY NECESSARY TO CONSTRUCT THE FACILITIES OR IMPROVEMENTS SHALL BE CONSIDERED INCIDENTAL TO THE OVERALL PROJECT, AND NO SEPARATE PAYMENTS WILL BE MADE FOR THESE ITEMS. COST OF SAME WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEMS FOR WHICH WORK IS A COMPONENT PART OR INCIDENTAL TO THE WORK.
- IN THOSE INSTANCES WHEN THE CONTRACTOR IS CROSSING UNDER POWER LINES, SPECIAL ATTENTION SHALL BE GIVEN TO ENSURING THERE IS ADEQUATE VERTICAL CLEARANCE BETWEEN THE LINES AND ANY EQUIPMENT USED FOR EXCAVATION, ETC.
- CONTRACTOR IS MADE AWARE THAT THE CITY OF ODESSA OFFERS SPACE ADJACENT TO THE DERRINGTON PLANT FOR NO ADDITIONAL COST TO THE PROJECT. COORDINATION AND AREA DESIGNATION IS REQUIRED.
- CONTRACTOR SHALL SUBMIT A DISPOSAL SITE AND TRUCK ROUTE FOR APPROVAL FOR SPOILS AND CONSTRUCTION WASTE.

PIPELINE CONTACTS		
COMPANY	CONTACT NAME	PHONE NUMBER
AT&T	JERRY UNDERWOOD	432-684-1249
ATMOS ENERGY	KELLEN LEE	432-617-3448
ATMOS	JAKE HANTZ	432-617-3420
CHEVRON	JOHNNY GONZALES	432-210-0886
CONCHO WATERLINE	OWEN YOCHAM	432-556-1909
	ZACH CLAYBROOK	432-250-9804
	JOSH KING	432-631-9295
DCP MIDSTREAM	JARED BRADFORD	432-488-8249
DCP SANDHILLS	ERIC BADILLO	432-234-4717
MAGELLAN	BOBBY VALDEZ	432-528-5469
ONEOK	JARED ROCKMAN NOP	432-557-4629
	MATT BACON NGL	432-250-7044
PLAINS	JOSH VALENZUELA	432-260-0723
	RICARDO VEGA	432-208-9677
	DUANE KONEN	432-238-9849
EOG	BENJAMIN TREES	432-210-8513
CITY OF ODESSA	UTILITY DEPARTMENT	432-335-4625

CHEVRON			DCP	EOG FIBERGLASS WL
84+89.94	190+27.64	228+17.77	57+02.10	134+69.09
84+94.53	190+37.66	228+18.82	183+90.38	140+19.03
112+10.20	190+43.76	228+20.22	284+98.15	UNKNOWN
112+20.9	190+48.46	228+71.80	MAGELLAN	56+82.11
117+71.83	190+53.83	230+60.59	56+67.94	ONEOK
127+42.76	190+61.58	231+44.04	CONCHO WL	175+28.66
158+21.07	190+77.21	243+31.79	50+12.86	184+32.30
158+26.65	198+10.99		PLAINS	
175+28.82	208+02.73		0+86.67	
183+56.03	208+16.86		131+77.48	
186+52.68	208+20.19		219+42.01	

Professional Seal of **John F. Landgraf**, P.E.
 License No. 43589
 State of Texas
 Exp. 01/31/2025
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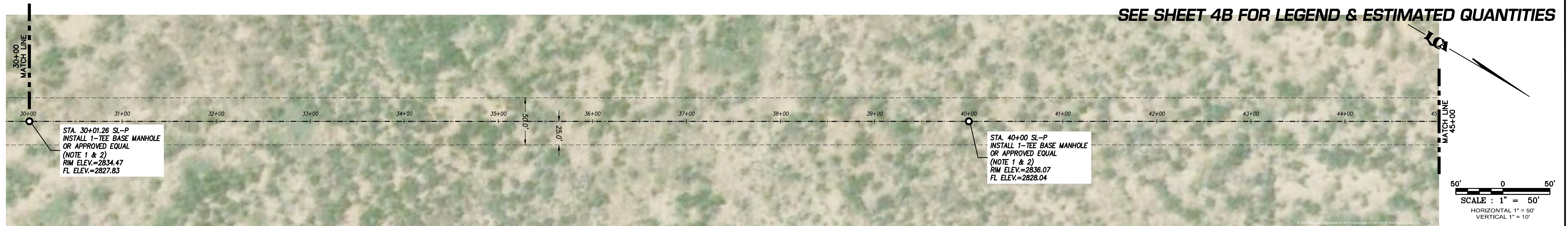
DESIGNED BY	R.A.R.	SCALE	
DRAWN BY	R.A.R.	DATE	MARCH 2020
CHECKED BY	J.F.L.	JOB No.	2018-043
REVIEWED BY	J.F.L.	DWG No.	

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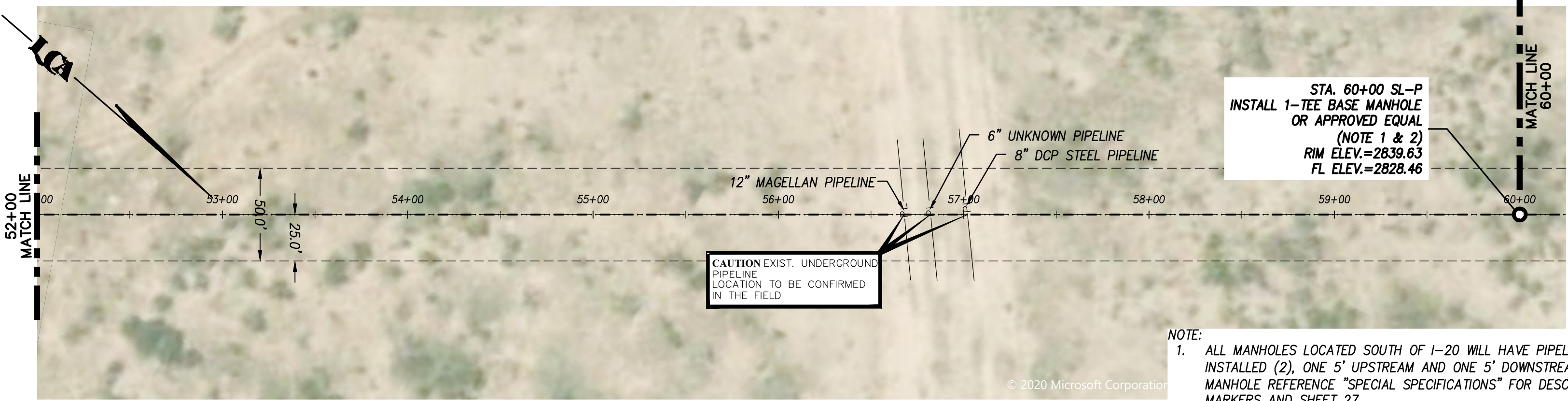
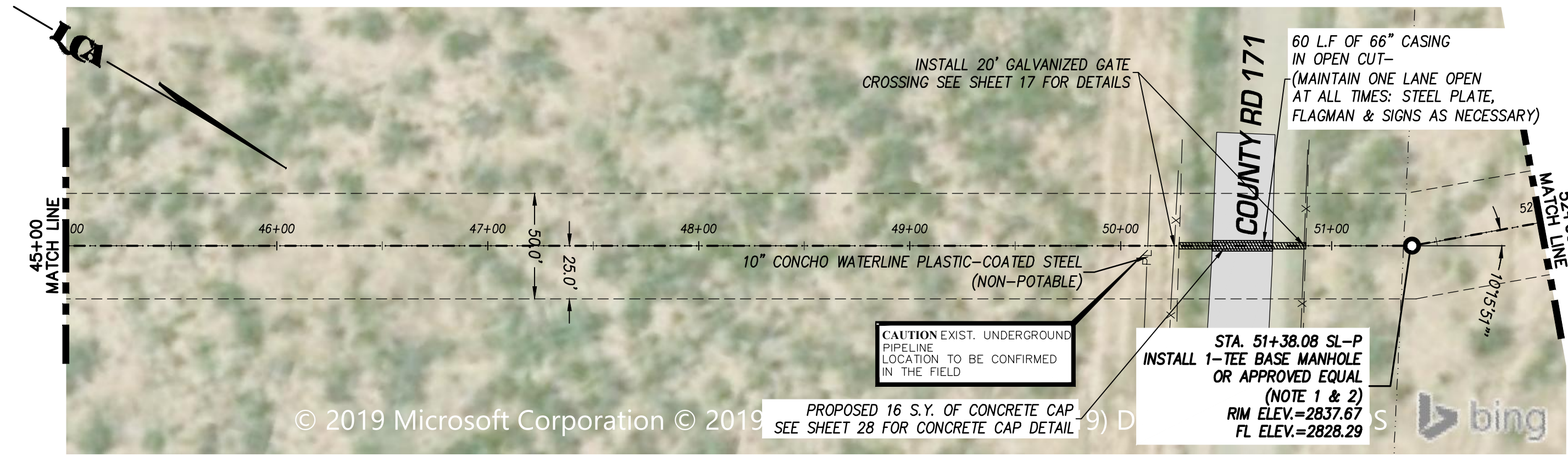
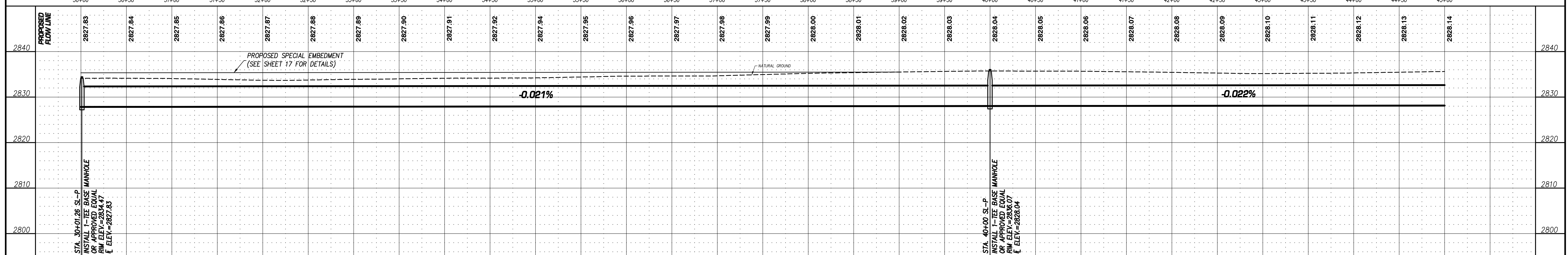
FOR CONSTRUCTION

QUALITY & GENERAL NOTES
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS

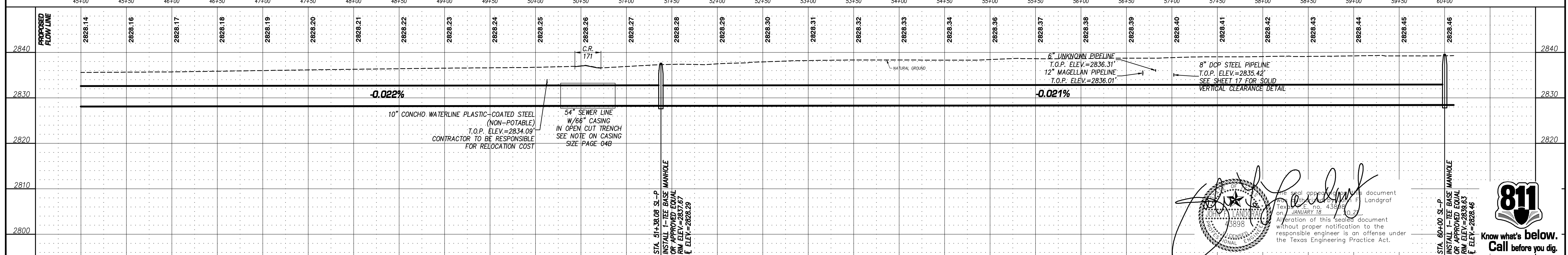
Seq. 04B of 30
 Page No. **04B**



PROP. FRP OR PVC 54" SEWER LINE P



PROP. FRP OR PVC 54" SEWER LINE P



REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

SCALE	1"=50'
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

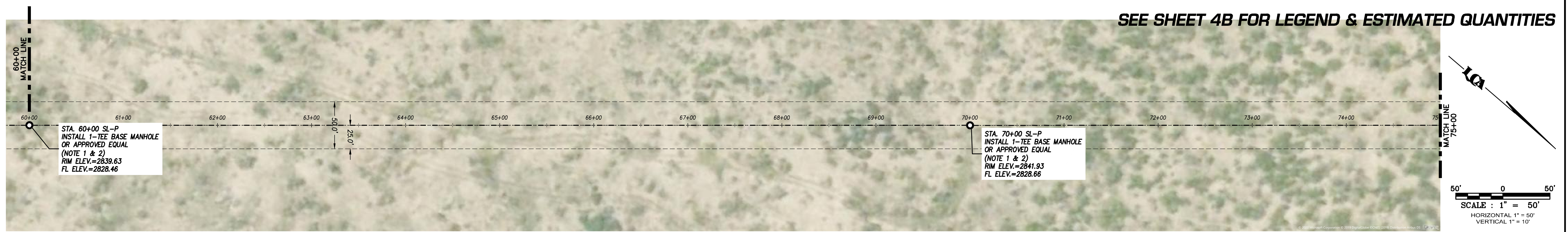
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FOR CONSTRUCTION

SEWER LINE P PLAN & PROFILE
SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS

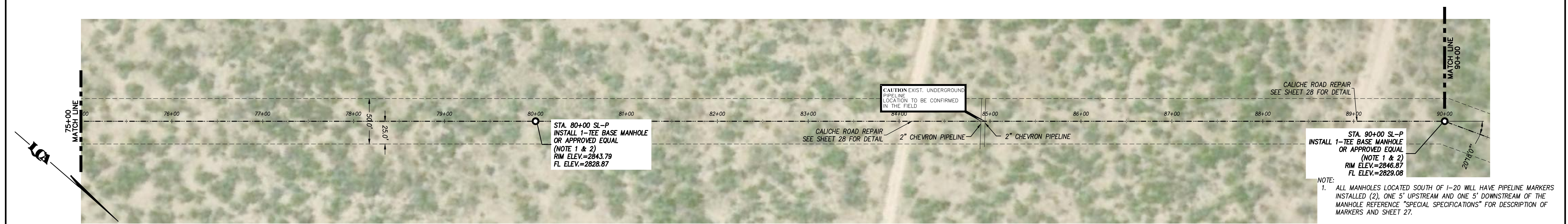
Seq. 06 of 30
 Page No. 06

Know what's below. Call before you dig.



PROP. FRP OR PVC 54" SEWER LINE P

PROPOSED FLOW LINE	60+00	60+50	61+00	61+50	62+00	62+50	63+00	63+50	64+00	64+50	65+00	65+50	66+00	66+50	67+00	67+50	68+00	68+50	69+00	69+50	70+00	70+50	71+00	71+50	72+00	72+50	73+00	73+50	74+00	74+50	75+00	
2850	2828.46	2828.47	2828.48	2828.49	2828.50	2828.51	2828.52	2828.53	2828.54	2828.55	2828.56	2828.58	2828.59	2828.60	2828.61	2828.62	2828.63	2828.64	2828.65	2828.66	2828.67	2828.68	2828.69	2828.70	2828.71	2828.72	2828.73	2828.74	2828.75	2828.76	2828.78	
2840																																
2830																																
2820																																
2810																																



PROP. FRP OR PVC 54" SEWER LINE P

PROPOSED FLOW LINE	75+00	75+50	76+00	76+50	77+00	77+50	78+00	78+50	79+00	79+50	80+00	80+50	81+00	81+50	82+00	82+50	83+00	83+50	84+00	84+50	85+00	85+50	86+00	86+50	87+00	87+50	88+00	88+50	89+00	89+50	90+00	
2850	2828.78	2828.79	2828.80	2828.81	2828.82	2828.83	2828.84	2828.85	2828.86	2828.87	2828.88	2828.89	2828.90	2828.91	2828.92	2828.93	2828.94	2828.95	2828.96	2828.97	2828.98	2829.00	2829.01	2829.02	2829.03	2829.04	2829.05	2829.06	2829.07	2829.08	2829.09	
2840																																
2830																																
2820																																
2810																																

REVISED DATE	REVISION DONE	BY

DESIGNED BY R.A.R.
 DRAWN BY R.A.R.
 CHECKED BY J.F.L.
 REVIEWED BY J.F.L.

SCALE 1"=50'
 DATE MARCH 2020
 JOB No. 2018-043
 DWG No.

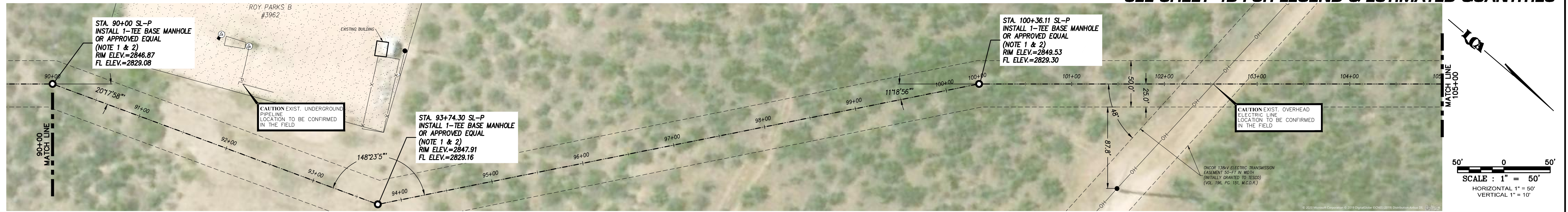
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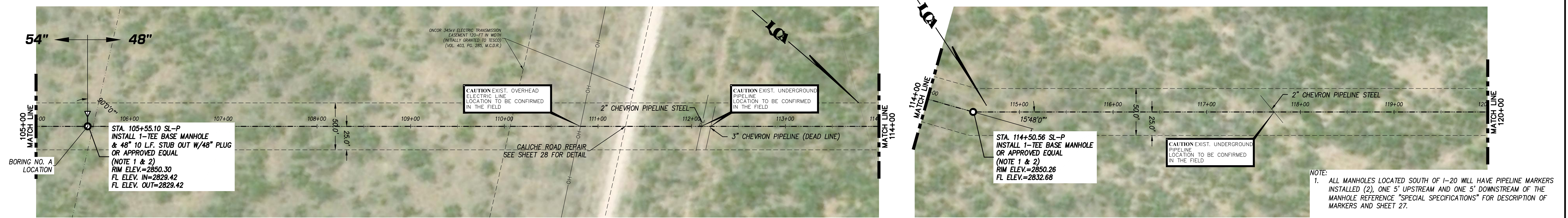
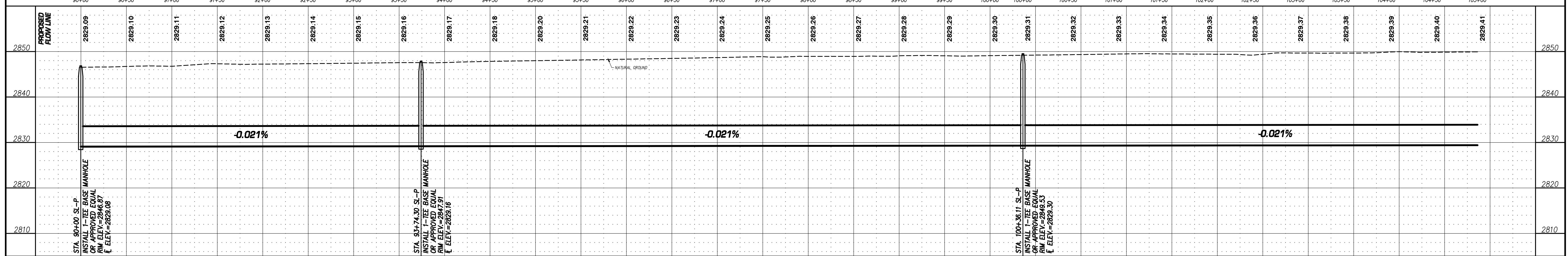
SEWER LINE P PLAN & PROFILE
SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS

Seq. 07 of 30
 Page No. 07

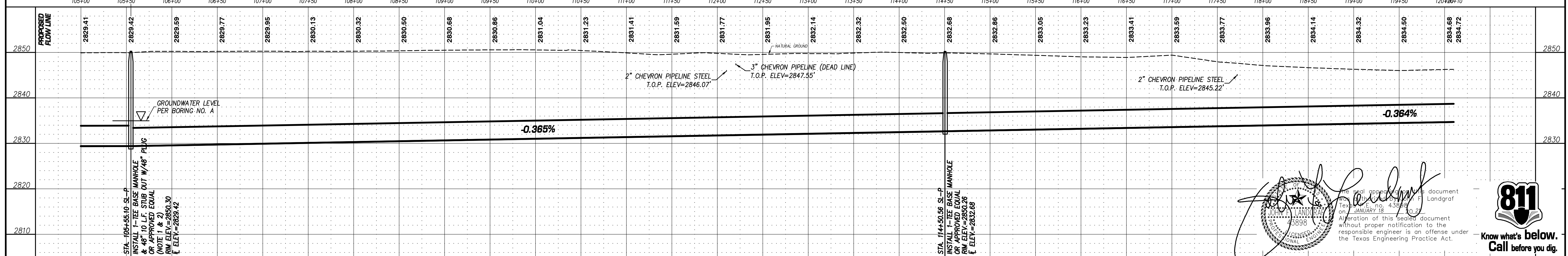




PROP. FRP OR PVC 54" SEWER LINE P

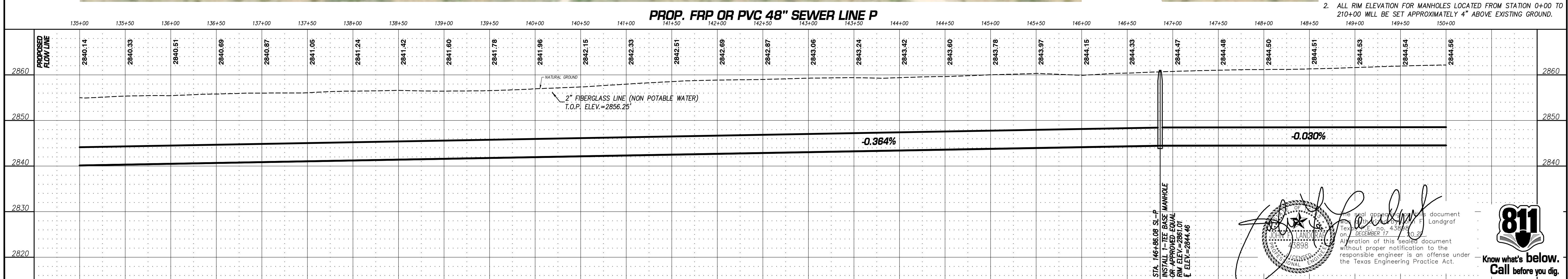
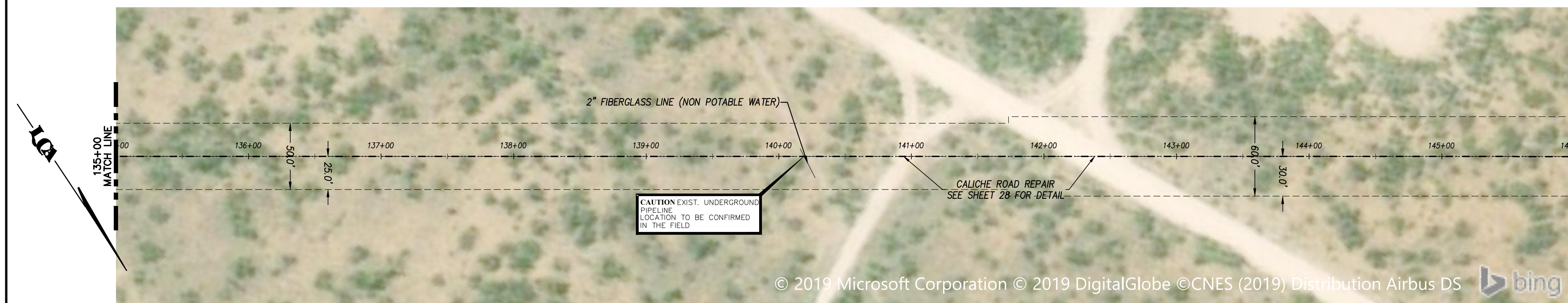
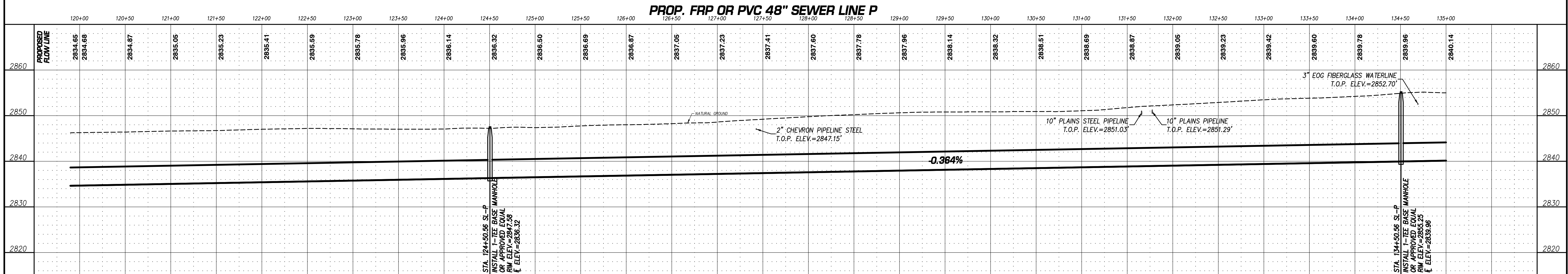
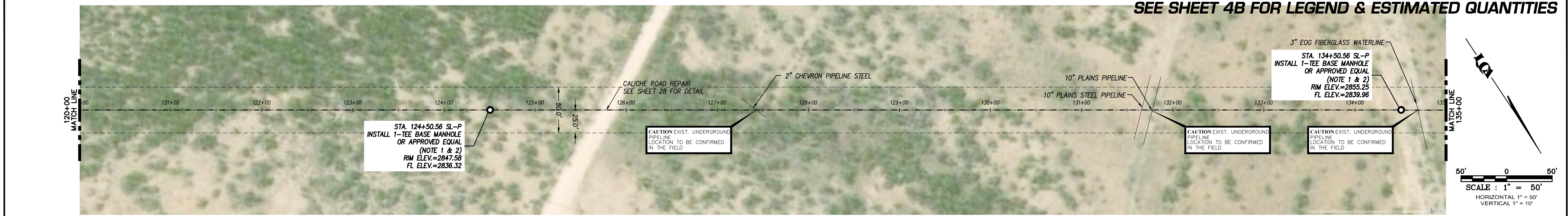


PROP. FRP OR PVC 48" SEWER LINE P



REVISED DATE	REVISION DONE	BY	DESIGNED BY R.A.R.	SCALE 1"=50'	<p>LCA ENVIRONMENTAL • CIVIL ENGINEERING • LAND SURVEYING 521 North Texas, Odessa Tx. 79761 F-001363 F-10034300 Phone # (432) 332-5058 E-Mail : lca@lcaodessa.com</p>	<p>FOR CONSTRUCTION</p>	<p>SEWER LINE P PLAN & PROFILE SANITARY SEWER TRUNK LINE P CITY OF ODESSA, ECTOR COUNTY, TEXAS</p>	Seq. 08 of 30
			DRAWN BY R.A.R.	DATE MARCH 2020				
			CHECKED BY J.F.L.	JOB No. 2018-043				
			REVIEWED BY J.F.L.	DWG No.				

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REVISED DATE	REVISION DONE	BY

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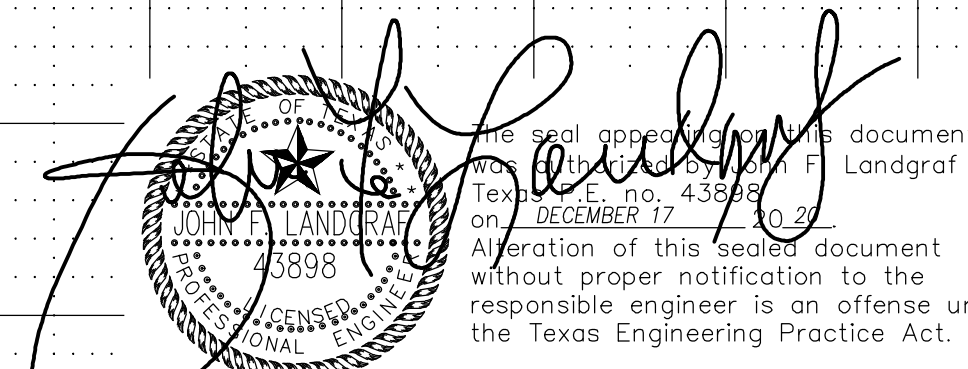
SCALE	1"=50'
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

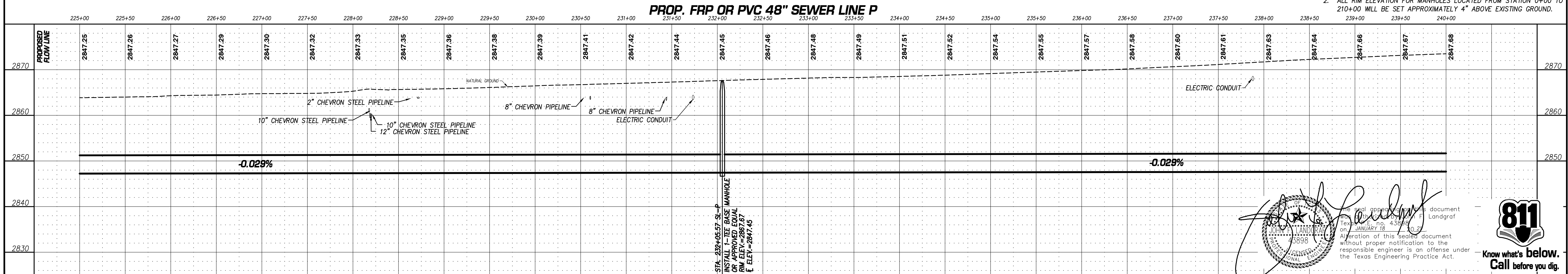
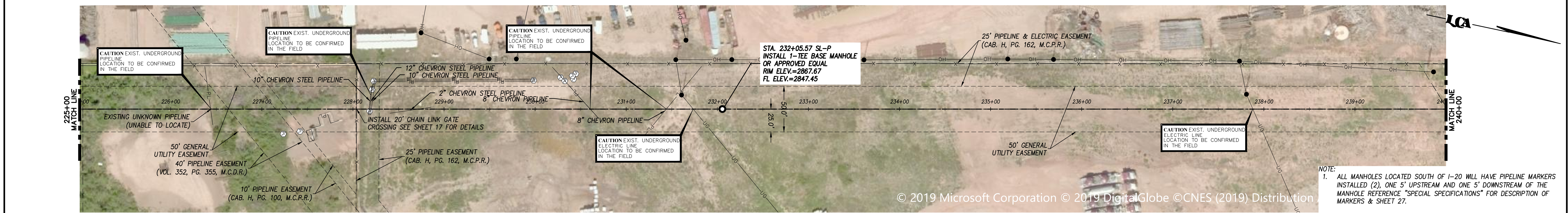
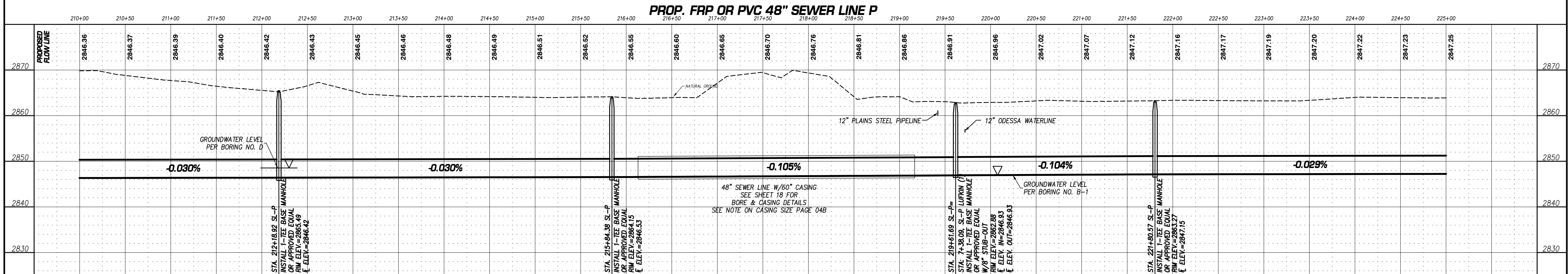
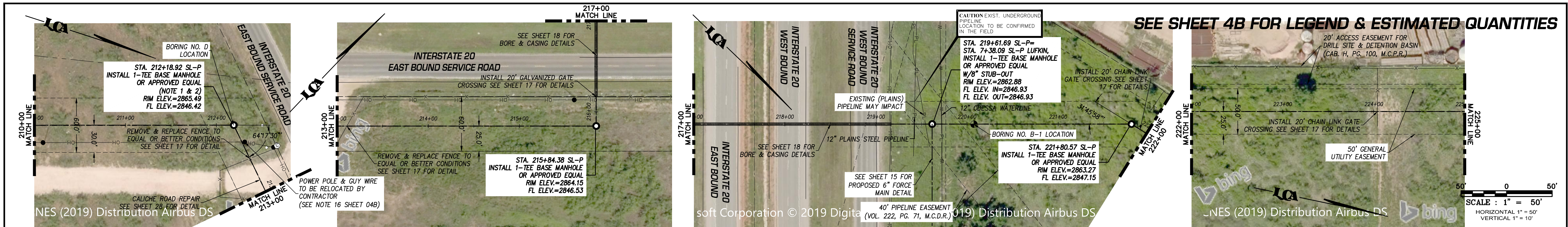
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FOR CONSTRUCTION

SEWER LINE P PLAN & PROFILE
SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS

Seq. 09 of 30
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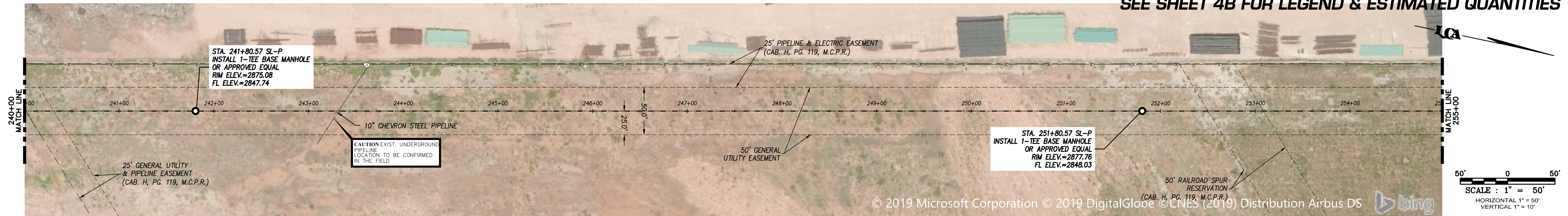




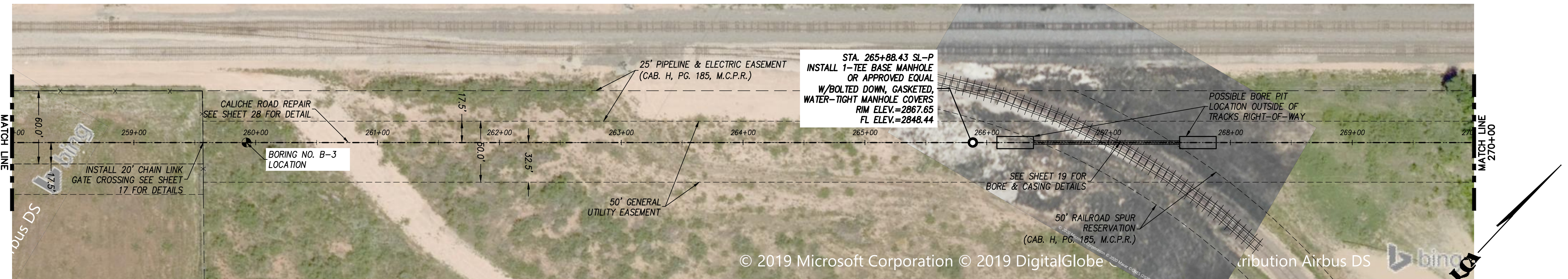
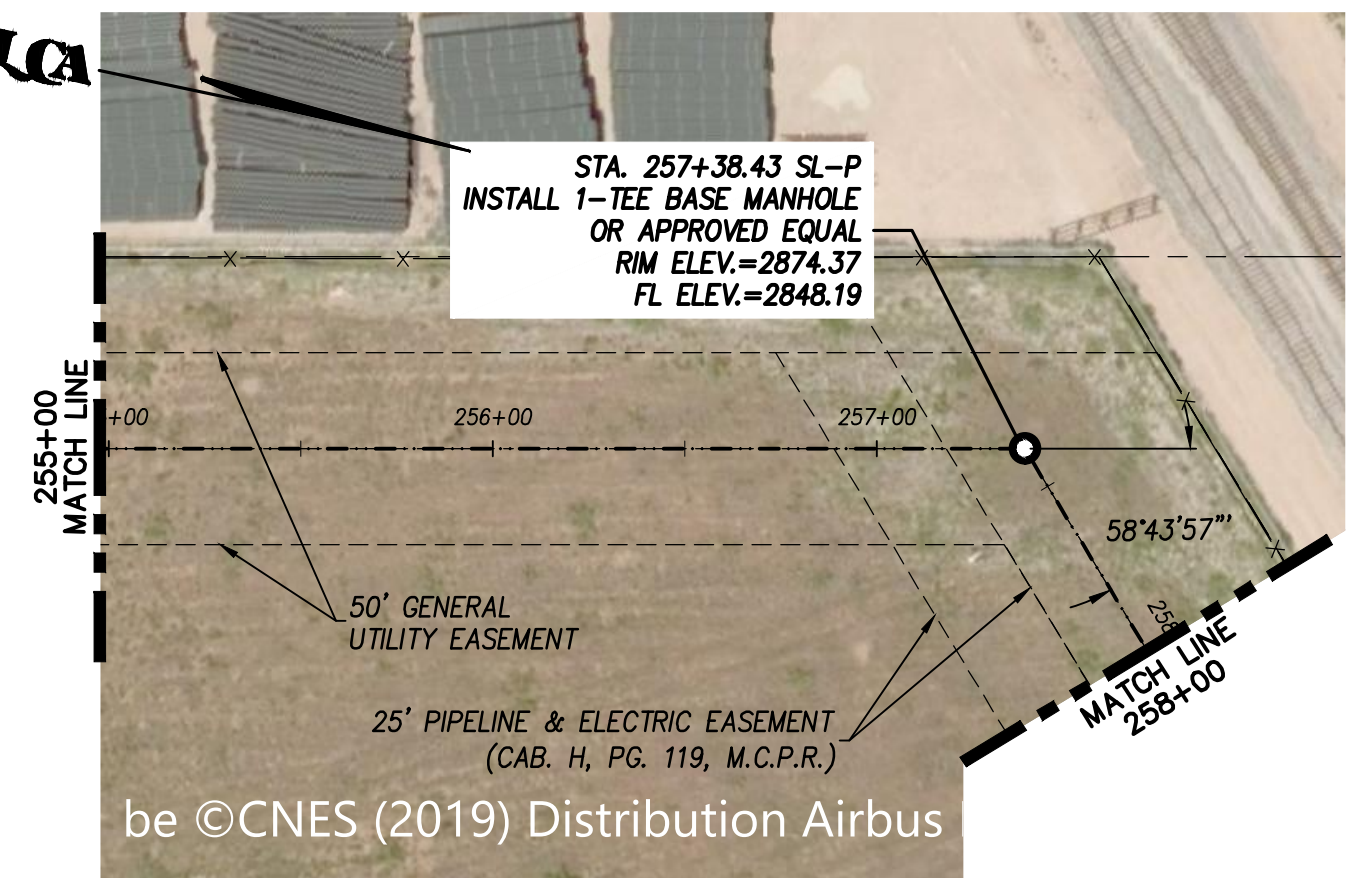
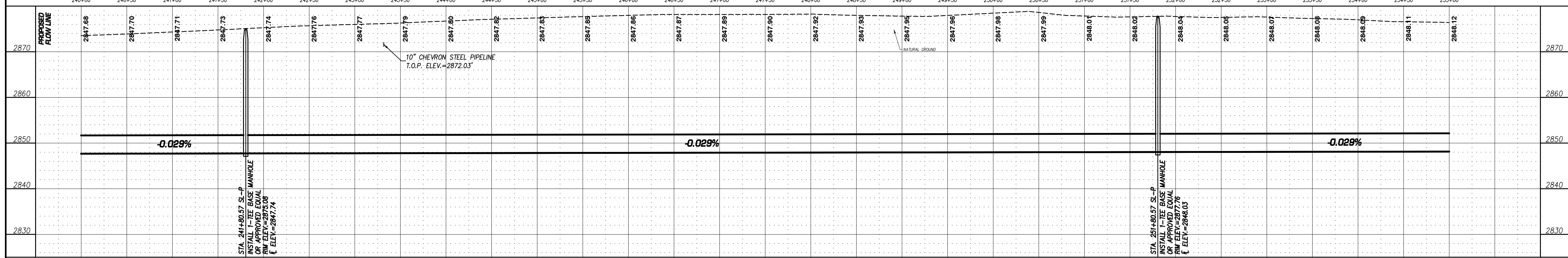
REVISED DATE	REVISION DONE	BY	DESIGNED BY R.A.R.	SCALE 1"=50'	<p>LCA ENVIRONMENTAL • CIVIL ENGINEERING • LAND SURVEYING 521 North Texas, Odessa Tx. 79761 F-001363 F-10034300 Phone # (432) 332-5058 E-Mail : lca@lcaodessa.com</p>	<p>FOR CONSTRUCTION</p>	<p>SEWER LINE P PLAN & PROFILE SANITARY SEWER TRUNK LINE P CITY OF ODESSA, ECTOR COUNTY, TEXAS</p>	Seq. 12 of 30
			DRAWN BY R.A.R.	DATE MARCH 2020				
			CHECKED BY J.F.L.	JOB No. 2018-043				
			REVIEWED BY J.F.L.	DWG No.				

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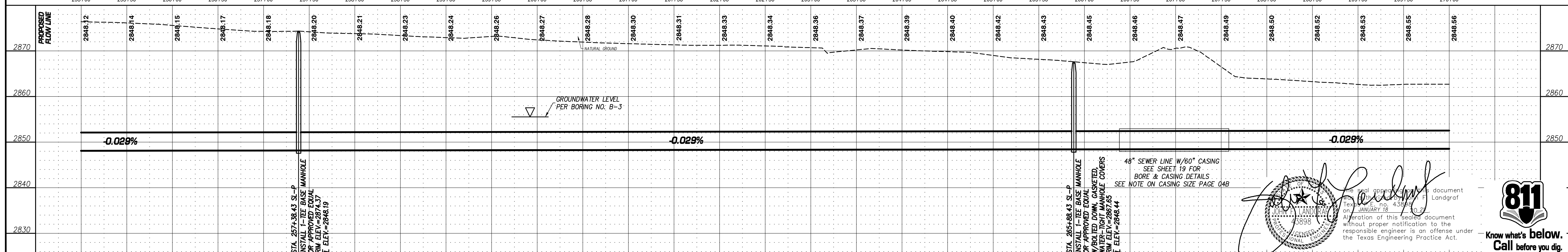
SEE SHEET 4B FOR LEGEND & ESTIMATED QUANTITIES



PROP. FRP OR PVC 48" SEWER LINE P



PROP. FRP OR PVC 48" SEWER LINE P



REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

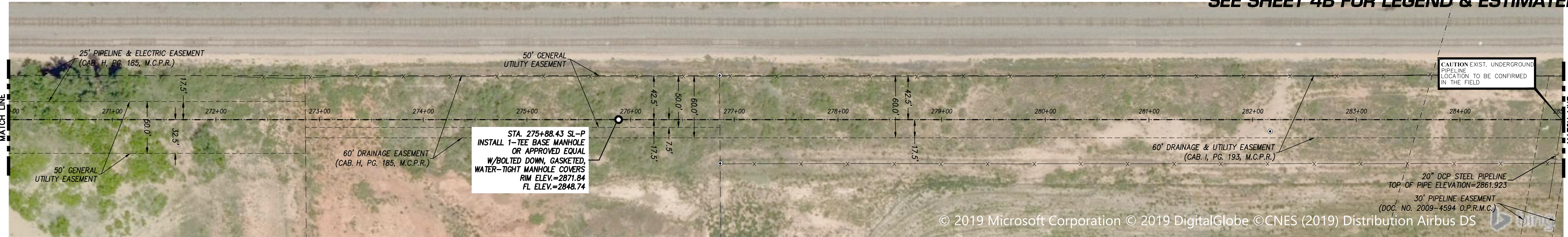
SCALE	1"=50'
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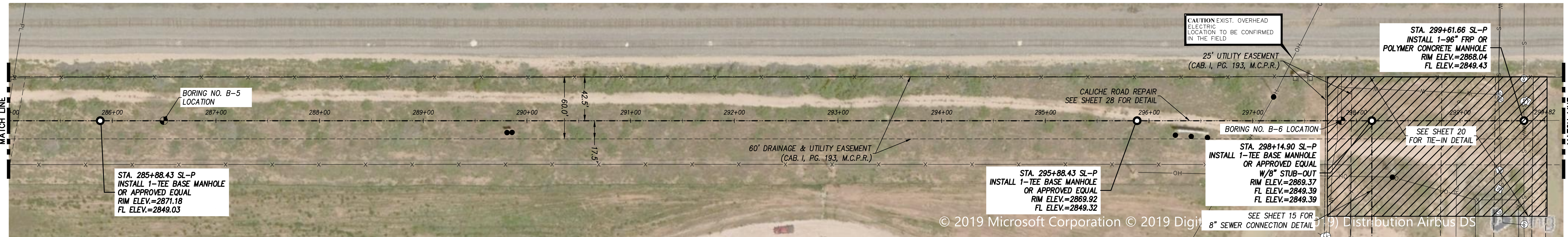
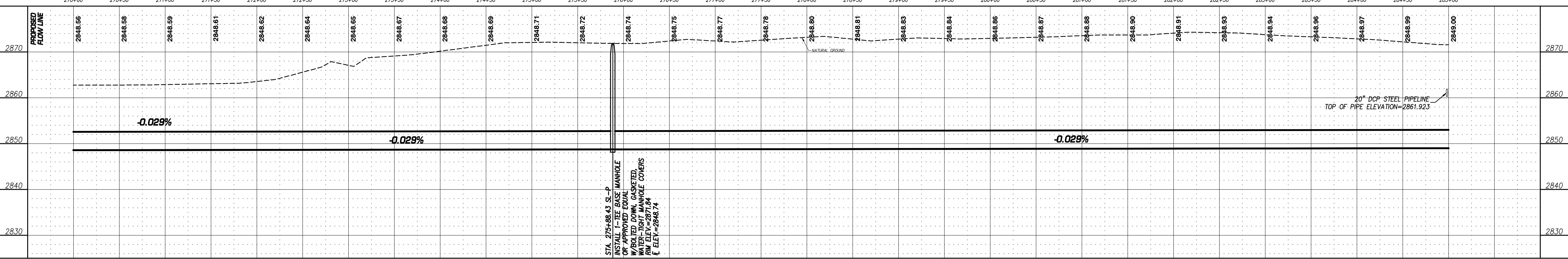
FOR CONSTRUCTION

SEWER LINE P PLAN & PROFILE
SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS

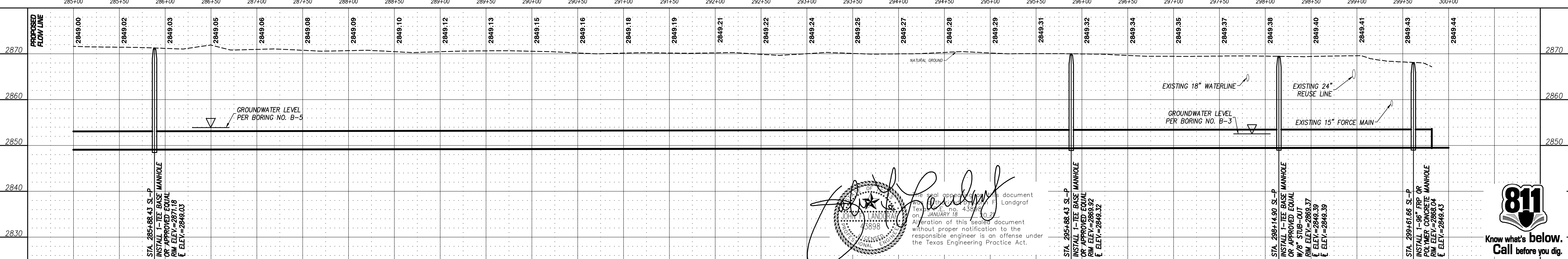
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PROP. FRP OR PVC 48" SEWER LINE P

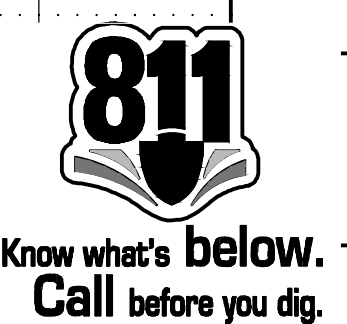


PROP. FRP OR PVC 48" SEWER LINE P



REVISED DATE	REVISION DONE	BY	DESIGNED BY R.A.R.	SCALE 1"=50'		<p>FOR CONSTRUCTION</p>	<p>SEWER LINE P PLAN & PROFILE SANITARY SEWER TRUNK LINE P CITY OF ODESSA, ECTOR COUNTY, TEXAS</p>	Seq. 14 of 30
			DRAWN BY R.A.R.	DATE MARCH 2020				Page No.
			CHECKED BY J.F.L.	JOB No. 2018-043				14
			REVIEWED BY J.F.L.	DWG No.				

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THRUST BLOCK DETAILS
SEE TABLE "A" FOR BEARING AREAS

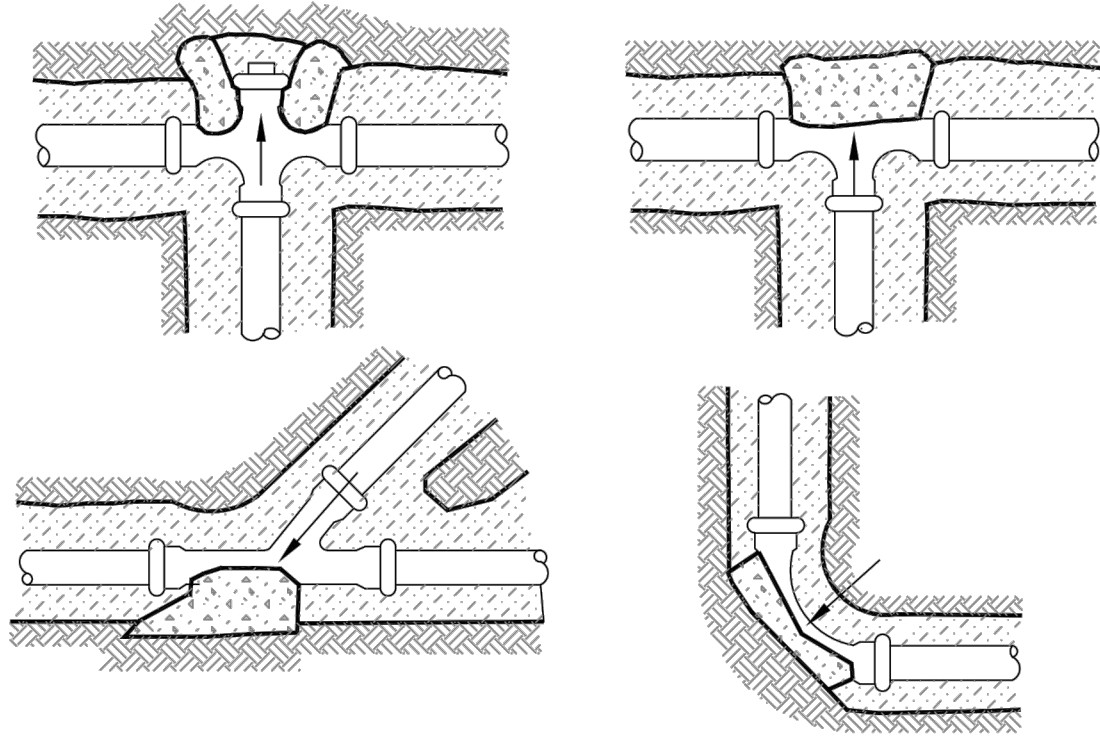
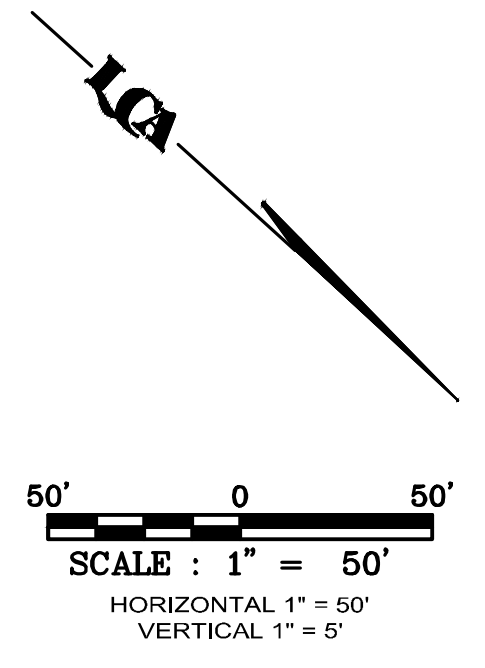
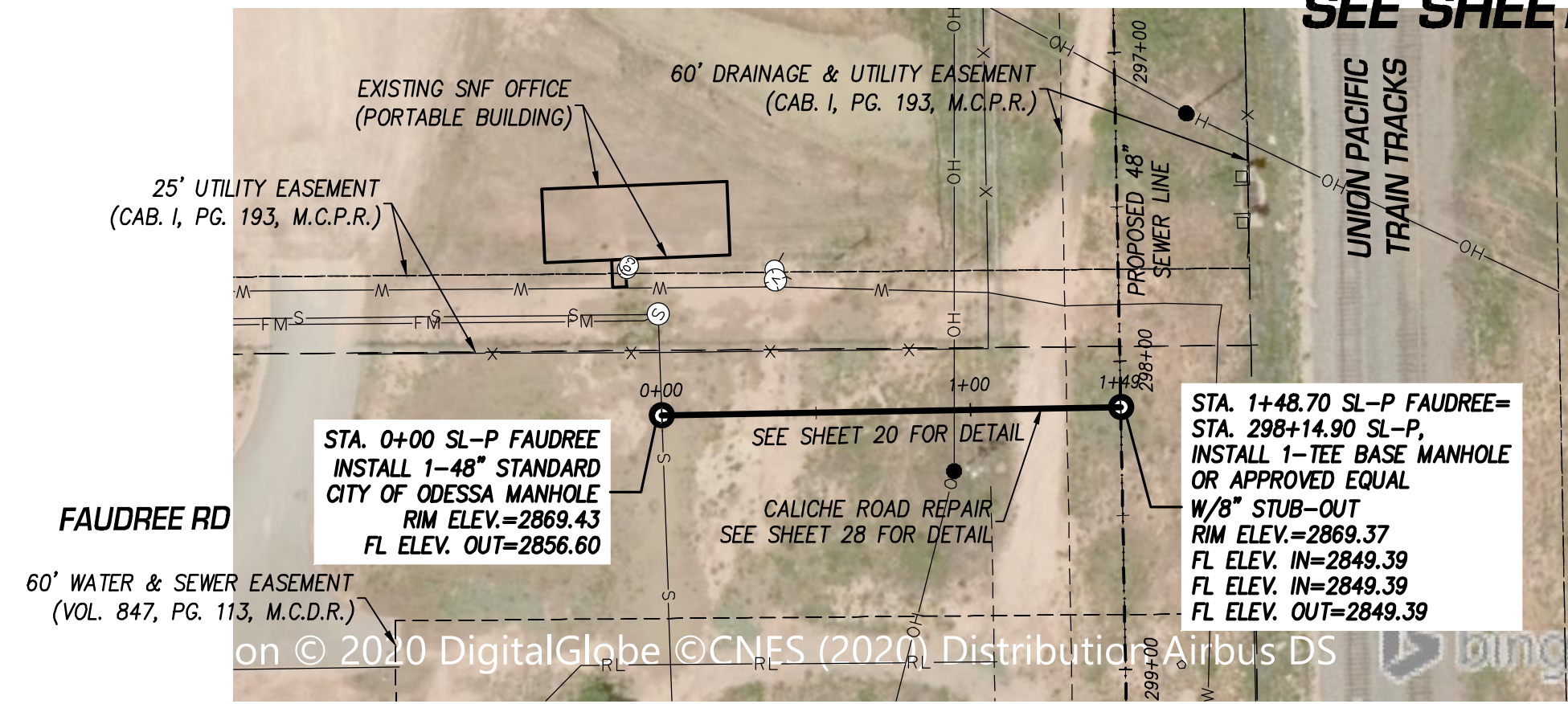
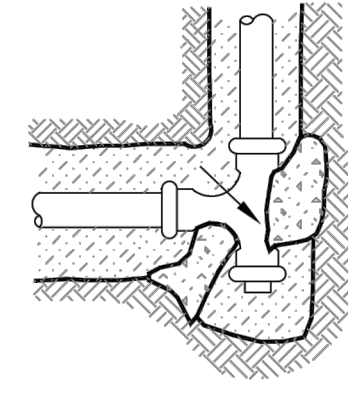
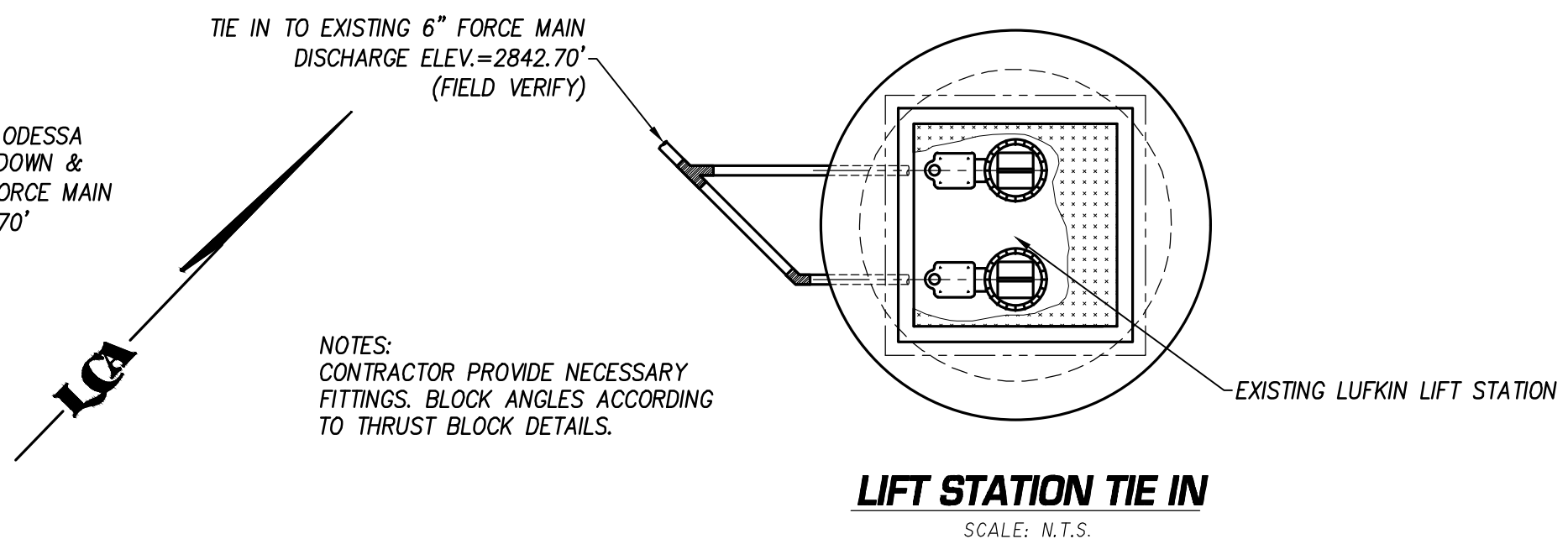
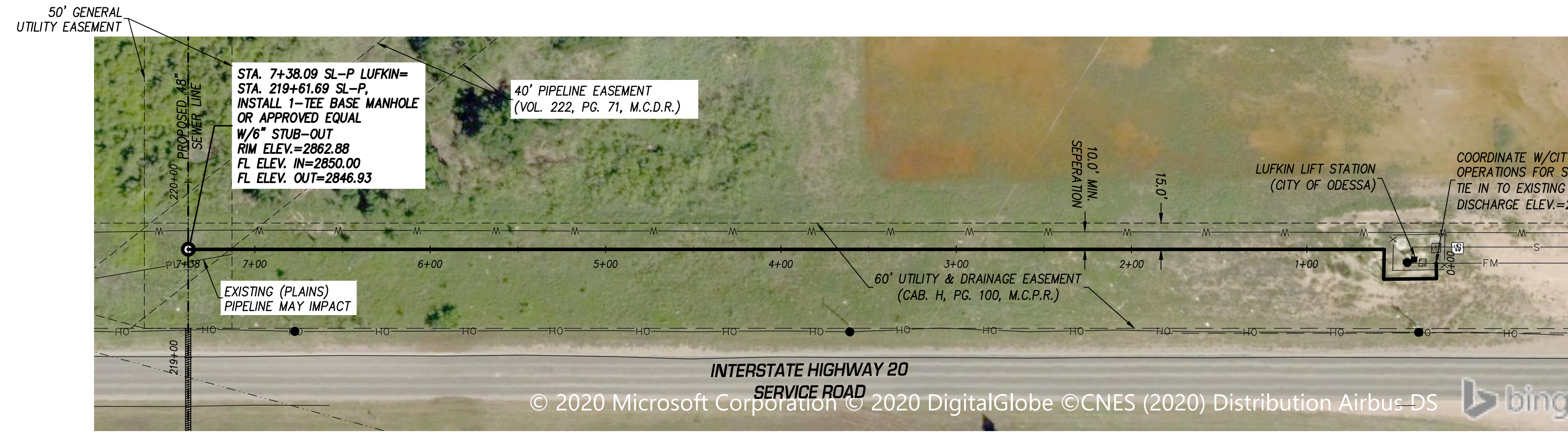
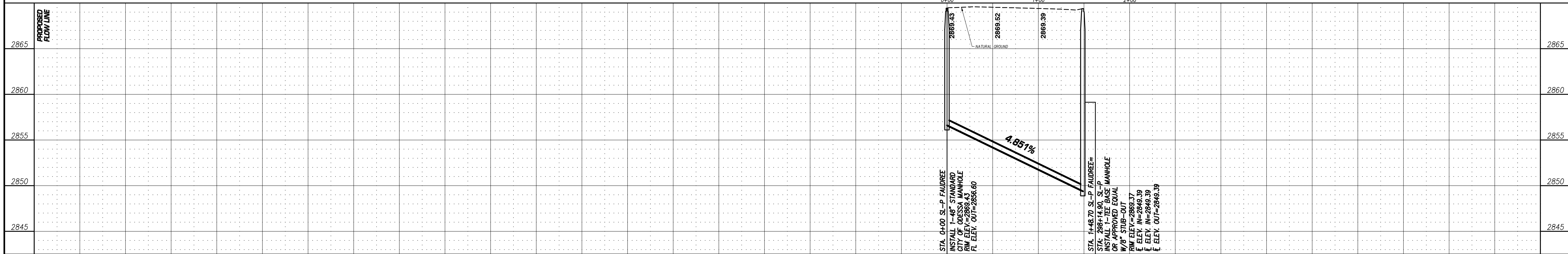


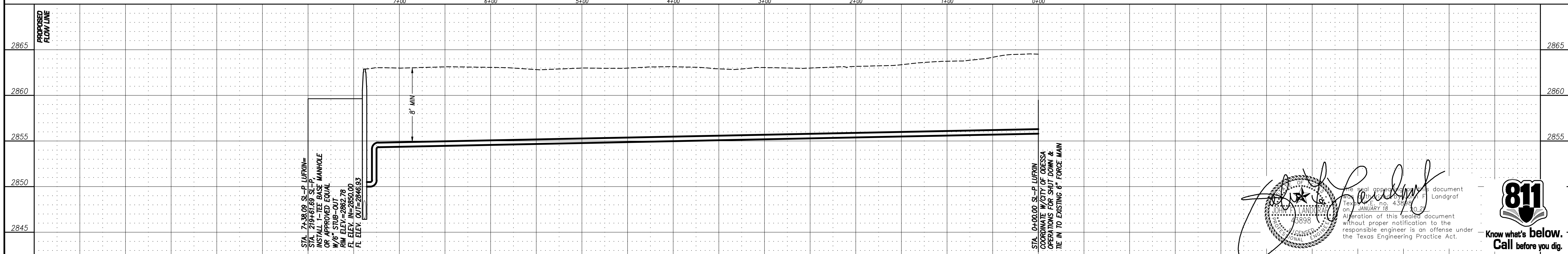
TABLE "A"			
THRUST BLOCK BEARING AREAS MEASURED IN SQUARE FEET			
PIPE SIZE	90° BENDS	45° BENDS	22 1/2° BENDS
4	0.7	0.4	0.2
6	1.5	0.8	0.4
8	2.7	1.4	0.7
10	4.2	2.3	1.1
12	6.0	3.2	1.7
14	8.2	4.4	2.3
16	10.7	5.8	2.9
18	13.5	7.3	3.7
20	16.7	9.0	4.6
24	24.0	13.0	6.6



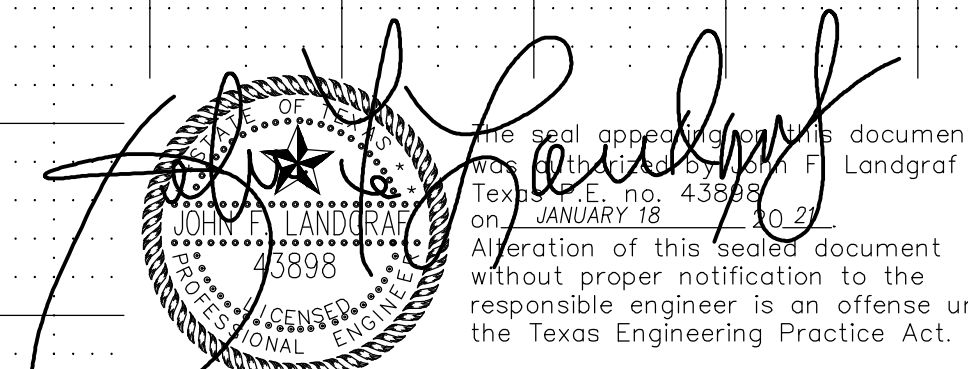
PROP. 8" SDR-26 PVC SEWER INTO LINE "P"

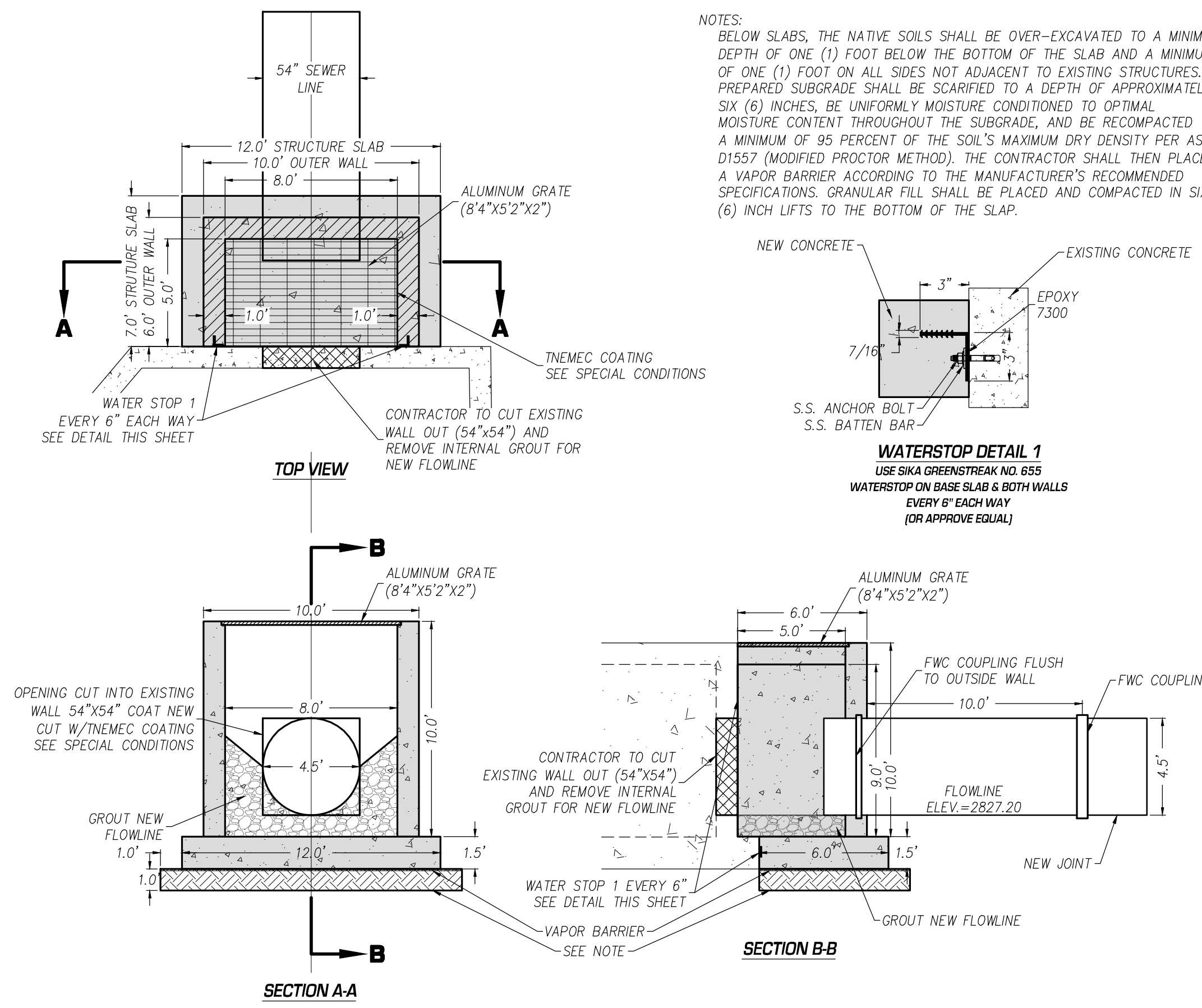


PROP. 6" C-900 FORCE MAIN TO LINE "P"

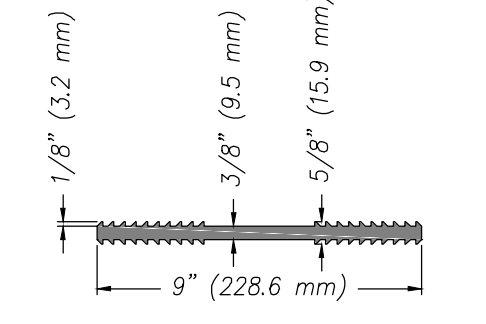


NOTES:
CONTRACTOR PROVIDE NECESSARY FITTINGS, BLOCK ANGLES ACCORDING TO THRUST BLOCK DETAILS.





NOTES:
 BELOW SLABS, THE NATIVE SOILS SHALL BE OVER-EXCAVATED TO A MINIMUM DEPTH OF ONE (1) FOOT BELOW THE BOTTOM OF THE SLAB AND A MINIMUM OF ONE (1) FOOT ON ALL SIDES NOT ADJACENT TO EXISTING STRUCTURES. PREPARED SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF APPROXIMATELY SIX (6) INCHES, BE UNIFORMLY MOISTURE CONDITIONED TO OPTIMAL MOISTURE CONTENT THROUGHOUT THE SUBGRADE, AND BE RECOMPACTED TO A MINIMUM OF 95 PERCENT OF THE SOIL'S MAXIMUM DRY DENSITY PER ASTM D1557 (MODIFIED PROCTOR METHOD). THE CONTRACTOR SHALL THEN PLACE A VAPOR BARRIER ACCORDING TO THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS. GRANULAR FILL SHALL BE PLACED AND COMPACTED IN SIX (6) INCH LIFTS TO THE BOTTOM OF THE SLAB.



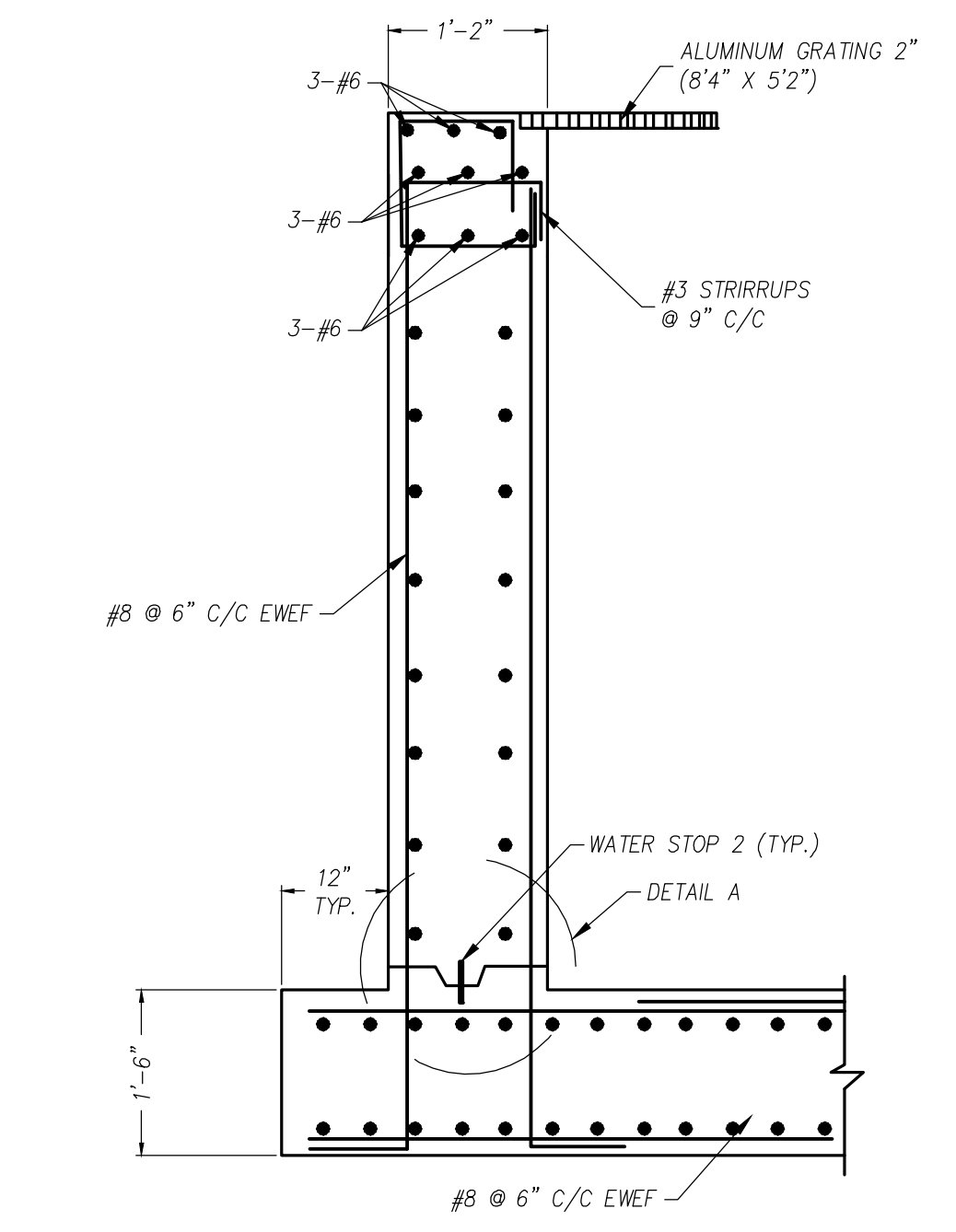
WATERSTOP DETAIL 1
 USE SIKA GREENSTREAK NO. 655
 WATERSTOP ON BASE SLAB & BOTH WALLS
 EVERY 6" EACH WAY
 (OR APPROVE EQUAL)

WATERSTOP DETAIL 2
 USE SIKA GREENSTREAK NO. 646 WATERSTOP
 ON BASE SLAB ALONG ALL WALLS
 (OR APPROVE EQUAL)

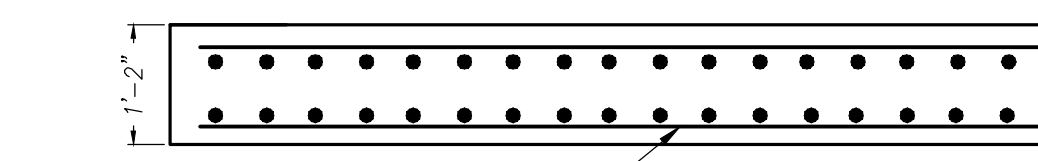
LEGEND

EXISTING CONCRETE

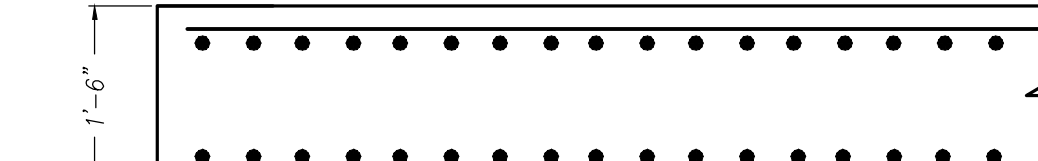
PROPOSED CONCRETE



TYPICAL WALL SECTION
 N.T.S.

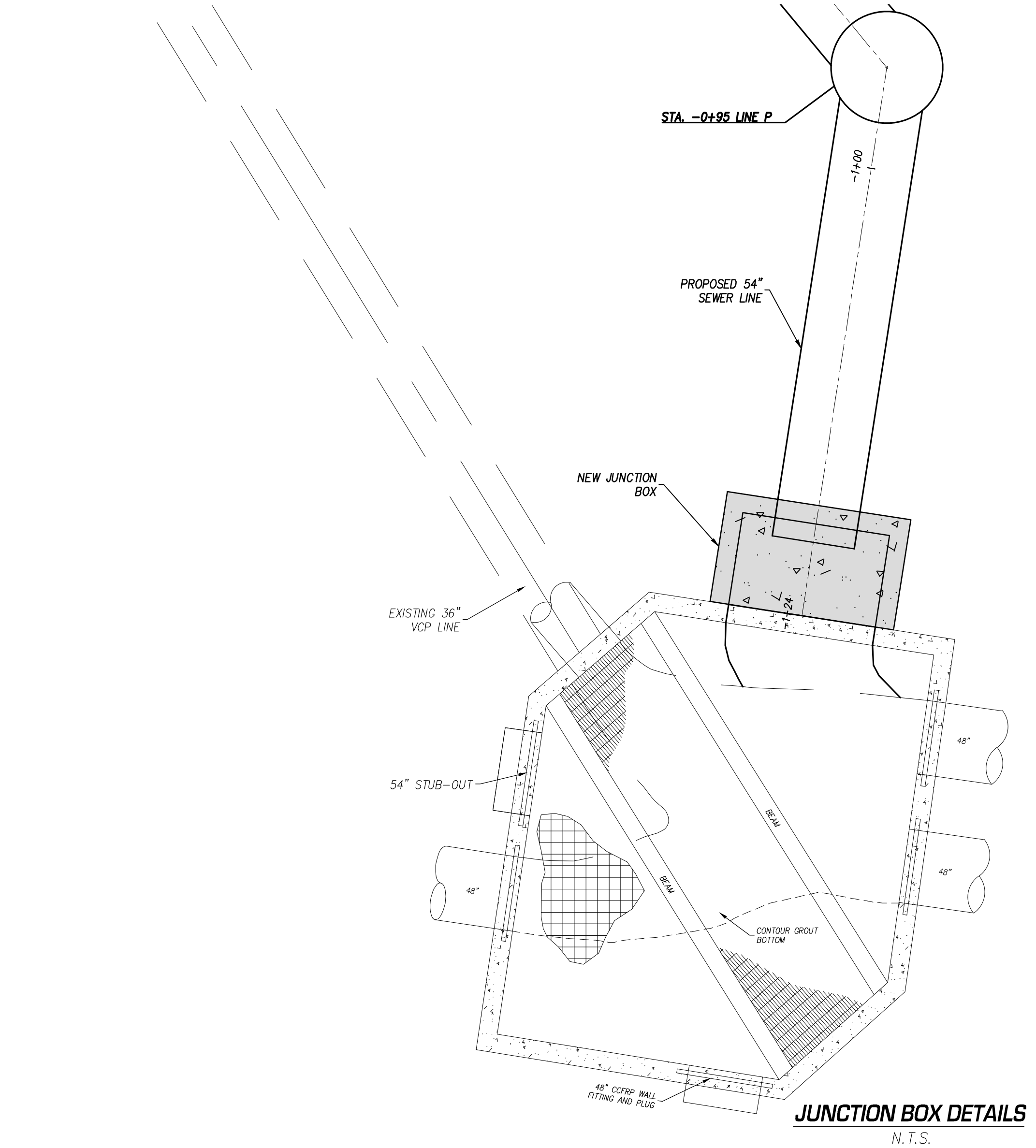


WALL SECTION
 N.T.S.

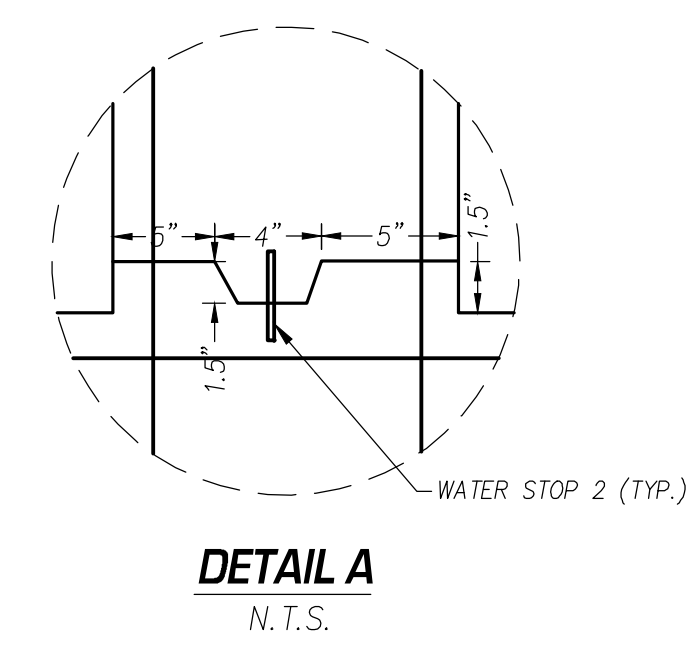


BOTTOM SLAB SECTION
 N.T.S.

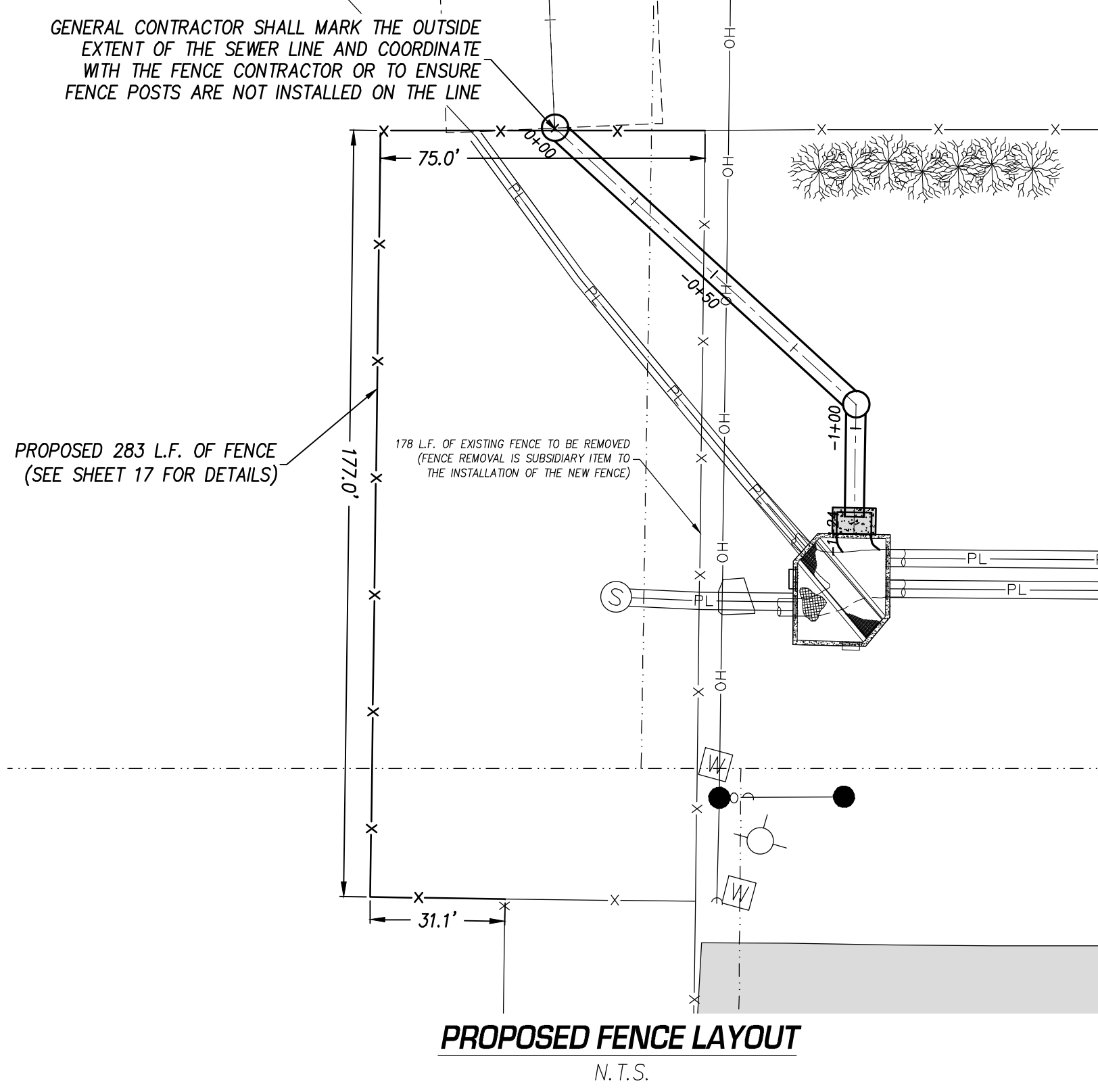
GENERAL NOTES:
 1. ALL CONCRETE SHALL BE CLASS "C". ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
 2. REINFORCING STEEL SHALL BE PLACED WITH THE CENTER OF THE OUTSIDE LAYER OF BARS 2" FROM THE SURFACE OF THE CONCRETE. TOTAL QUANTITIES INCLUDE ONE 20 DIAMETER LAP FOR ALL BARS OVER 6'-0" IN LENGTH.



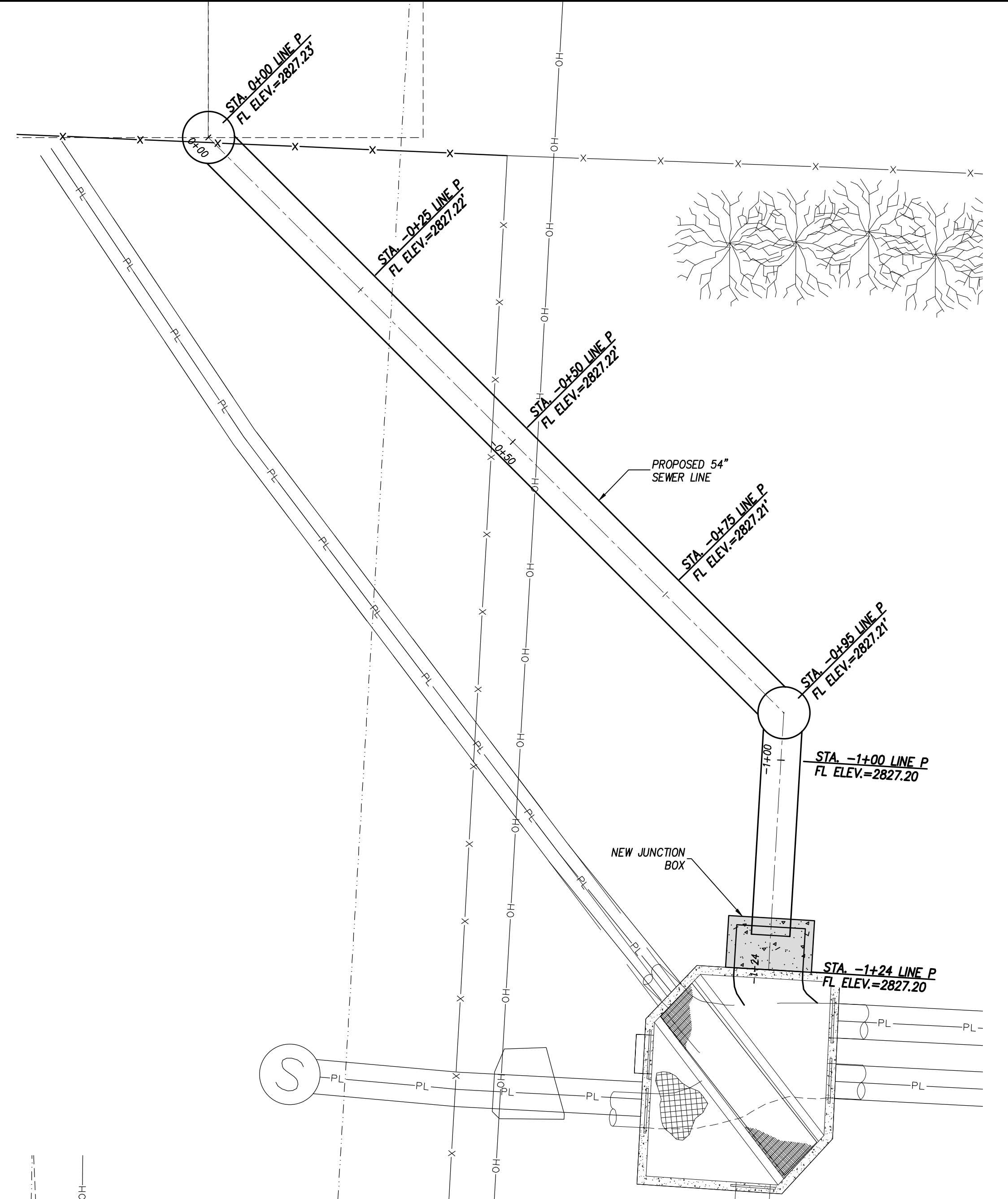
JUNCTION BOX DETAILS
 N.T.S.



DETAIL A
 N.T.S.



PROPOSED FENCE LAYOUT
 N.T.S.



**PROPOSED 54" SEWER LINE
 DERRINGTON PLANT TIE-IN**
 N.T.S.

Professional Engineer
 BOB DERRINGTON
 State of Texas
 License No. 3898
 Date of Issue: 01/18/2020
 Expiration Date: 01/18/2025

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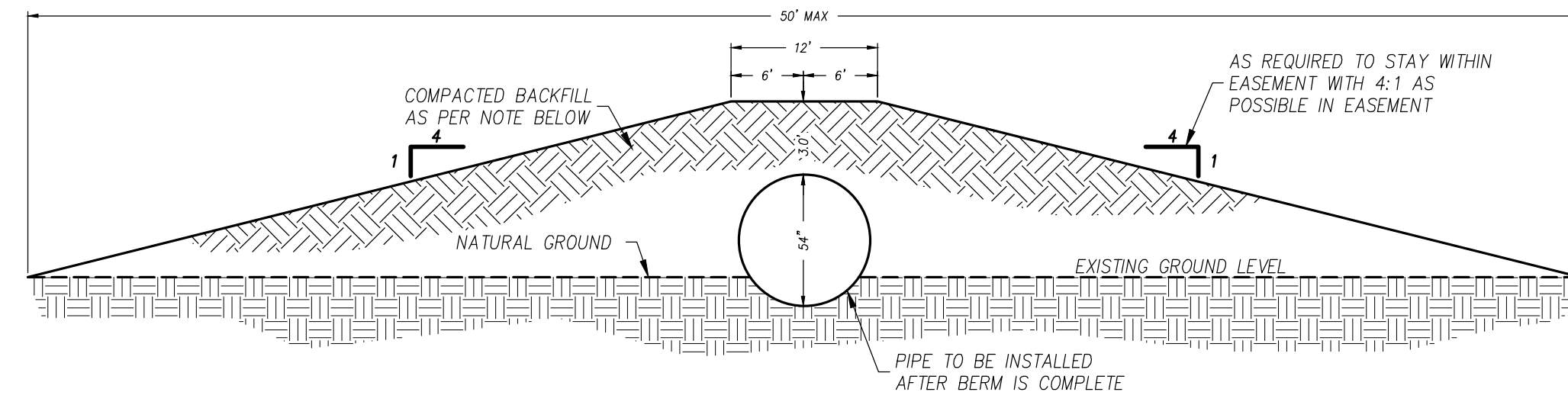
REVISED DATE	REVISION DONE	BY	DESIGNED BY	SCALE
			R.A.R.	N.T.S.
			R.A.R.	DATE MARCH 2020
			J.F.L.	JOB No. 2018-043
			J.F.L.	DWG No.

LCA ENVIRONMENTAL • CIVIL ENGINEERING • LAND SURVEYING
 521 North Texas, Odessa Tx. 79761 F-001363 F-10034300
 Phone # (432) 332-5058 E-Mail: lca@lcaodessa.com

FOR CONSTRUCTION

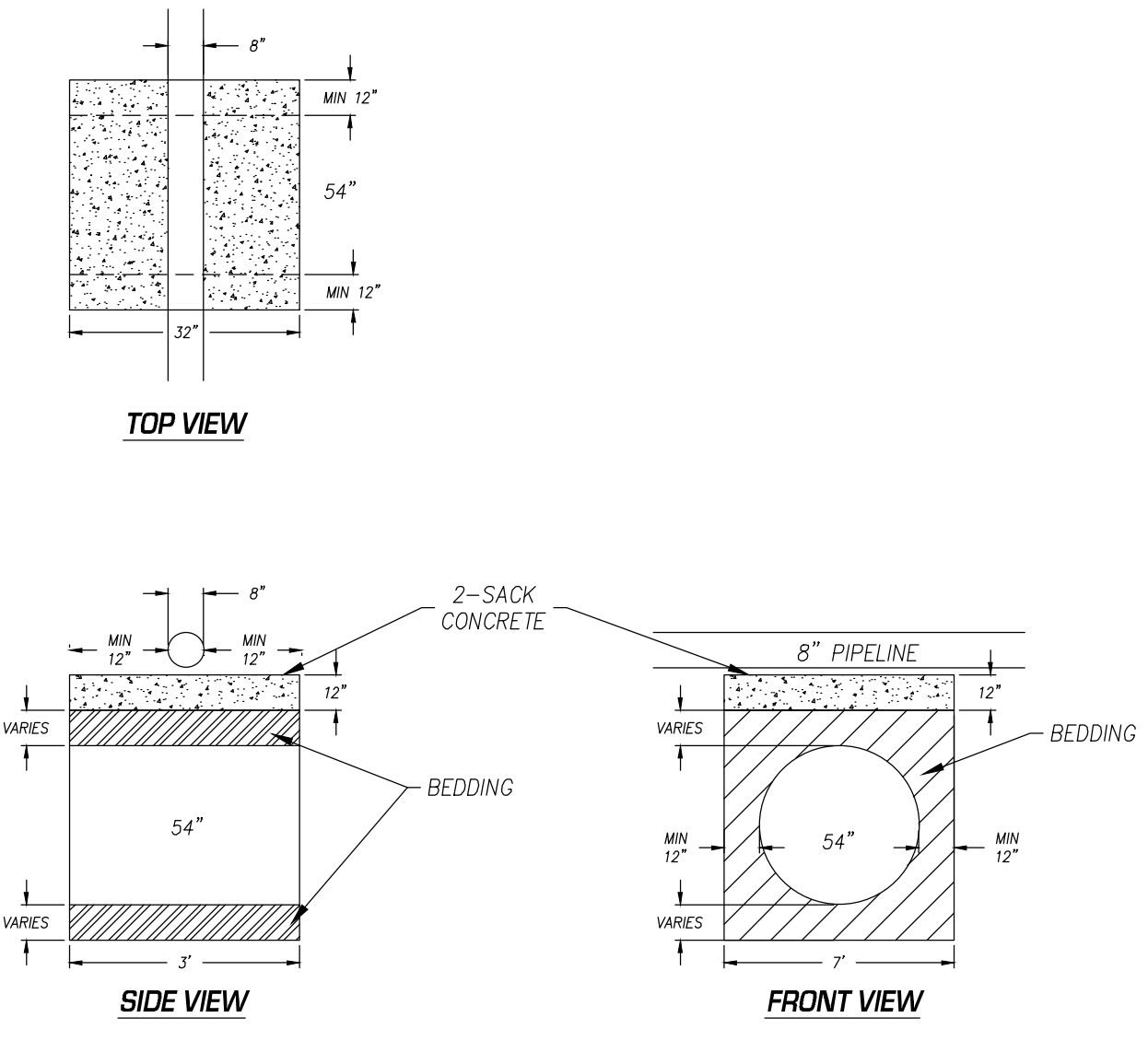
**BOB DERRINGTON WATER RECLAMATION PLANT TIE-IN
 SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS**

Seq. 16 of 30
 Page No. 16

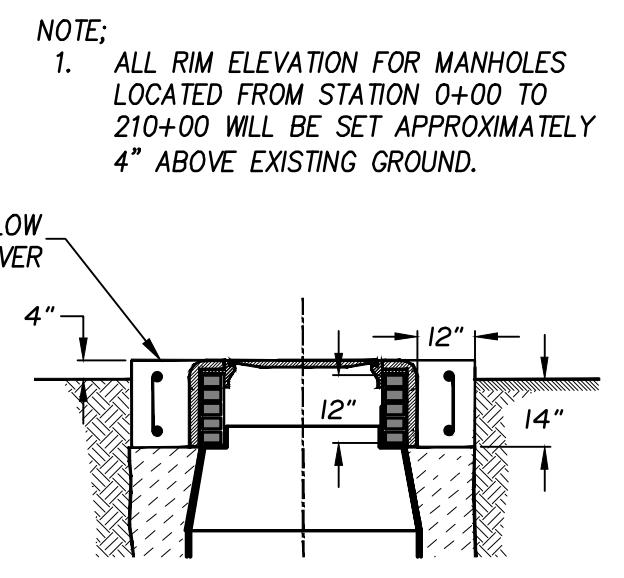


PROPOSED SPECIAL EMBEDMENT DETAILS

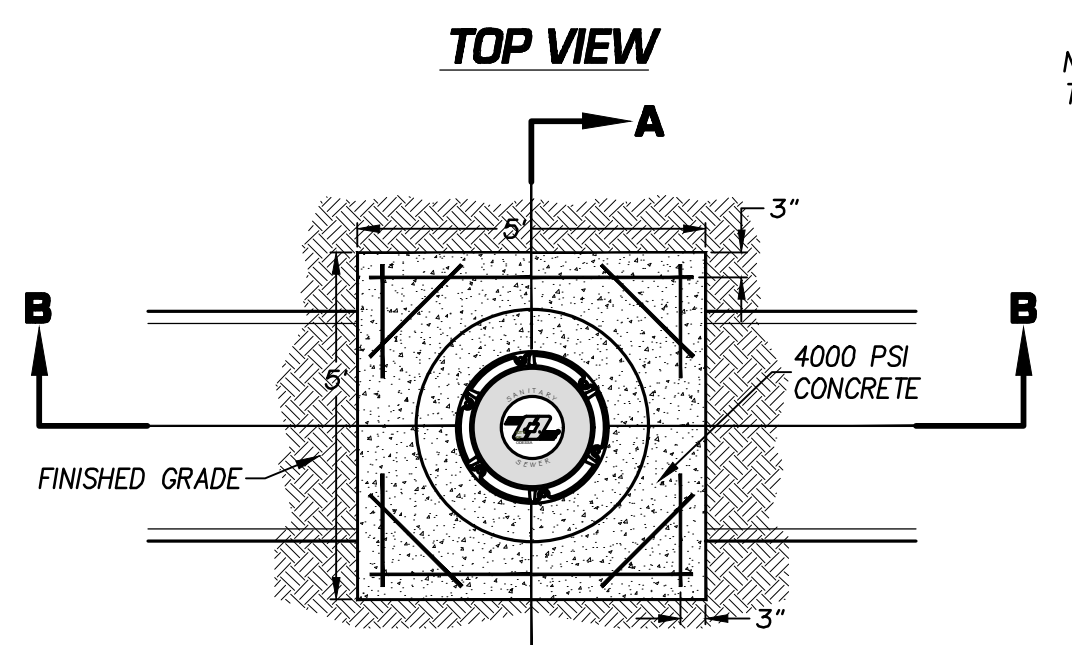
- NOTE:
1. BERM CONSTRUCTED USING TYPE 2 BASE OR SAME GRADATION CLEAN EXCAVATION MATERIAL WITH P.I. <15.
 2. CONSTRUCT IN 8" COMPACTED LIFTS OF 95% STANDARD PROCTOR DENSITY OR 90% MODIFIED PROCTOR DENSITY EITHER AT OPTIMUM MOISTURE CONTENT.
 3. EXCAVATE AND INSTALL PIPELINE AFTER COMPLETION OF BERM UNDER STANDARD TRENCH, INSTALL AND BACKFILL DETAILS.
 4. THE COST OF CONSTRUCTION OF THE BERM IN THE AREA OF THE 54" PIPE AS NOTED IN THIS DETAIL IS SUBSIDIARY TO THE OVERALL JOB. THERE IS NO SEPARATE PAY ITEM FOR THIS WORK.



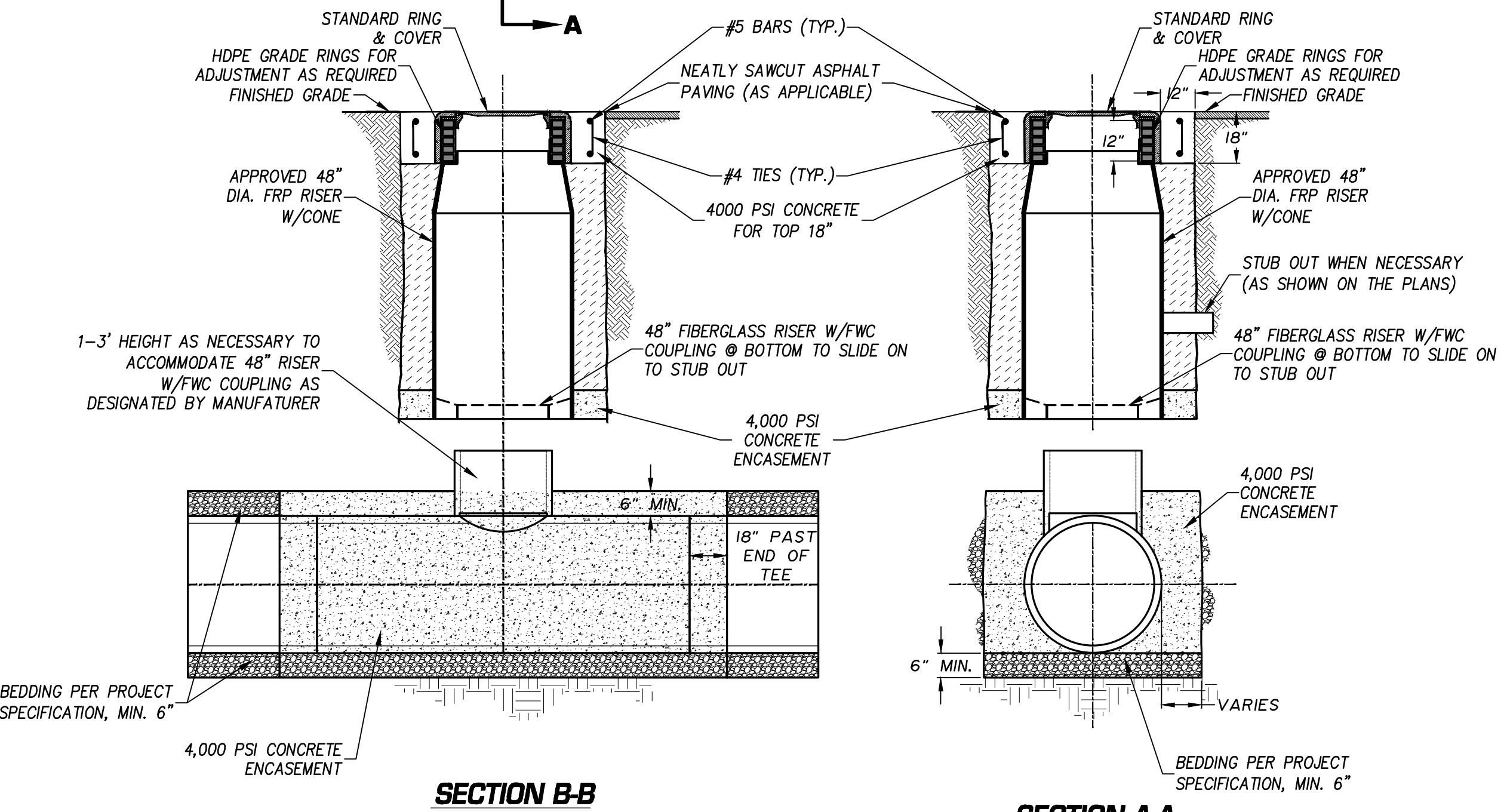
"SOLID VERTICAL CLEARANCE" - (CONCRETE) UNDER DCP MIDSTREAM PIPELINE @ STATION 57+00



MANHOLES W/RIM ELEVATION 4" ABOVE EXISTING GROUND



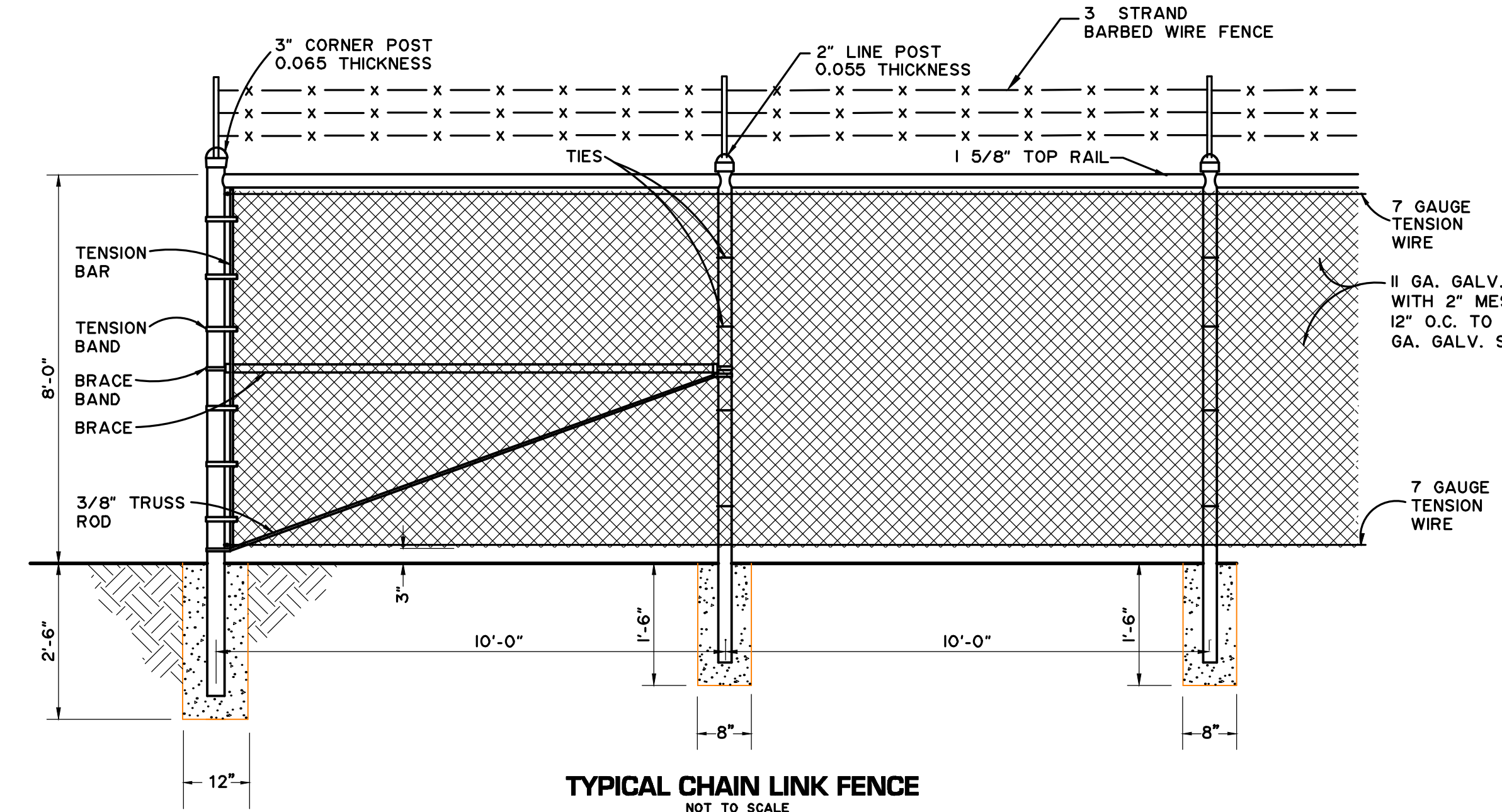
TOP VIEW



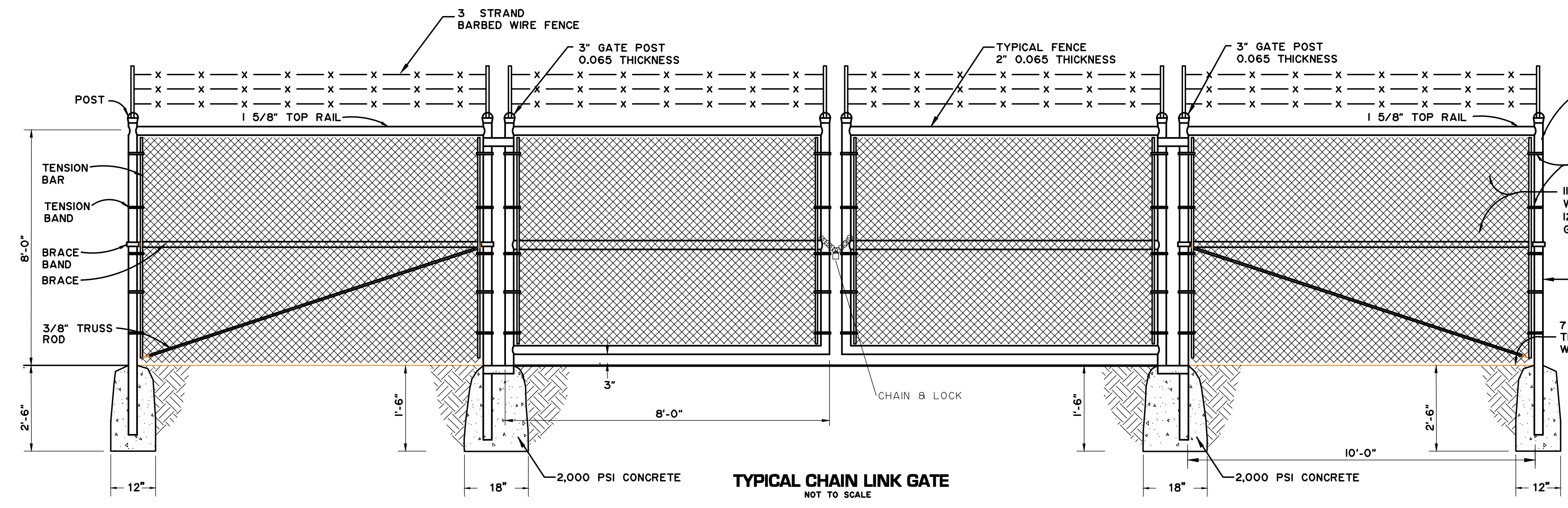
SECTION B-B

T BASE MAN-HOLE
SCALE: N.T.S.

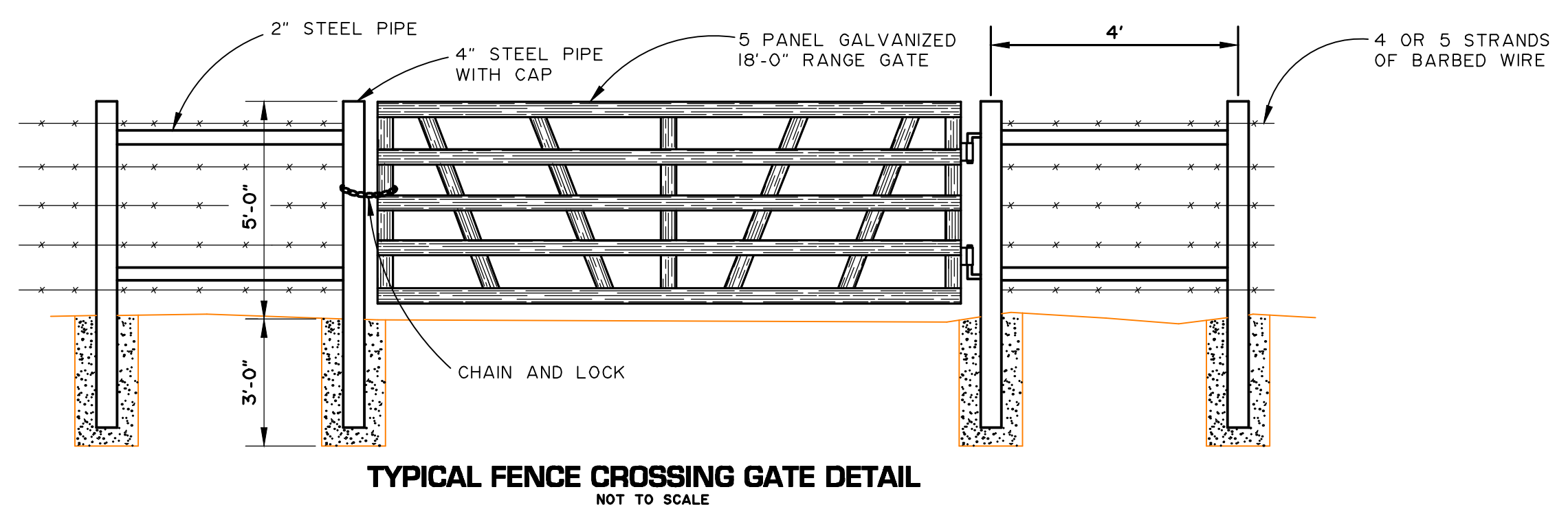
SECTION A-A



TYPICAL CHAIN LINK FENCE
NOT TO SCALE



TYPICAL CHAIN LINK GATE
NOT TO SCALE



TYPICAL FENCE CROSSING GATE DETAIL
NOT TO SCALE

REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

SCALE	N.T.S.
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

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 Phone # (432) 332-5058 E-Mail: lca@lcaodessa.com

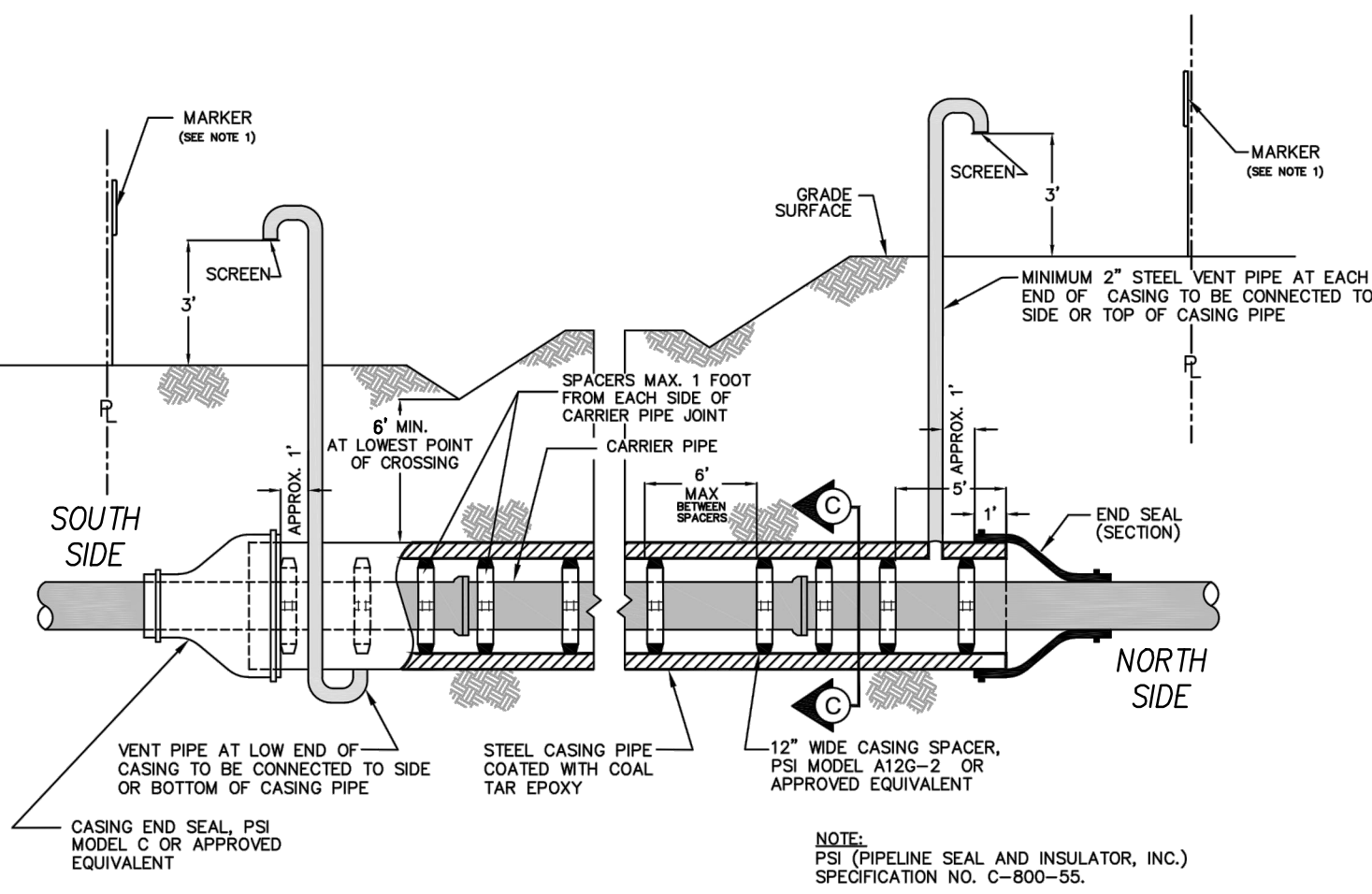
FOR CONSTRUCTION

**BOB DERRINGTON WATER RECLAMATION PLANT TIE-IN
 SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS**

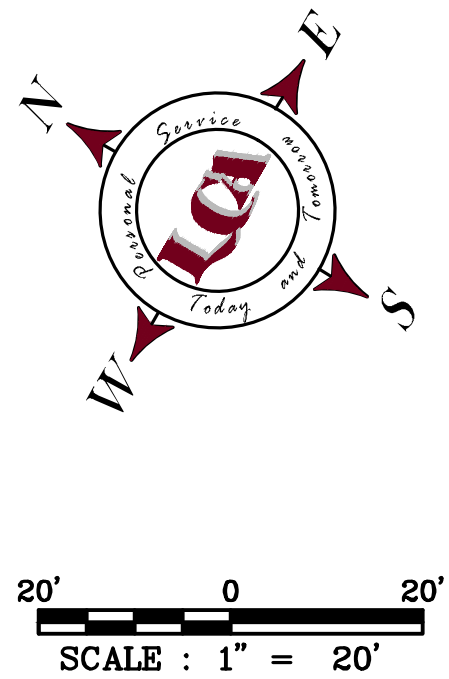
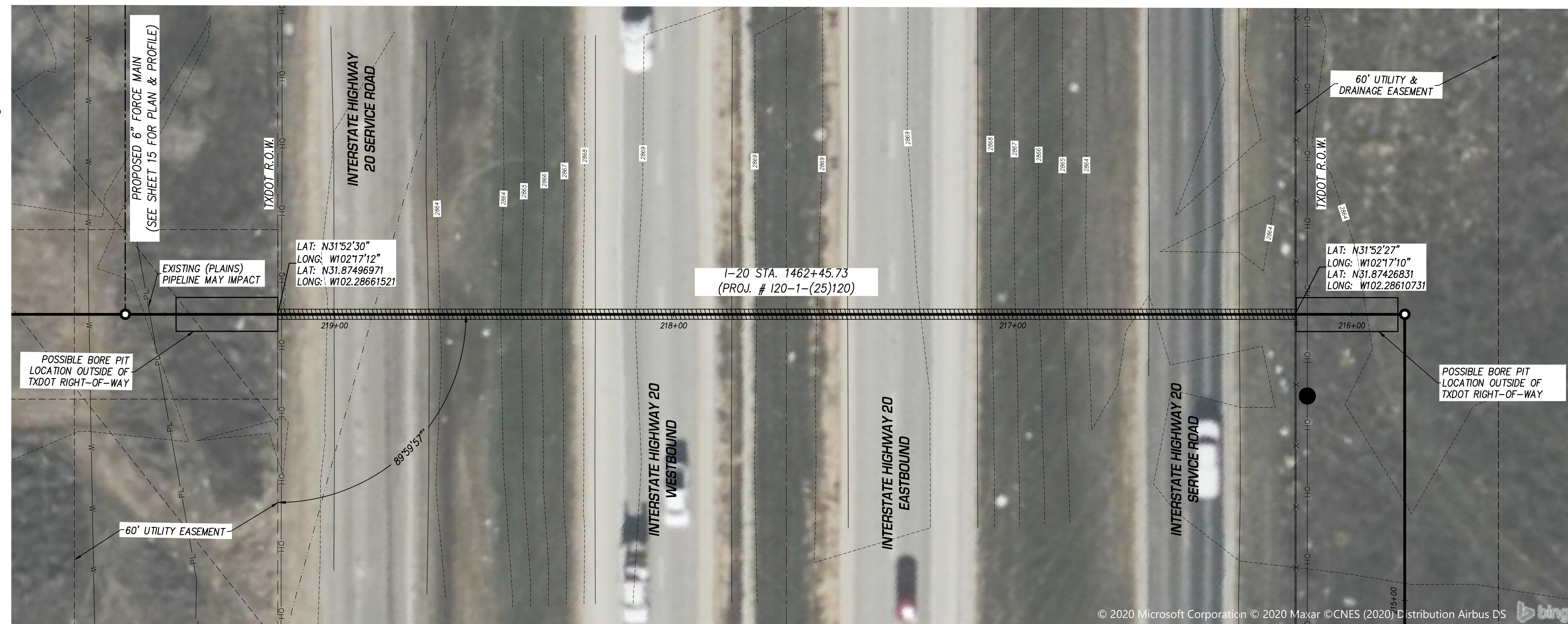
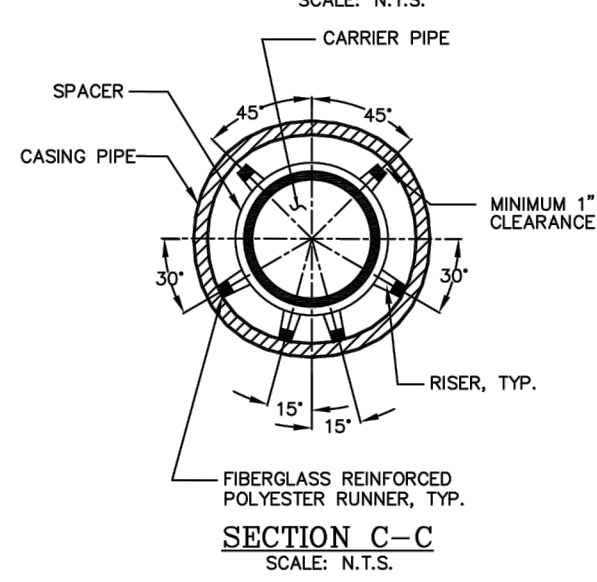
Bob Derrington
 Professional Engineer
 State of Texas
 License No. 3898
 No seal appears on this document
 Text: E. No. 43589
 on JANUARY 18 2020
 Alteration of this sealed document
 without proper notification to the
 responsible engineer is an offense under
 the Texas Engineering Practice Act.

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 Seq. 17 of 30
 Page No. 17

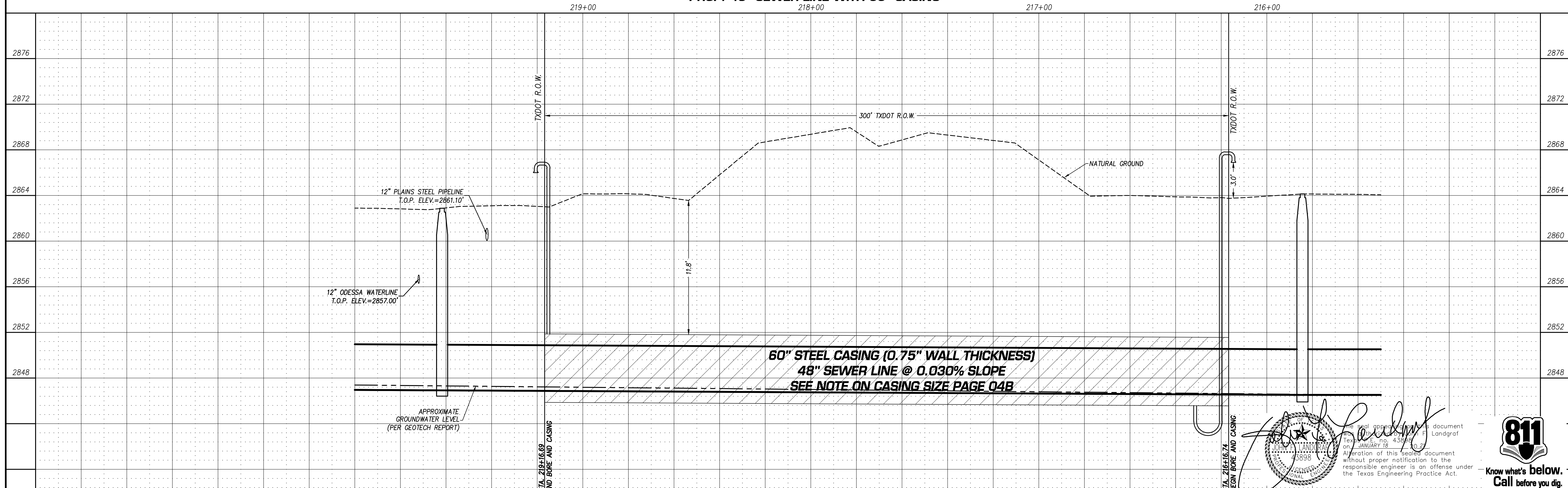
TYPICAL PIPE ENCASEMENT DETAIL WITH VENTS
SCALE: N.T.S.



STANDARD SPACER POSITION
SCALE: N.T.S.



ENCASE NON-FLAMMABLE PIPELINE CROSSING
PROP. 48" SEWER LINE WITH 60" CASING



REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

SCALE	1"=20'
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

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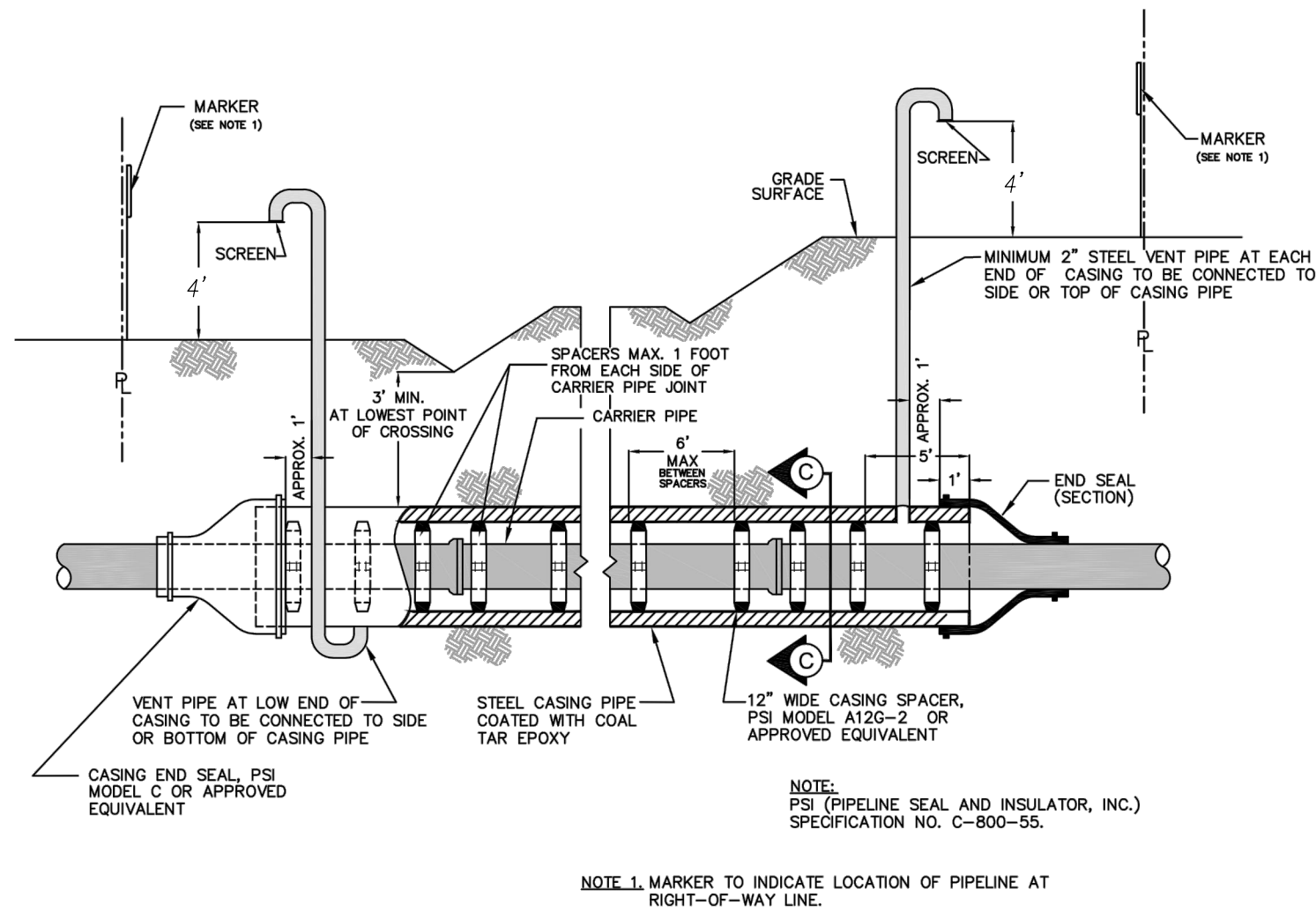
FOR CONSTRUCTION

INTERSTATE 20 BORE PLAN & PROFILE
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS

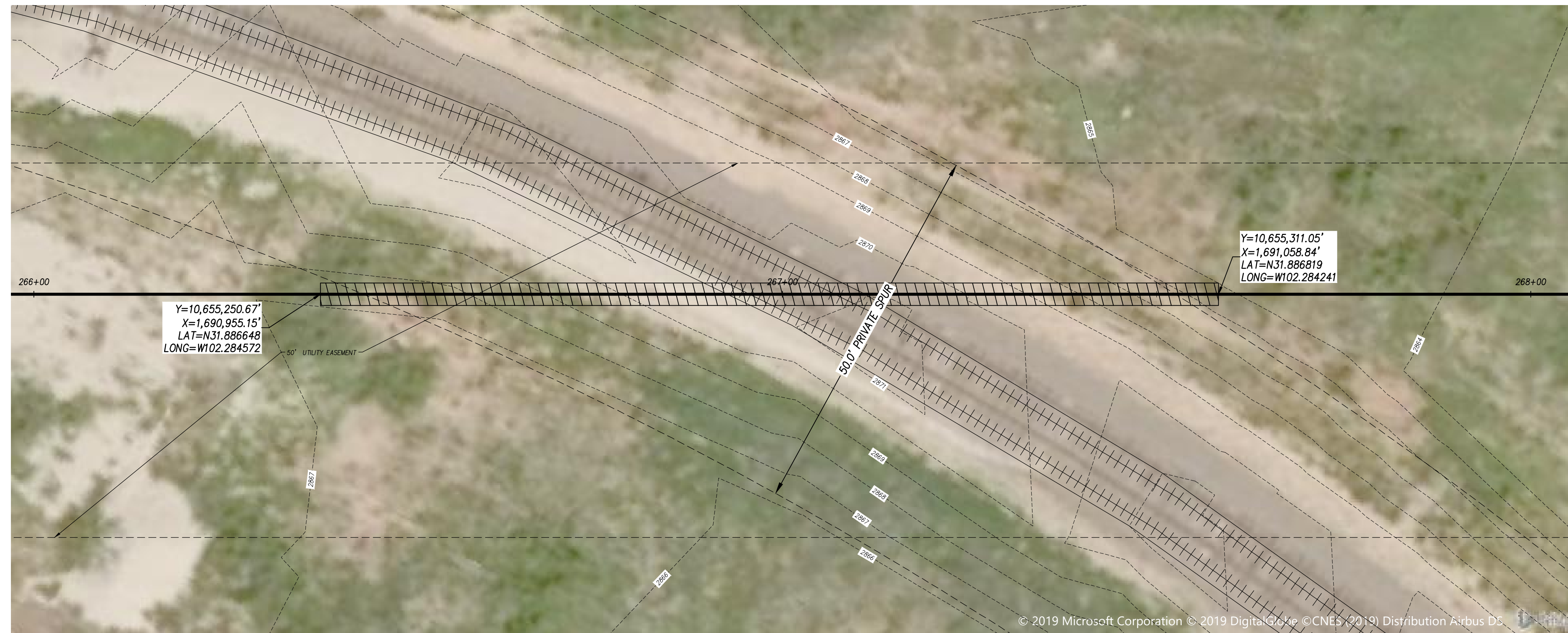
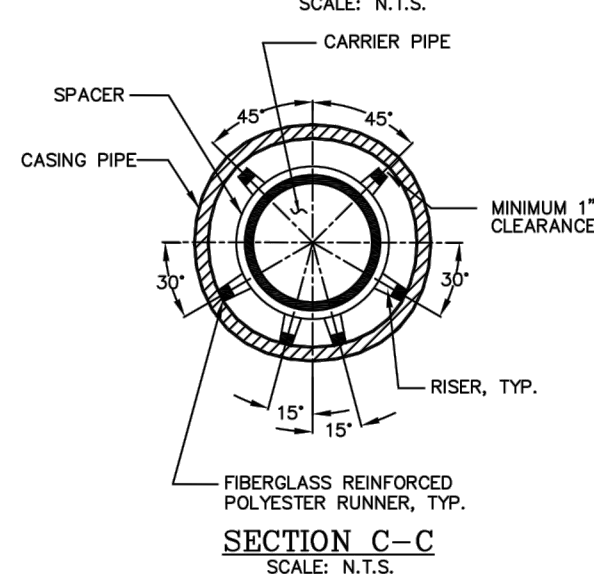
Professional Engineer Seal: F. Landgraf, State of Texas, No. 3898, expires January 18, 2023.

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Seq. 18 of 30
Page No. 18

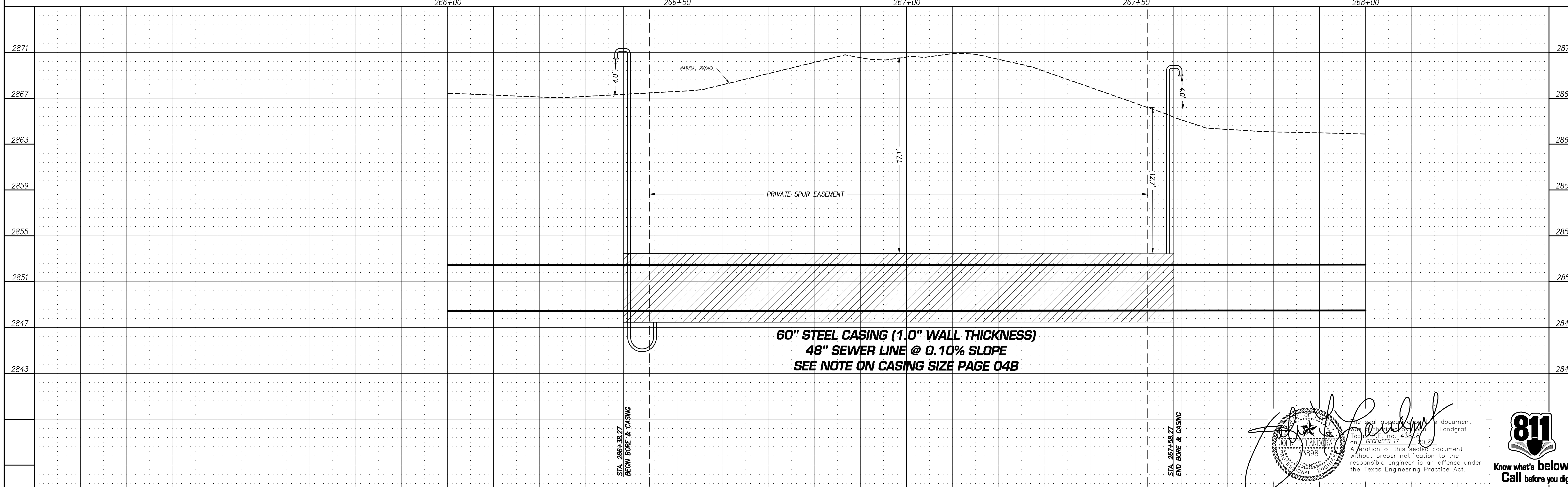
TYPICAL PIPE ENCASUREMENT DETAIL WITH VENTS
SCALE: N.T.S.



STANDARD SPACER POSITION
SCALE: N.T.S.



PROP. 48" SEWER LINE P WITH 60" CASING



REVISED DATE	REVISION DONE	BY

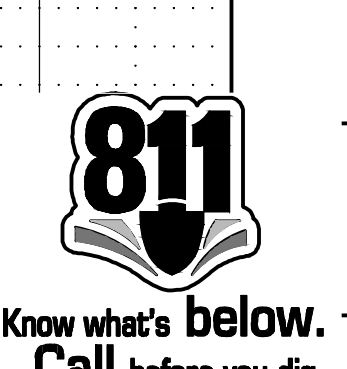
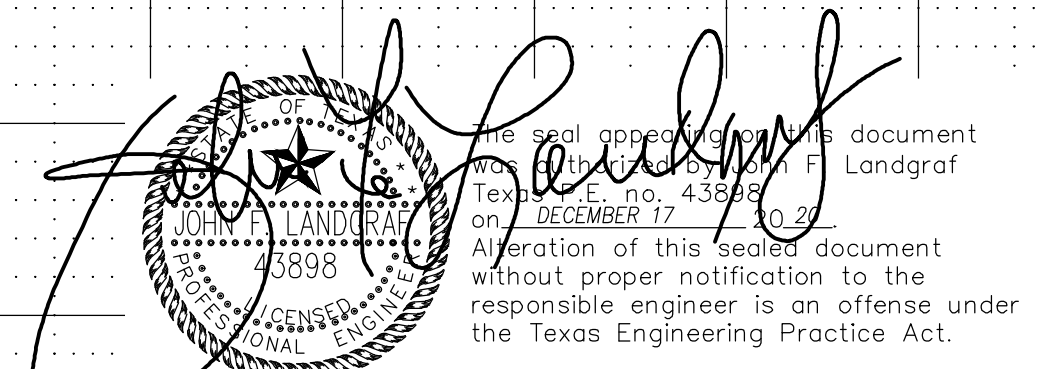
DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

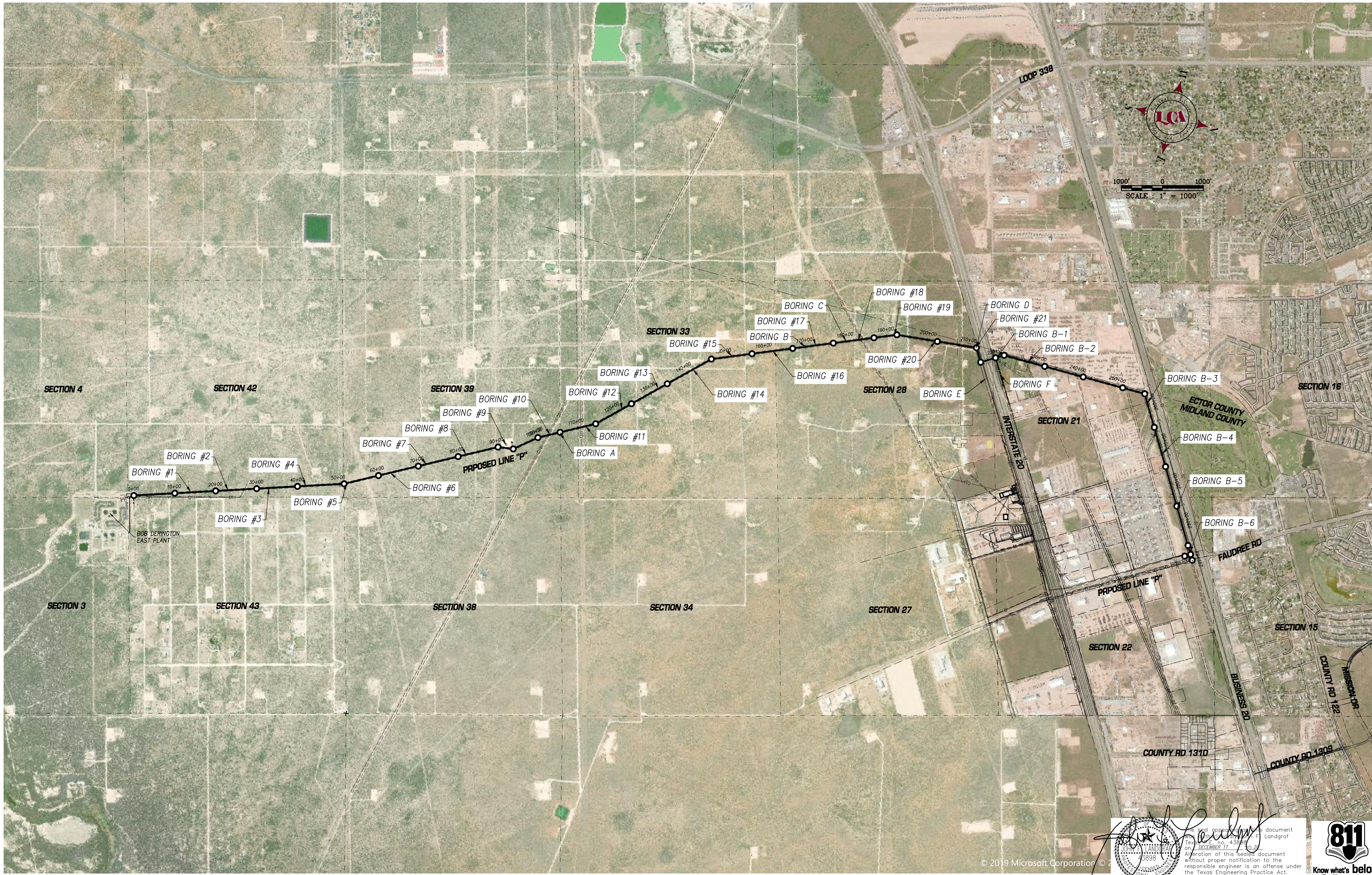
SCALE	N.T.S.
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

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FOR CONSTRUCTION

SPUR BORE PLAN & PROFILE
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS





E:\2018\2018-043\Drawings\For Construction\Sanitary Sewer Trunk Line P (General Documentation).pc3

REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.	SCALE	
DRAWN BY	R.A.R.	DATE	MARCH 2020
CHECKED BY	J.F.L.	JOB No.	2018-043
REVIEWED BY	J.F.L.	DWG No.	

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 Phone # (432) 332-5058 E-Mail : lca@lcaodessa.com

FOR CONSTRUCTION

GEOTECH PLAN
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS

Professional Engineer Seal for **John F. Landgraf**, No. 3898, State of Texas, expires 12/31/2022. The seal appears on this document on DECEMBER 17, 2020. Alteration of this sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.

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<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 1</p> <p>Station 18+00</p> <p>Tan Clayey Sand</p> <p>Hard Tan Limestone</p> <p>Tan Sandy Caliche</p> <p>Very Hard Tan Limestone</p> <p>Tan Caliche within limestone layers</p> <p>Total Depth of Boring - 6.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 2</p> <p>Station 23+00</p> <p>Brown Clayey Sand</p> <p>Hard Tan Limestone</p> <p>Tan Caliche</p> <p>Total Depth of Boring - 6.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 3</p> <p>Station 33+00</p> <p>Brown Clayey Sand</p> <p>Hard Tan Limestone</p> <p>Tan Caliche</p> <p>Total Depth of Boring - 6.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 4</p> <p>Station 42+00</p> <p>Brown Clayey Sand</p> <p>Hard Tan Limestone</p> <p>Tan Caliche within limestone layers</p> <p>Total Depth of Boring - 6.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 5</p> <p>Station 52+00</p> <p>Brown Clayey Sand</p> <p>Tan Caliche</p> <p>Hard Tan Limestone</p> <p>Total Depth of Boring - 6.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 6</p> <p>Station 63+00</p> <p>Tan Clayey Sand</p> <p>Tan Sandy Caliche within limestone layers</p> <p>Total Depth of Boring - 8.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 7</p> <p>Station 72+00</p> <p>Tan Clayey Sand</p> <p>Tan Sandy Caliche</p> <p>Total Depth of Boring - 9.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 8</p> <p>Station 82+00</p> <p>Tan Clayey Sand</p> <p>Hard Tan Limestone</p> <p>Tan Caliche within limestone layers</p> <p>Total Depth of Boring - 10.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>
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<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 9</p> <p>Station 92+00</p> <p>Tan Clayey Sand</p> <p>Tan Caliche</p> <p>Total Depth of Boring - 12.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 10</p> <p>Station 103+00</p> <p>Tan Clayey Sand</p> <p>Tan Caliche</p> <p>Tan Caliche within limestone layers</p> <p>Total Depth of Boring - 13.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 16</p> <p>Station 162+00</p> <p>Tan Clayey Sand</p> <p>Tan Limestone</p> <p>Hard Tan Caliche within limestone lenses</p> <p>Tan Sandy Caliche</p> <p>Total Depth of Boring - 27.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 17</p> <p>Station 172+00</p> <p>Tan Clayey Sand</p> <p>Very Hard Tan Limestone</p> <p>Tan Caliche</p> <p>Hard Tan Caliche within limestone layers</p> <p>Tan Caliche within hard limestone layers</p> <p>Very Hard Tan Limestone</p> <p>Total Depth of Boring - 32.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 18</p> <p>Station 183+00</p> <p>Tan Clayey Sand</p> <p>Tan Caliche</p> <p>Hard Tan Caliche within limestone layers</p> <p>Tan Caliche</p> <p>Hard Tan Limestone</p> <p>Total Depth of Boring - 29.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 19</p> <p>Station 192+00</p> <p>Tan Clayey Sand</p> <p>Tan Caliche</p> <p>Very Hard Tan Limestone</p> <p>Hard Tan Caliche within limestone lenses</p> <p>Hard Tan Caliche</p> <p>Very Hard Tan Limestone</p> <p>Total Depth of Boring - 25.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 20</p> <p>Station 202+00</p> <p>Brown Sand</p> <p>Tan Caliche within limestone lenses</p> <p>Hard Tan Limestone</p> <p>Tan Caliche</p> <p>Total Depth of Boring - 27.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 11</p> <p>Station 112+00</p> <p>Tan Clayey Sand</p> <p>Tan Caliche</p> <p>Hard Tan Caliche</p> <p>Total Depth of Boring - 14.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>
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<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 12</p> <p>Station 12+78</p> <p>Tan Clayey Sand</p> <p>Hard Tan Limestone within soft caliche layers</p> <p>Tan Caliche</p> <p>Total Depth of Boring - 10.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 13</p> <p>Station 132+00</p> <p>Tan Clayey Sand</p> <p>Very Hard Tan Limestone</p> <p>Hard Tan Caliche</p> <p>Hard Tan Caliche within limestone lenses</p> <p>Total Depth of Boring - 13.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 14</p> <p>Station 14+75</p> <p>Tan Clayey Sand</p> <p>Very Hard Tan Limestone</p> <p>Hard Tan Caliche within limestone layers</p> <p>Total Depth of Boring - 20.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 15</p> <p>Station 152+00</p> <p>Tan Clayey Sand</p> <p>Hard Tan Limestone</p> <p>Tan Caliche</p> <p>Hard Tan Limestone</p> <p>Hard Tan Caliche within limestone lenses</p> <p>Hard Tan Caliche</p> <p>Total Depth of Boring - 23.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>	<p>LOG OF BORING FOR WASTEWATER INTERCEPTOR LINE #9" Boring No. 21</p> <p>Station 212+00</p> <p>Tan Clayey Sand</p> <p>Tan Sandy Caliche</p> <p>Tan Caliche within limestone layers</p> <p>Total Depth of Boring - 27.0 Feet</p> <p>Note: Boring was advanced from the ground surface downward using drilling fluid.</p>
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EXPLANATION OF SYMBOLS USED ON LOGS OF BORINGS

KEY TO CLASSIFICATION USED ON LOGS

LOG SYMBOL	DESCRIPTION
(Symbol)	Undersaturated Shelby Tube Sample
(Symbol)	Pocket Penetration Test
(Symbol)	Disturbed Sample
(Symbol)	Standard Penetration Test and Sample
(Symbol)	Wash Boring - No Sample Recovery
(Symbol)	SOX Core Drilling - Testable Sample

Rock Symbols Chart

WEATHERED SHALE	WEATHERED LIMESTONE
SANDY SHALE	SEVERELY WEATHERED LIMESTONE
SHALE	SHALEY LIMESTONE
SANDSTONE	LIMESTONE
CONGLOMERATE	LIGHTITE
CALICHE	ASPHALTIC CONCRETE
SHELL	FILL MATERIAL (RANDOM)

MATERIALS PROPERTIES

Density of Consolidation Soil

Moisture Content

Liquid Limit

Plastic Limit

Shrinkage

Consistency of Consolidation Soil

Unconfined Compressive Strength

Soil Structure

CHALKY

SUCROSED

SANDY

FRISKED

INTERBEDDED

UNWEATHERED

SOCIETY WEATHERED

WEATHERED

SEVERELY WEATHERED

REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.	SCALE	N.T.S.
DRAWN BY	R.A.R.	DATE	MARCH 2020
CHECKED BY	J.F.L.	JOB No.	2018-043
REVIEWED BY	J.F.L.	DWG No.	

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521 North Texas, Odessa Tx. 79761 F-001363 F-10034300

Phone # (432) 332-5058 E-Mail: lca@lcaodessa.com

FOR CONSTRUCTION

ORIGINAL GEOTECH REPORT

SANITARY SEWER TRUNK LINE P

CITY OF ODESSA, ECTOR COUNTY, TEXAS

Professional Engineer Seal

Seal approved by this document

Text: License No. 43569

Date: DECEMBER 17, 2020

Alteration of this sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.

811

Know what's below. Call before you dig.

Seq. 22 of 30

Page No. 22

SUMMARY OF SOIL CLASSIFICATION TEST RESULTS

Boring Number	Depth in Feet	Liquid Limit %	Plasticity Index %	% Passing 200-mesh Sieve	Natural Moisture Content %	Classification	Material Description
A	1.0-2.5	38	4	35.6	9.0	SCSM	Brown SILTY CLAYEY SAND w/ Calcareous Particles
A	3.0-6.5	NP*	NP*	35.0	9.2	SM	Tan CALICHE
A	13.0-14.5	39	13	32.4	10.3	SM	Tan CALICHE
B	9.0-10.5	22	3	25.0	4.0	SM	Tan CALICHE
C	1.0-2.5	16	2	25.0	4.1	SM	Brown SILTY SAND w/ Calcareous Particles
C	5.0-6.5	25	10	42.0	6.3	SC	Brown CLAYEY SAND w/ Calcareous Particles
C	13.0-14.5	39	1	33.0	4.8	SM	Tan CALICHE
D	2.5-4.0	21	8	41.9	10.5	SC	Brown CLAYEY SAND w/ Calcareous Particles
D	9.0-10.5	41	24	68.6	17.1	CL	Tan CALICHE
E	1.0-2.5	26	10	42.7	10.1	SC	Brown CLAYEY SAND w/ Calcareous Particles
E	3.0-6.5	25	12	55.8	11.1	CL	Brown SANDY LEAN CLAY w/ Calcareous Particles
E	13.0-14.5	39	3	29.2	6.2	SCSM	Tan CALICHE

*Non-plastic

TEST RESULTS	Project No. 1265019 City of Odessa Sewer Line P Odessa, Texas	PLATE II
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SUMMARY OF SOIL CLASSIFICATION TEST RESULTS (cont'd)

Boring Number	Depth in Feet	Liquid Limit %	Plasticity Index %	% Passing 200-mesh Sieve	Natural Moisture Content %	Classification	Material Description
F	2.5-4.0	27	11	49.3	14.2	SC	Tan CALICHE
G	1.0-2.5	NP*	NP*	25.1	6.0	SM	Brown SILTY SAND w/ Calcareous Particles
G	5.0-6.5	29	12	52.6	7.8	CL	Tan CALICHE
H	2.5-4.0	23	8	31.4	3.6	SC	Tan CALICHE
I	9.0-10.5	NP*	NP*	25.2	15.5	SM	Tan CALICHE
J	13.0-14.5	45	5	24.1	16.9	SM	Tan CALICHE
J	5.0-6.5	30	9	49.4	11.7	SC	Tan CALICHE
K	1.0-2.5	21	6	41.2	9.1	SCSM	Brown SILTY CLAYEY SAND w/ Calcareous Particles
K	9.0-10.5	NP*	NP*	28.3	9.2	SM	Tan CALICHE
L	5.0-6.5	NP*	NP*	19.9	8.6	SM	Tan CALICHE
M	2.5-4.0	22	4	19.9	7.5	SCSM	Brown SILTY CLAYEY SAND w/ Calcareous Particles
M	9.0-10.5	27	8	32.7	9.2	SC	Tan CALICHE
N	13.0-14.5	61	16	19.7	24.4	SM	Tan CALICHE

*Non-plastic

TEST RESULTS	Project No. 1265019 City of Odessa Sewer Line P Odessa, Texas	PLATE IIa
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SUMMARY OF SOIL CLASSIFICATION TEST RESULTS (cont'd)

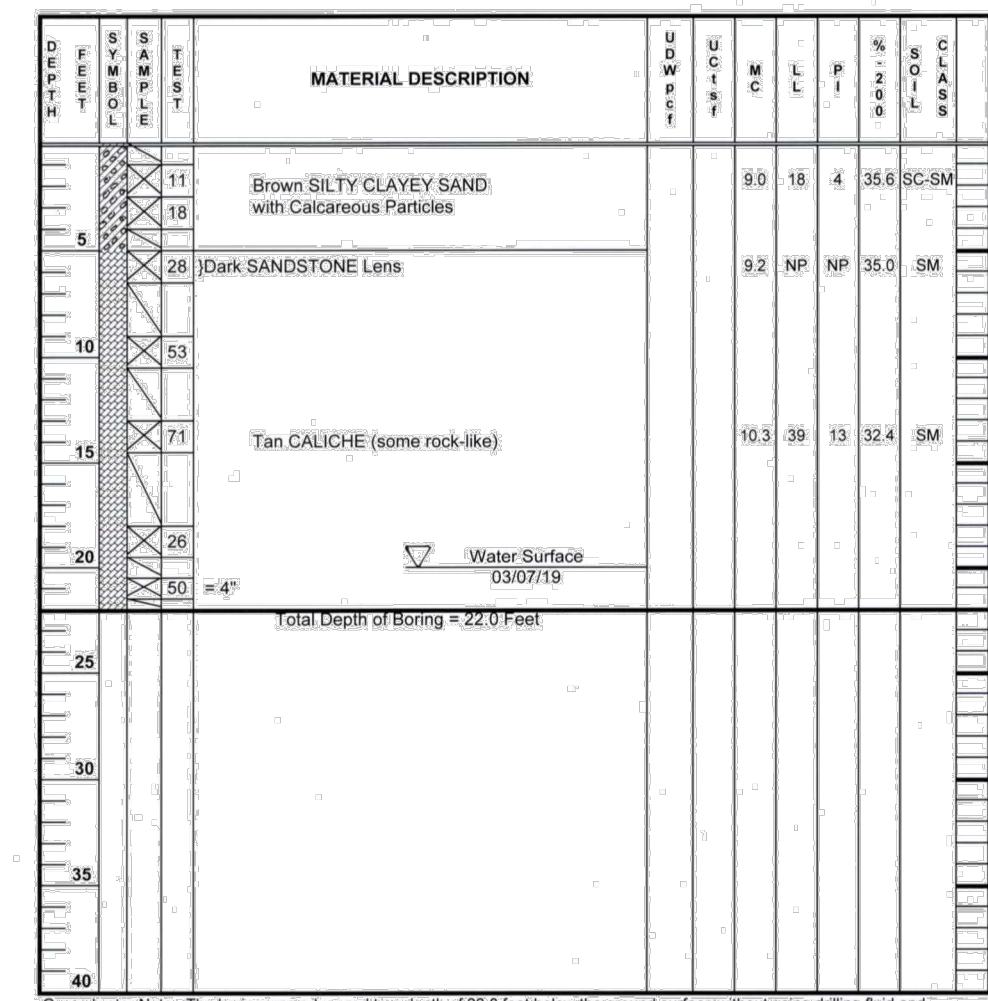
Boring Number	Depth in Feet	Liquid Limit %	Plasticity Index %	% Passing 200-mesh Sieve	Natural Moisture Content %	Classification	Material Description
O	1.0-2.5	24	10	47.3	13.1	SC	Brown CLAYEY SAND w/ Calcareous Particles
O	5.0-6.5	35	19	70.4	15.6	CL	Tan CALICHE
O	13.0-14.5	35	15	68.9	24.0	CL	Tan CALICHE
P	2.5-4.0	35	19	64.9	15.2	CL	Tan CALICHE

TEST RESULTS	Project No. 1265019 City of Odessa Sewer Line P Odessa, Texas	PLATE IIb
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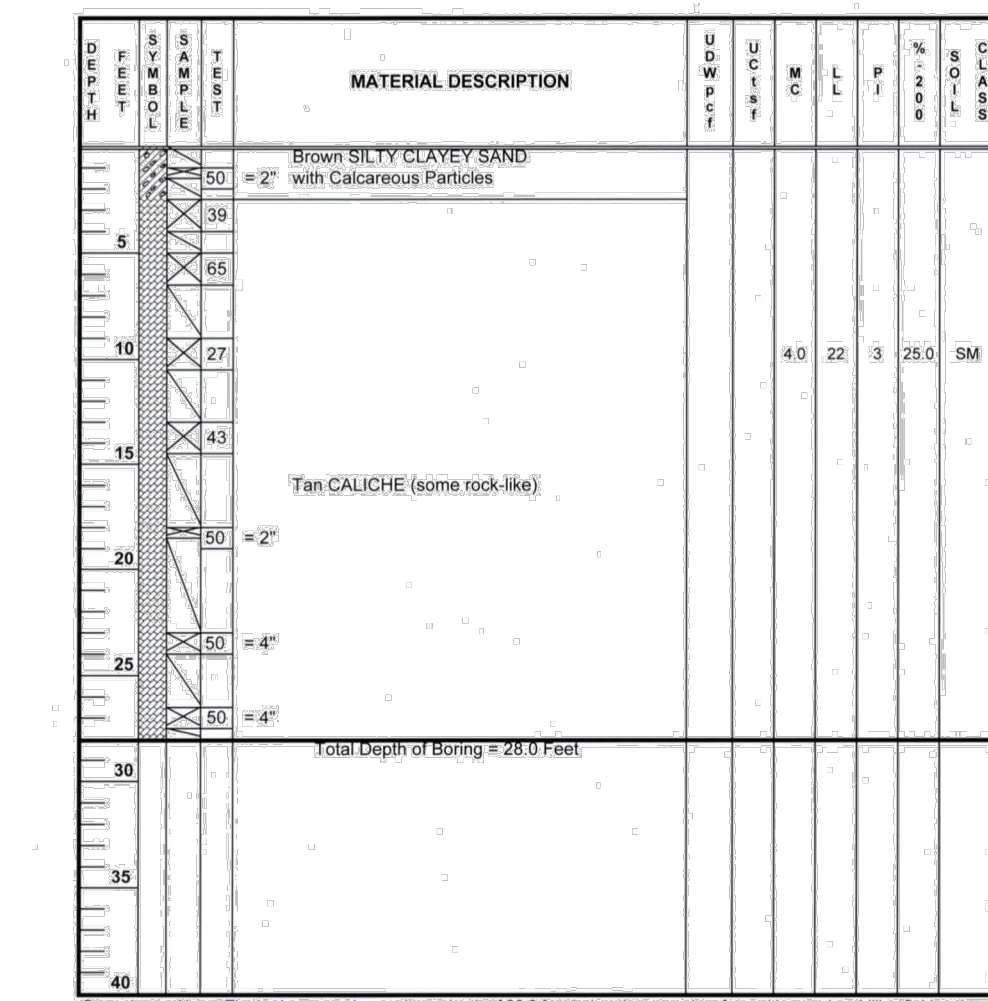
KEY TO LOG OF BORING

SYMBOL	DESCRIPTION
[Pattern]	LEAN CLAY (CL)
[Pattern]	FAT CLAY (CH)
[Pattern]	CLAYEY SAND (SC)
[Pattern]	SILTY SAND (SM)
[Pattern]	SAND (SP)
[Pattern]	GRAVEL (GP)
[Pattern]	SILT (ML)
[Pattern]	ELASTIC SILT (MH)
[Pattern]	CALICHE
[Pattern]	LIMESTONE
[Pattern]	SANDSTONE
[Pattern]	SHALE

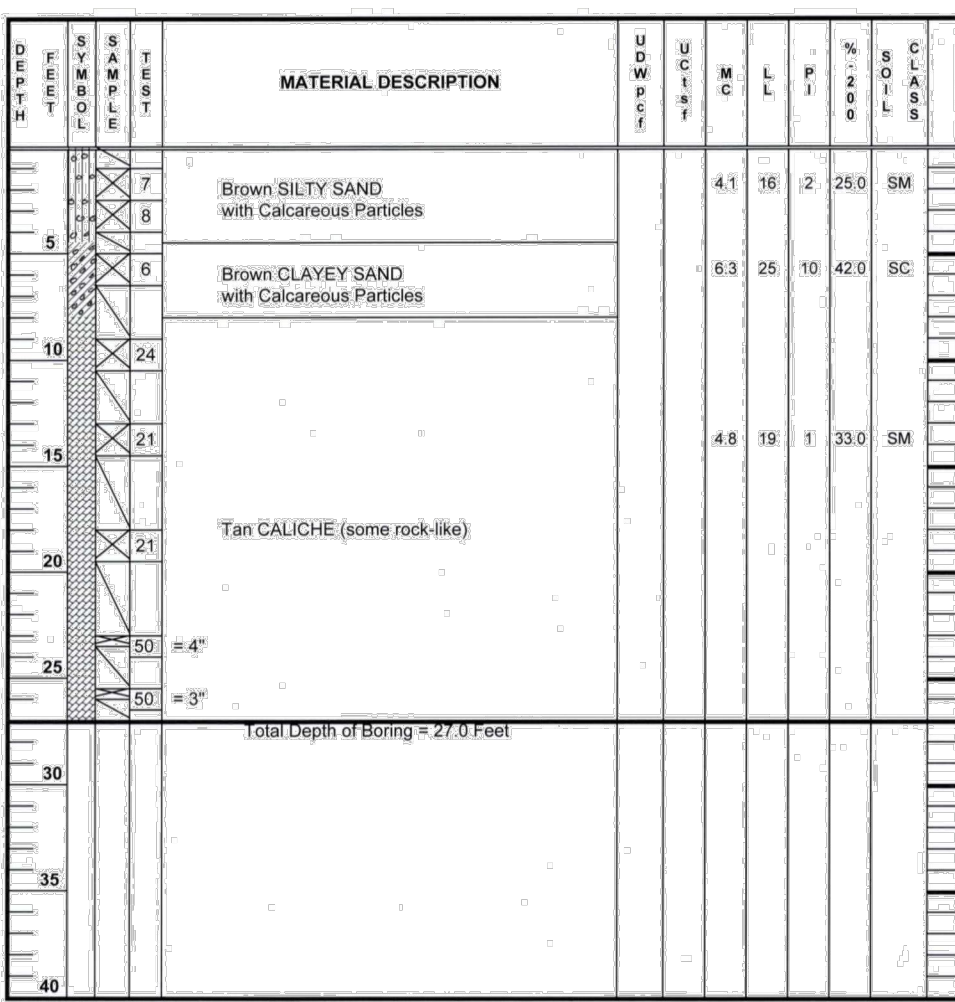
LOG OF BORING	Project No. 1265019 City of Odessa Sewer Line P Odessa, Texas	Date: 03-07-2019	Type: Air Rotary	BORING NO. NO.
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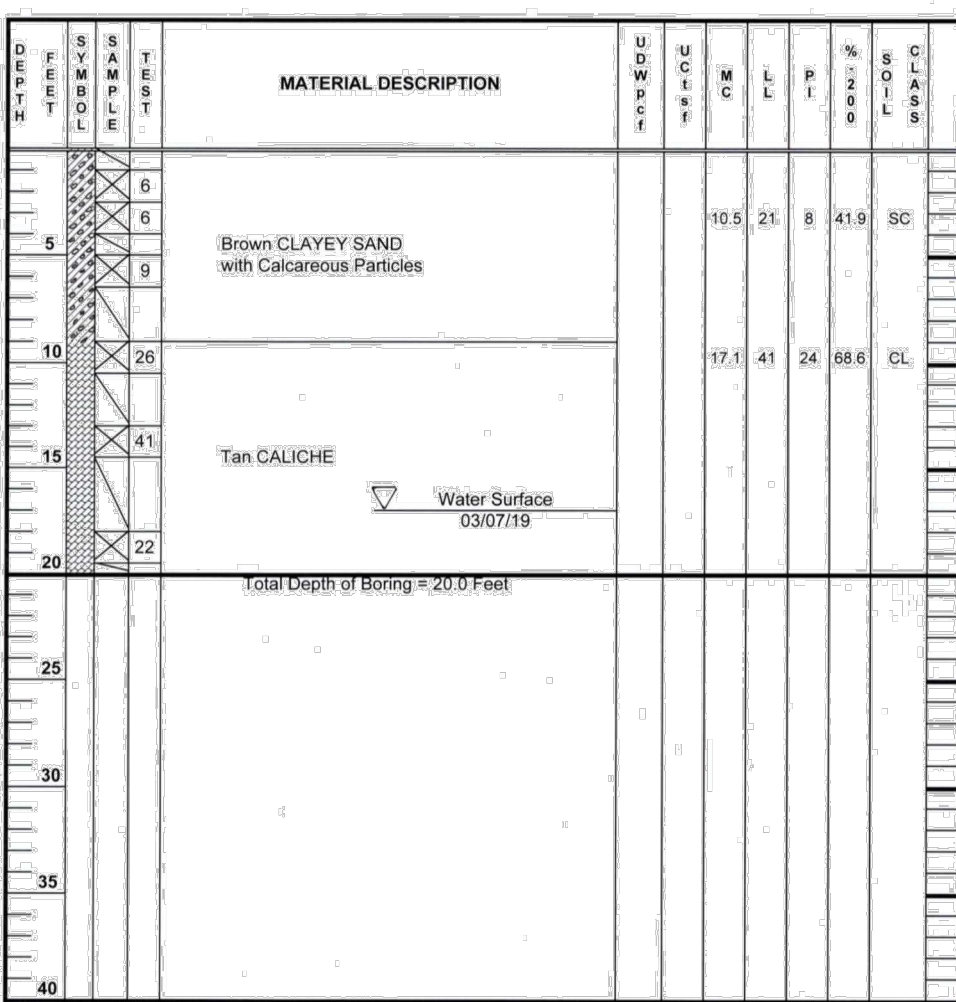
LOG OF BORING	Project No. 1265019 City of Odessa Sewer Line P Odessa, Texas	Date: 03-07-2019	Type: Auger	BORING NO. A
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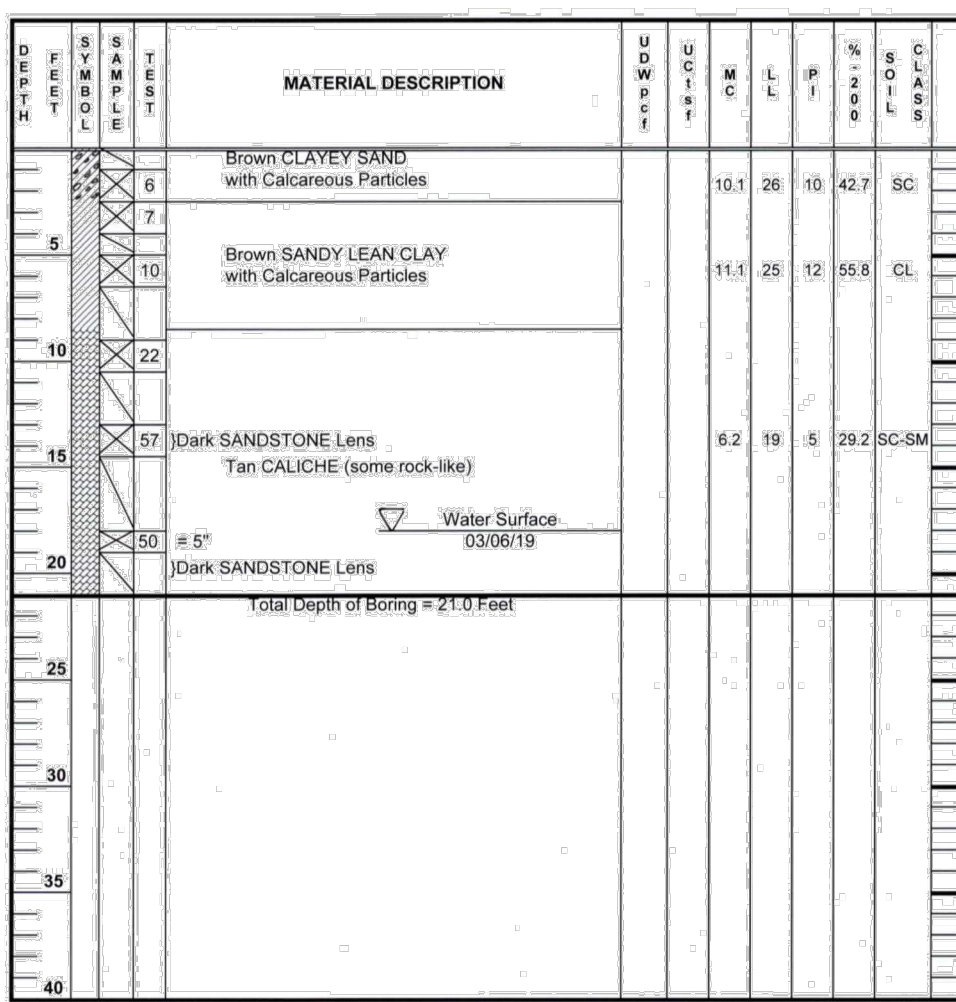
LOG OF BORING	Project No. 1265019 City of Odessa Sewer Line P Odessa, Texas	Date: 03-07-2019	Type: Auger	BORING NO. B
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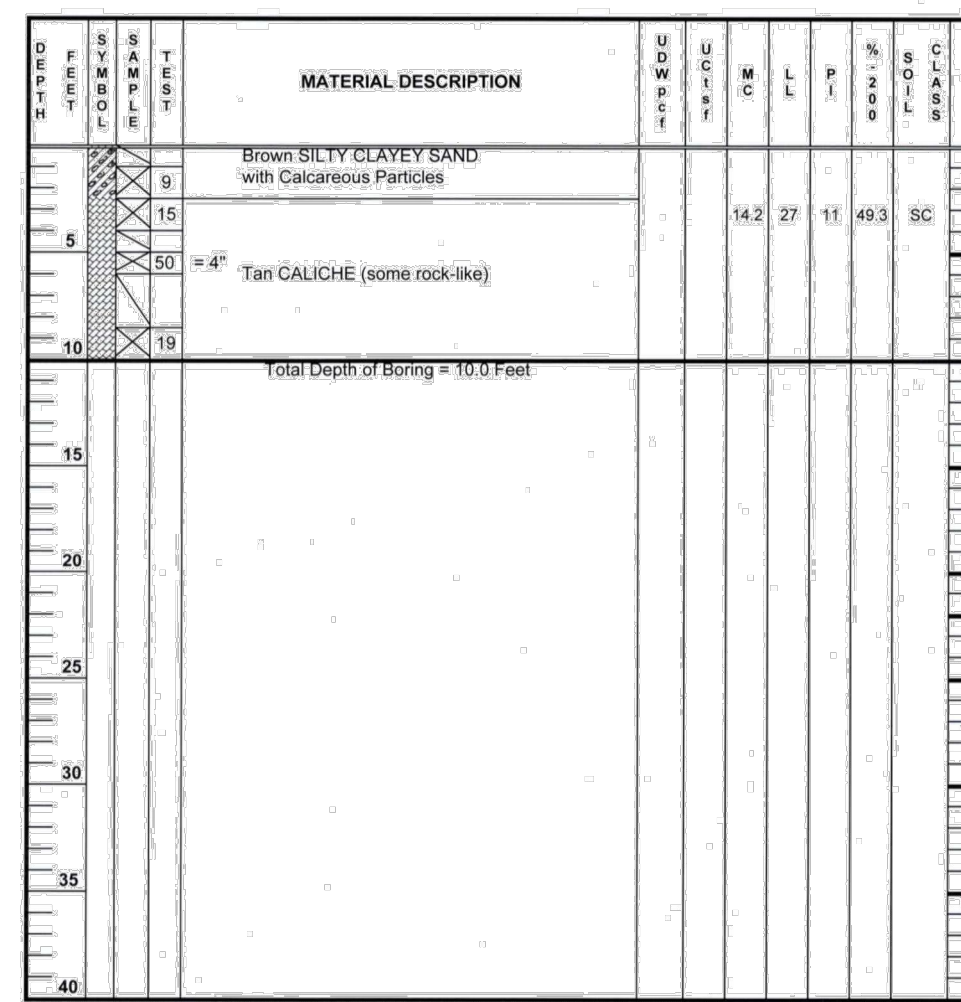
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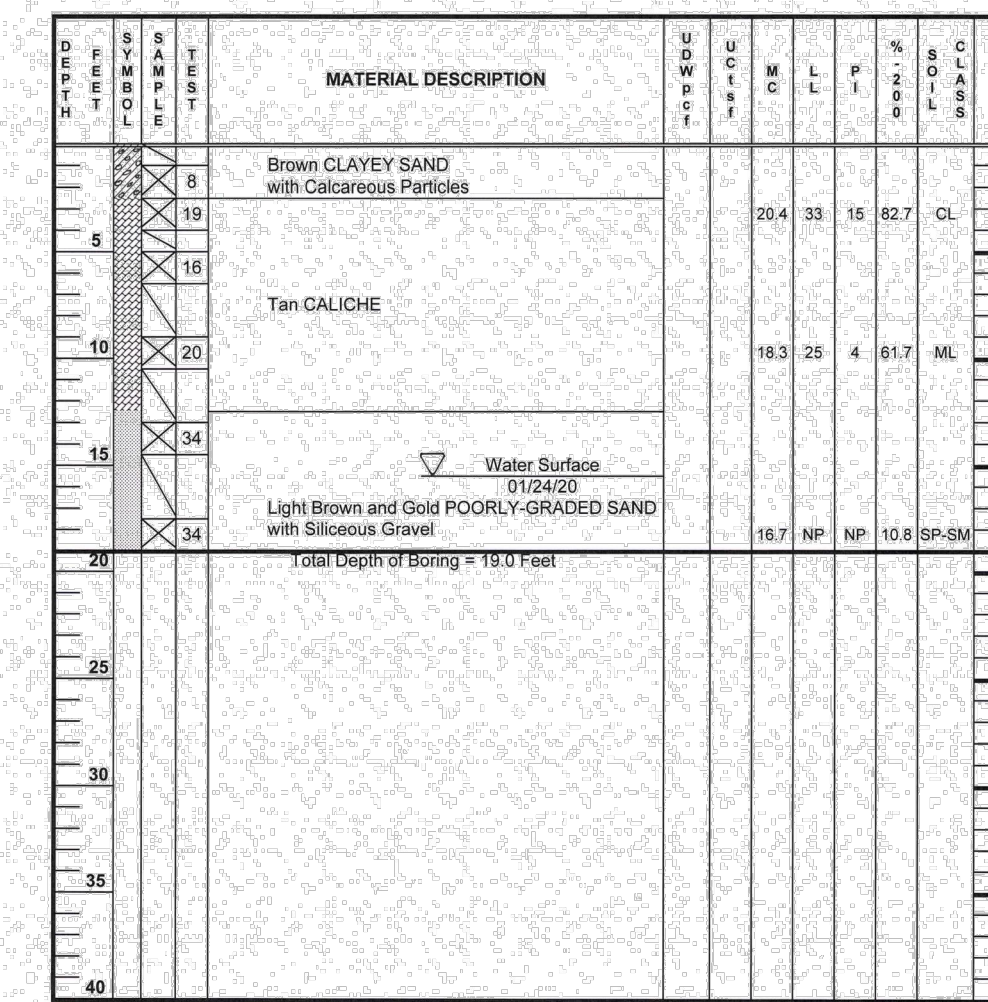
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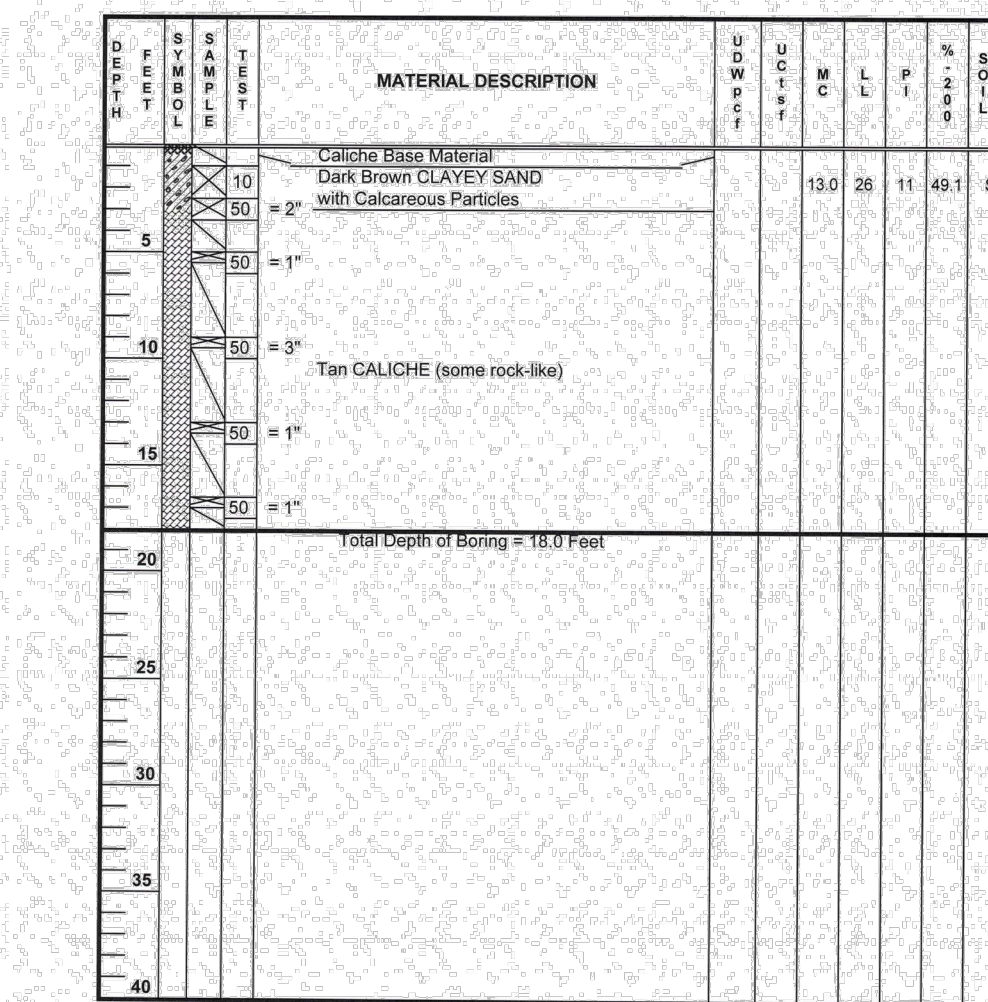
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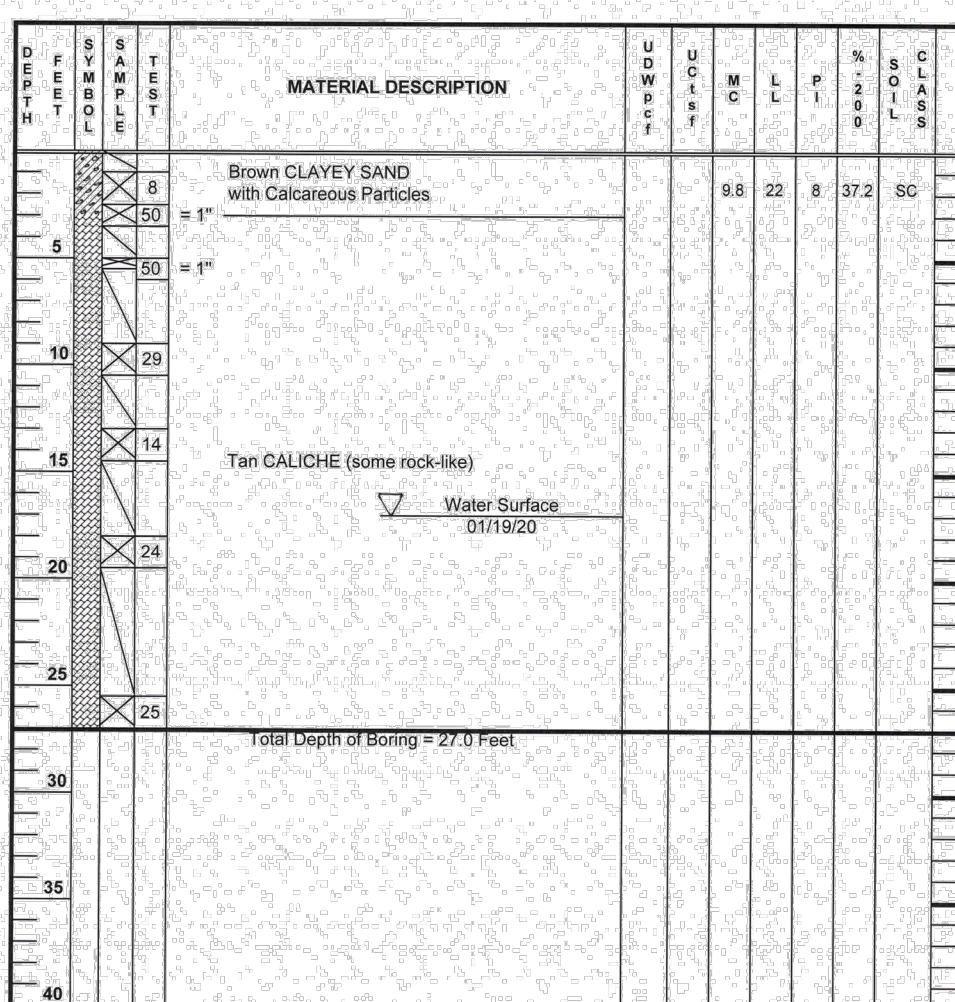
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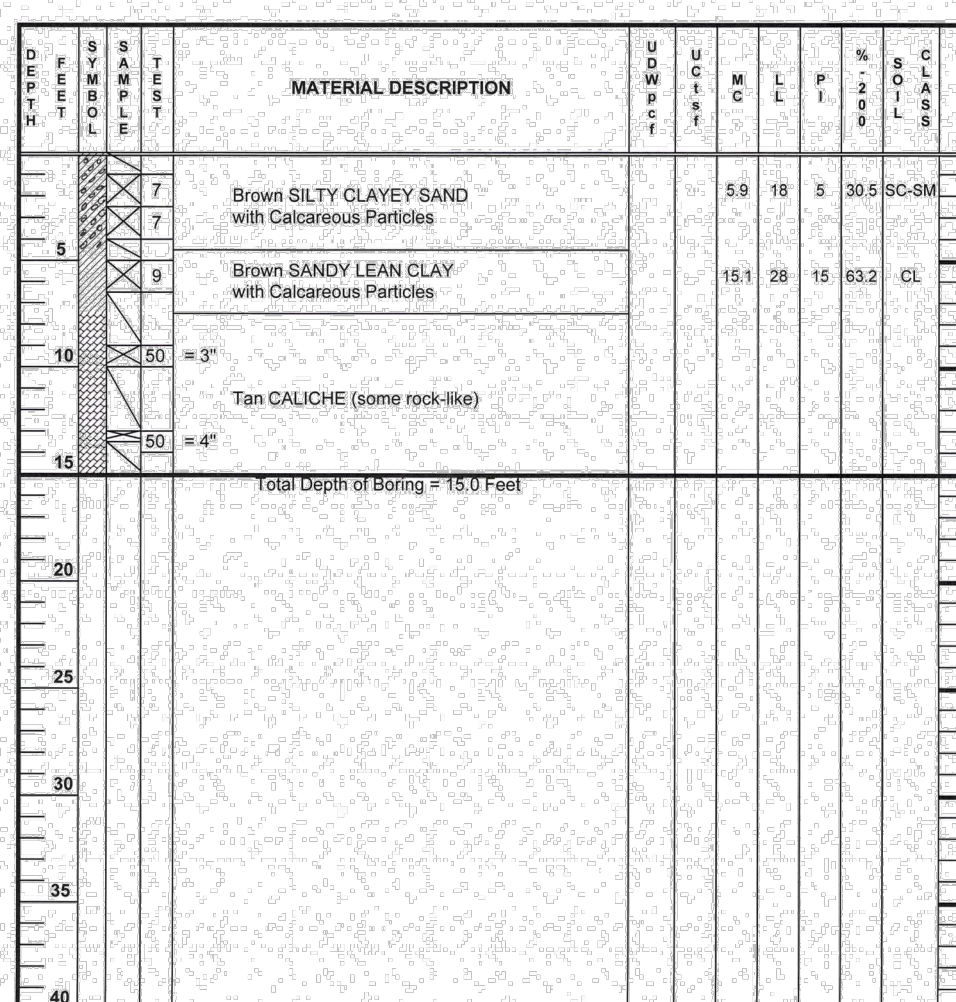
LOG OF BORING	Project No. 13090120 City of Odessa Sewer Line P Re-Route Odessa, Texas	Date: 01-24-2020	Type: Auger	BORING NO. B-1
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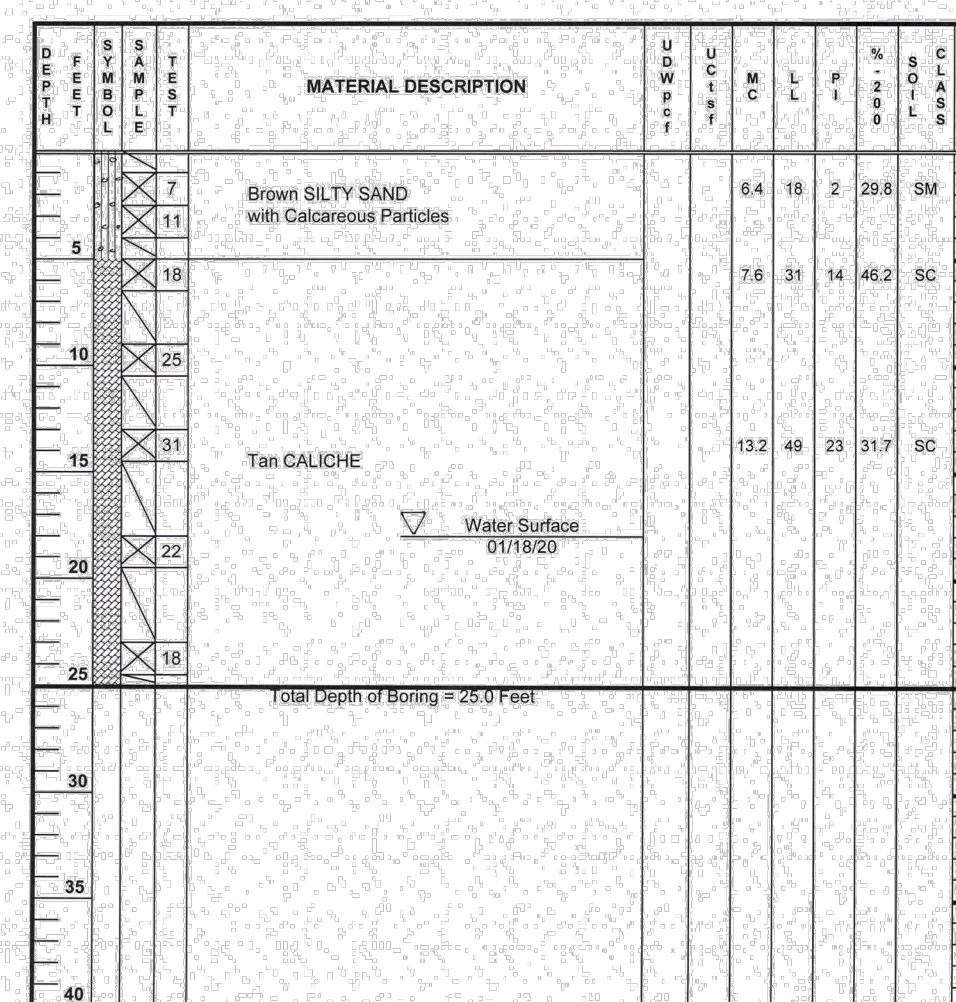
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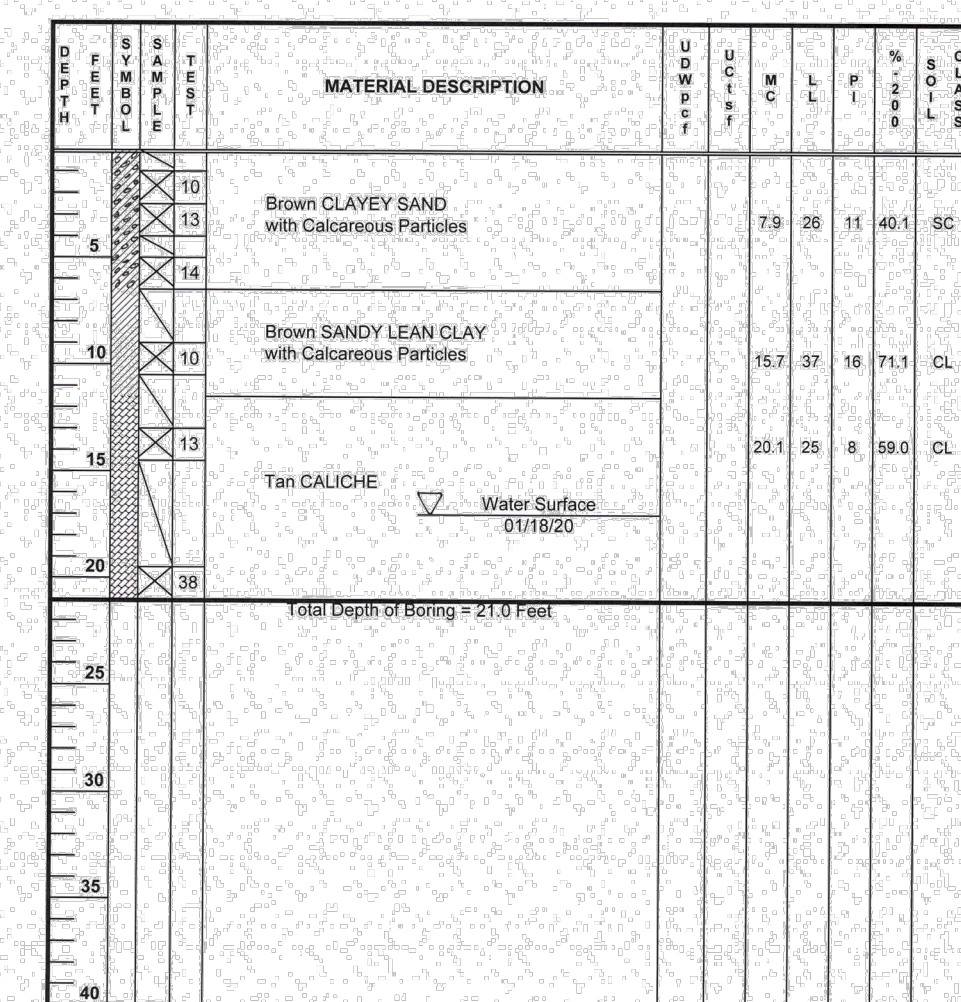
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LOG OF BORING	Project No. 13090120 City of Odessa Sewer Line P Re-Route Odessa, Texas	Date: 01-24-2020	Type: Auger	BORING NO. B-4
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LOG OF BORING	Project No. 13090120 City of Odessa Sewer Line P Re-Route Odessa, Texas	Date: 01-18-2020	Type: Auger	BORING NO. B-5
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LOG OF BORING	Project No. 13090120 City of Odessa Sewer Line P Re-Route Odessa, Texas	Date: 01-18-2020	Type: Auger	BORING NO. B-6
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[Signature]
I, the undersigned, do hereby certify that the above document is a true and correct copy of the original document as filed with me on DECEMBER 17, 2020.
Alteration of this sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.



Know what's below. Call before you dig.

REVISED DATE	REVISION DONE	BY

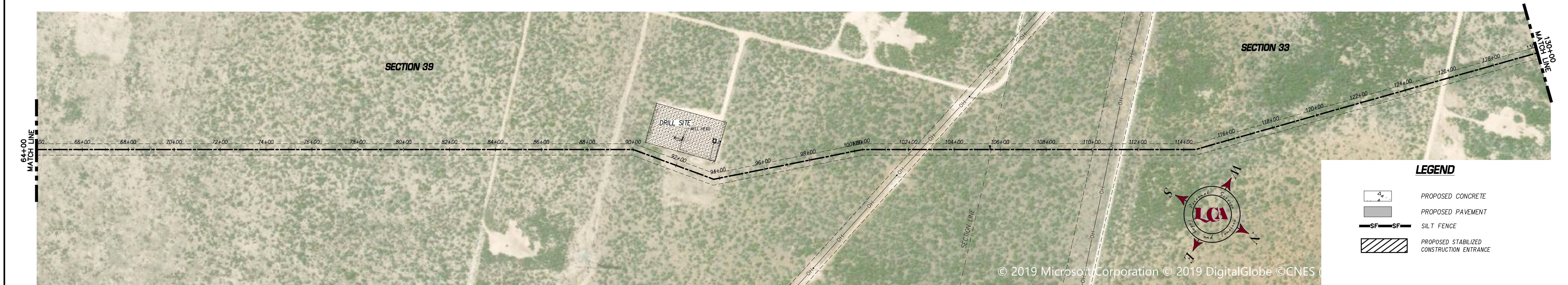
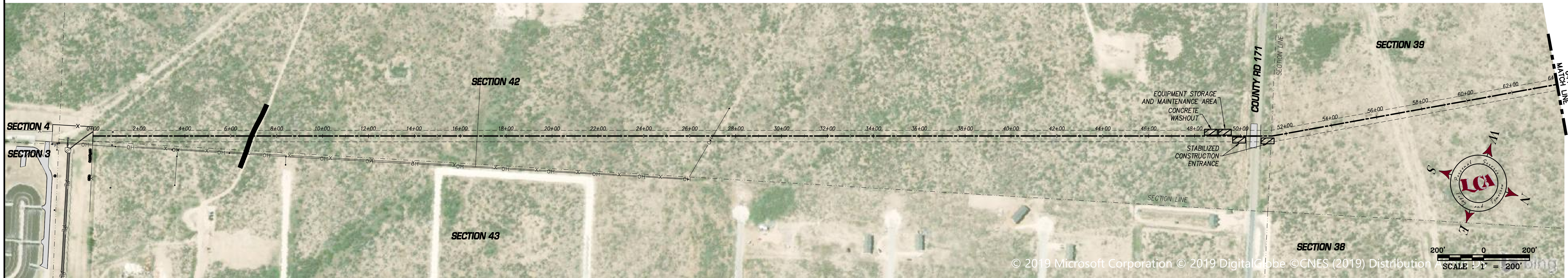
DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

SCALE	N.T.S.
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

LCA ENVIRONMENTAL • CIVIL ENGINEERING • LAND SURVEYING
521 North Texas, Odessa Tx. 79761 F-001363 F-10034300
Phone # (432) 332-5058 E-Mail : lca@lcaodessa.com

FOR CONSTRUCTION

NEW GEOTECH REPORT
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS



REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

SCALE	DATE
DWG No.	2018-043

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 521 North Texas, Odessa Tx. 79761 F-001363 F-10034300
 Phone # (432) 332-5058 E-Mail : lca@lcaodessa.com

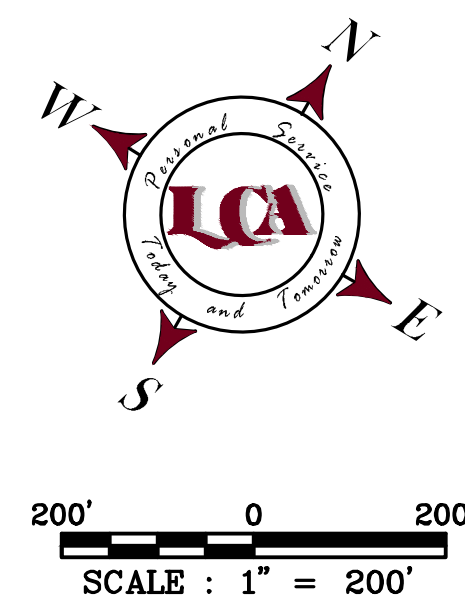
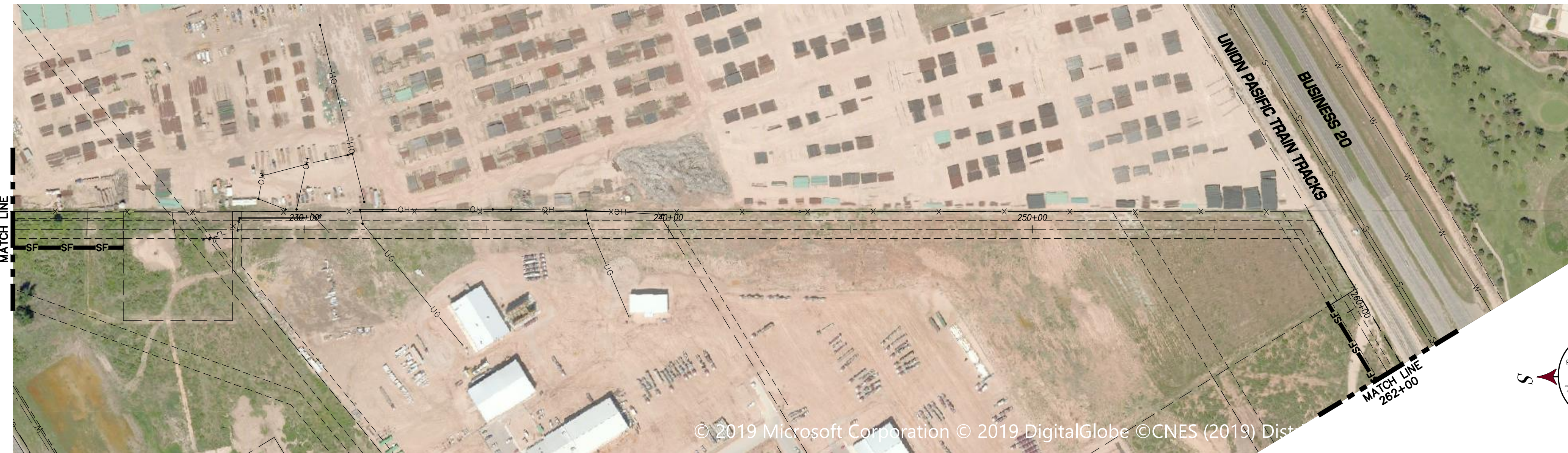
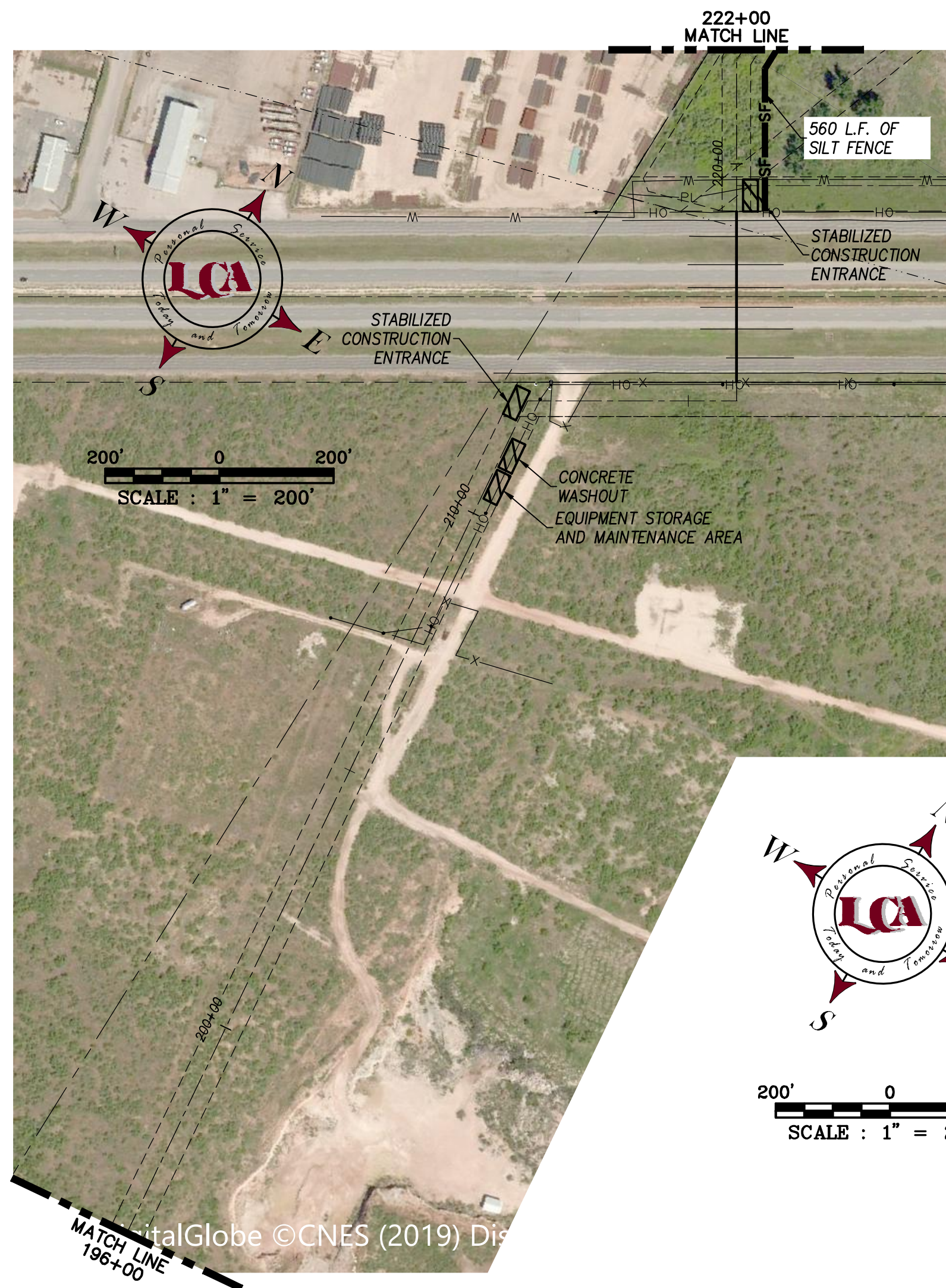
FOR CONSTRUCTION

SWP3 PLAN
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS

[Signature]
 Professional Engineer
 State of Texas
 No. 3898
 Exp. 12/31/2023

811
 Know what's below.
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E:\2018\2018-043\DWG\Drafting\For Construction\set\2018-043-24_SWPPP.dwg, 12/21/2020 10:52:35 AM, AutoCAD PDF (General Documentation).pc3



LEGEND

- PROPOSED CONCRETE
- PROPOSED PAVEMENT
- SILT FENCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE

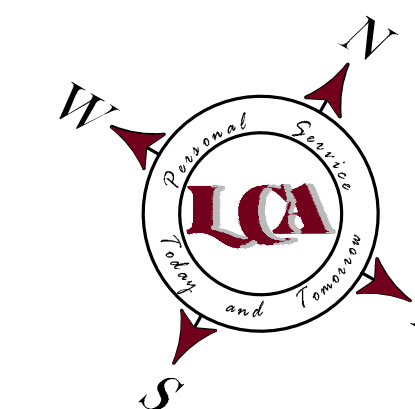
ESTIMATED QUANTITIES

5	EA.	CONSTRUCTION ENTRANCE
3	EA.	CONCRETE WASH-OUT
3	EA.	EQUIPMENT MAINTENANCE, STORAGE, FUELING AREA
2,965	L.F.	SILT FENCE

TOTAL AREA 40.3 ACRES
 TOTAL DISTURBED AREA 40.3 ACRES
 LATITUDE N 31°51'33.87"
 LONGITUDE W 102°16'55.31"

THESE SWP3 PLANS WILL BE PART OF THE SWP3 DOCUMENT AND ARE SHOWN FOR BIDDING PURPOSES ONLY. CONSULT THE FINAL SWP3 DOCUMENT FOR DETAILS AND SPECIFICATIONS.

NOTES
 HAY BALES MAY BE UTILIZED IN LIEU OF SILT FENCE. CONTRACTOR RESPONSIBLE FOR CHANGES.



REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

SCALE	1"=100'
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

LCA ENVIRONMENTAL • CIVIL ENGINEERING • LAND SURVEYING
 521 North Texas, Odessa Tx. 79761 F-001363 F-10034300
 Phone # (432) 332-5058 E-Mail : lca@lcaodessa.com

FOR CONSTRUCTION

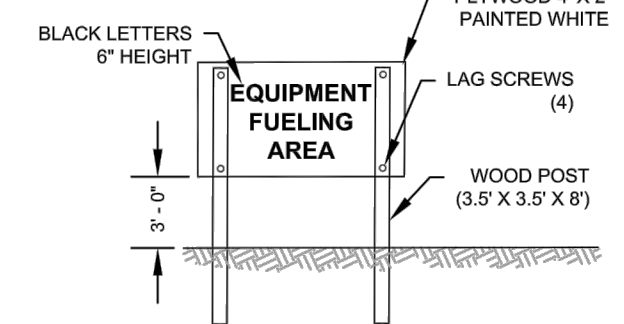
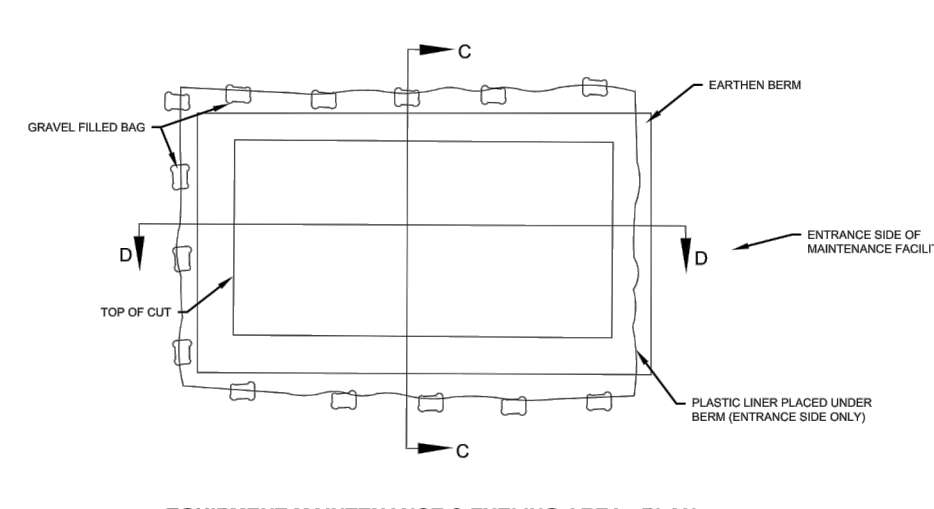
SWP3 PLAN
SANITARY SEWER TRUNK LINE P
 CITY OF ODESSA, ECTOR COUNTY, TEXAS

[Signature]
 I hereby seal and approve this document
 on DECEMBER 17 2020
 Title: Professional Engineer
 No. 3898
 State of TEXAS
 Alteration of this sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.

811
 Know what's below.
 Call before you dig.
 Seq. 25 of 30
 Page No. **25**

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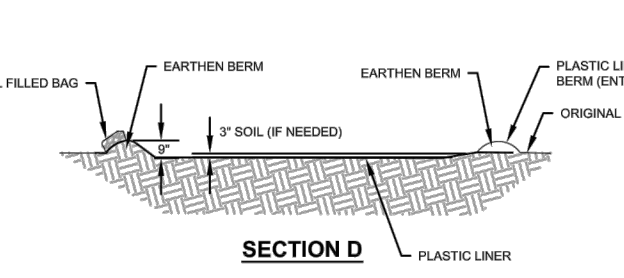
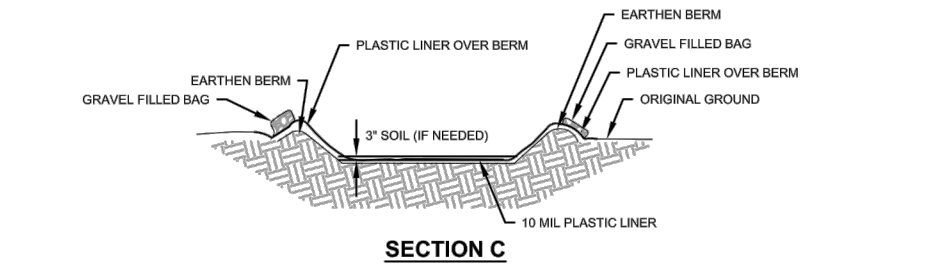
EQUIPMENT MAINTENANCE AND FUELING AREA
MINIMUM REQUIREMENTS



EQUIPMENT FUELING AREA SIGN DETAIL

- EQUIPMENT FUELING AREA NOTES:**
1. THE EQUIPMENT FUELING AREA SIGN SHALL BE INSTALLED WITHIN 10' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
 2. PLASTIC LINER SHALL BE ANCHORED WITH GRAVEL-FILLED BAGS.
 3. PLASTIC LINER SHALL BE 10 MIL THICKNESS MINIMUM.

FUEL & LIQUID STORAGE AREA - PLAN
MINIMUM REQUIREMENTS

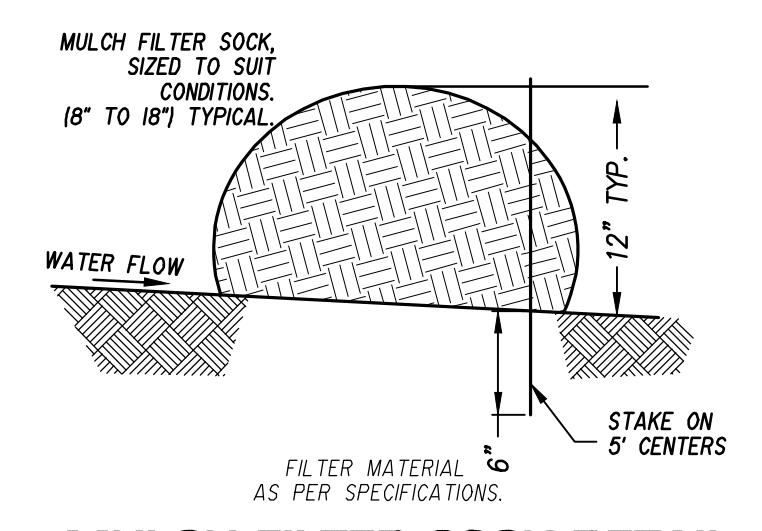


EQUIPMENT MAINTENANCE & FUELING AREA - DETAILS
MINIMUM REQUIREMENTS

EQUIPMENT MAINTENANCE & FUELING AREA - DETAILS
MINIMUM REQUIREMENTS

DRAWN BY: JStewart
DATE: Apr. 06, 2015
SCALE: N.T.S.

FILE: StormWater7

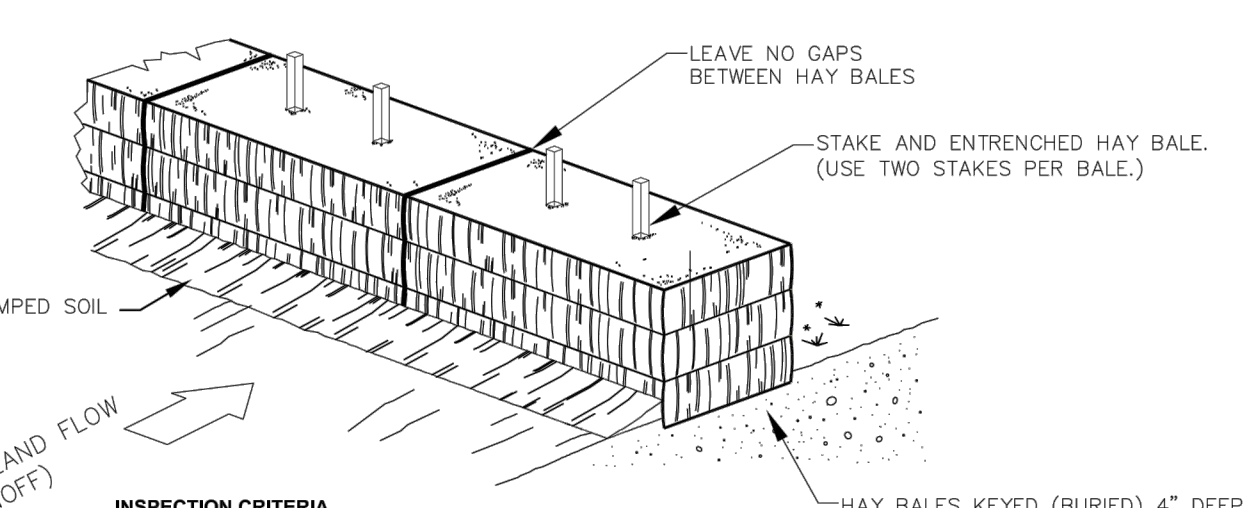


MULCH FILTER SOCK DETAIL

Hay Bale Erosion Control Best Management Practice
MINIMUM REQUIREMENTS

EROSION CONTROLS MUST REMAIN INSTALLED UNTIL STABILIZATION REQUIREMENTS HAVE BEEN MET

NOTE: PROBLEMS CAN DEVELOP FROM WATER RUNNING BETWEEN AND UNDER HAY BALES. INSTALL THEM CAREFULLY. LONG-TERM STRUCTURES MUST BE PERIODICALLY CLEANED AND MAINTAINED. WHEN FINISHED, CLEAN AND REMOVE ALL HAY BALES AND HAY BALE REMNENTS FROM THE SITE.



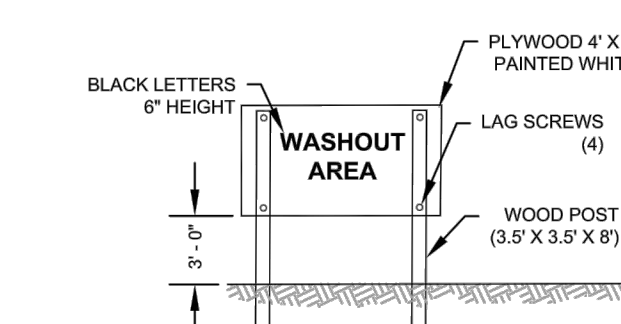
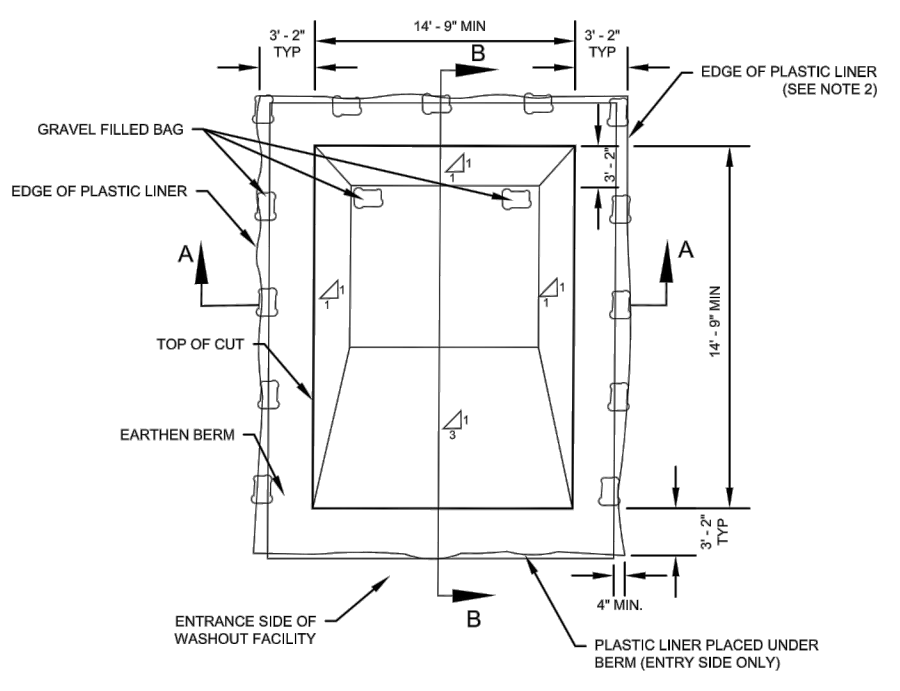
INSPECTION CRITERIA

- 1-Hay Bales are installed properly and in optimal condition
- 2-Hay Bales are installed properly and in functioning condition
- 3-Hay Bales are either semi installed and/or needs repair
- 4-Hay Bales are failing
- 5-Hay Bales are not installed

DRAWN BY: S ODOM
DATE: Mar. 17, 2017
SCALE: N T S

FILE: StormWater72

LARGE CONSTRUCTION SITE WASHOUT CONTROL
MINIMUM REQUIREMENTS

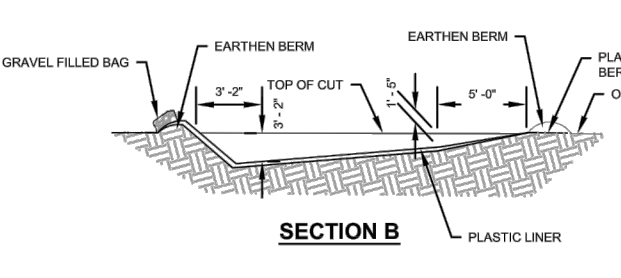
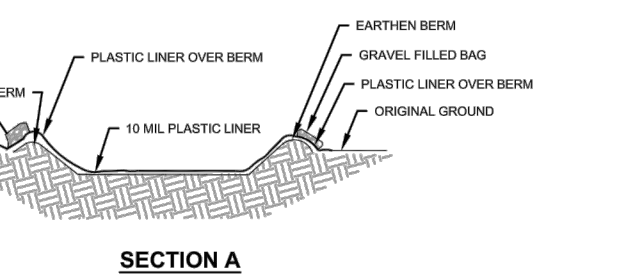


WASHOUT SIGN DETAIL

- WASHOUTS CONSIST OF:**
- CONCRETE
 - STUCCO
 - PAINT
 - FORM RELEASE
 - CURING COMPOUNDS
 - OTHER CONSTRUCTION MATERIALS

- WASHOUT NOTES:**
1. THE WASHOUT SIGN SHALL BE INSTALLED WITHIN 10' OF THE TEMPORARY WASHOUT FACILITY.
 2. PLASTIC LINER SHALL BE ANCHORED WITH GRAVEL-FILLED BAGS.
 3. PLASTIC LINER SHALL BE 10 MIL THICKNESS MINIMUM.

WASHOUT FACILITY - PLAN



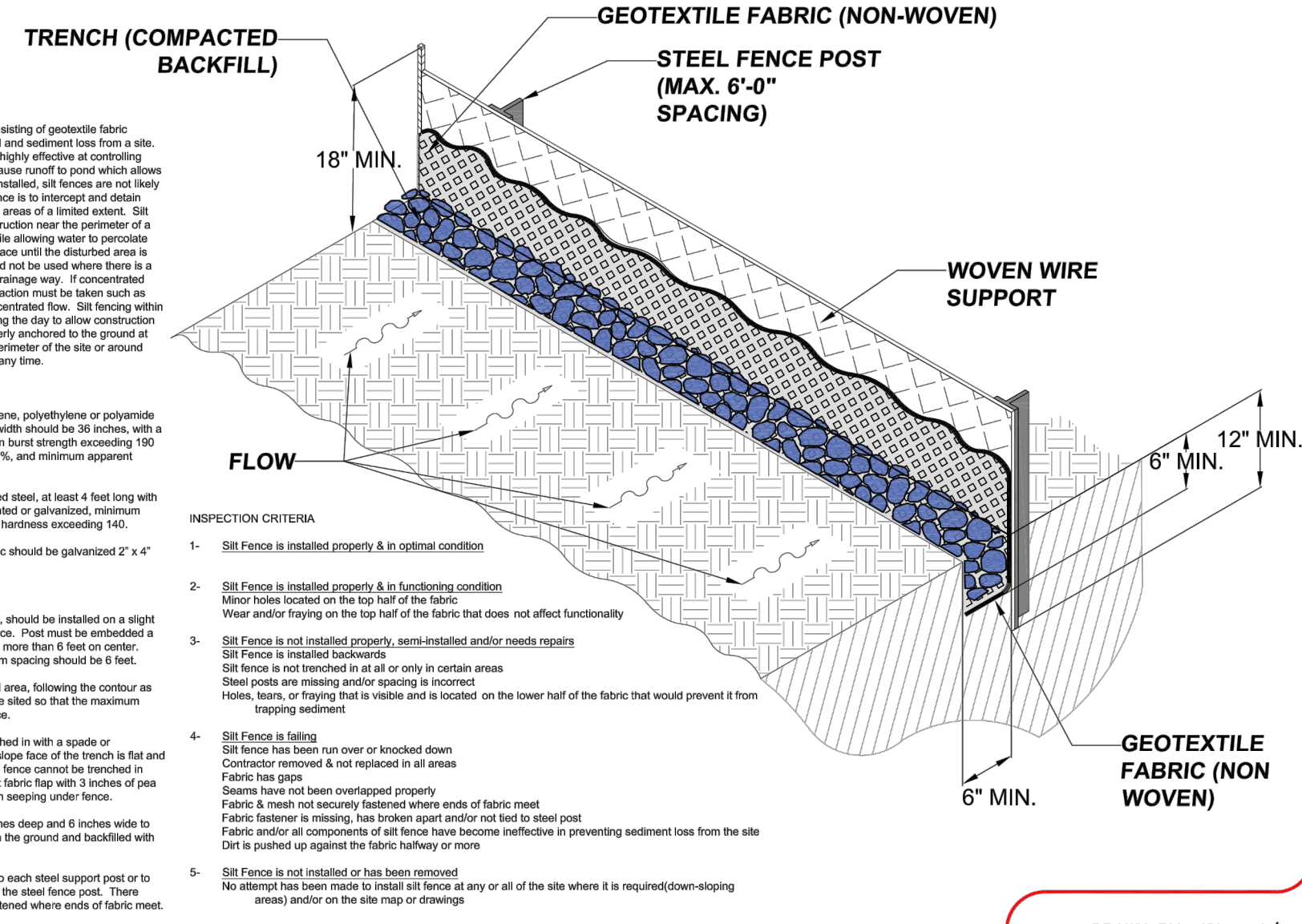
WASHOUT FACILITY DETAILS
MINIMUM REQUIREMENTS

WASHOUT FACILITY DETAILS
MINIMUM REQUIREMENTS

DRAWN BY: JStewart
DATE: Nov. 09, 2016
SCALE: N.T.S.

FILE: StormWater7

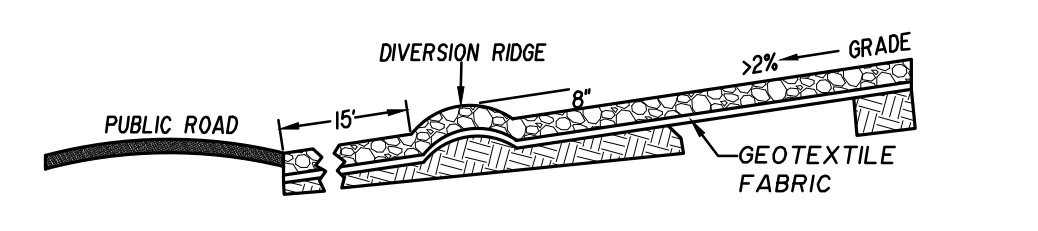
SILT FENCE DETAIL
Minimum Requirements
EROSION CONTROLS MUST REMAIN INSTALLED UNTIL STABILIZATION REQUIREMENTS HAVE BEEN MET



DRAWN BY: JStewart/La
DATE: MAR 17, 2017
SCALE: N.T.S.

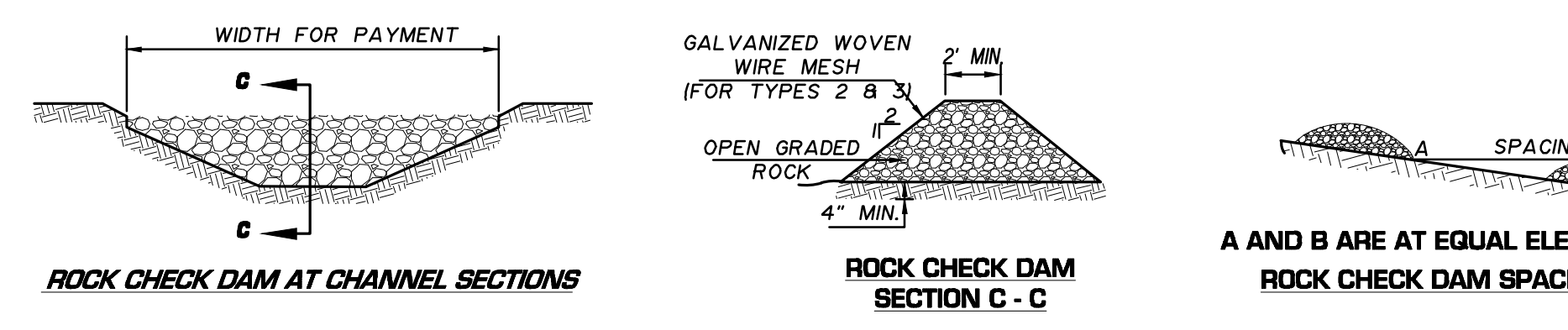
FILE: StormWater7

STABILIZED CONSTRUCTION ENTRANCE PLAN VIEW



STABILIZED CONSTRUCTION ENTRANCE CROSS SECTION

STABILIZED CONSTRUCTION ENTRANCE DETAILS



ROCK CHECK DAM DETAILS
NOT TO SCALE

- ROCK CHECK DAM NOTES**
1. RIPRAP SIZE TO BE DESIGNED BY ENGINEER.
 2. CHECK DAMS MAY BE USED IN SLOPING DITCHES OR CHANNELS TO SLOW VELOCITY OR TO CREATE SEDIMENT TRAPS.
 3. ENSURE THAT MAXIMUM SPACING BETWEEN DAMS PLACES THE TOE OF THE UPSTREAM DAM AT THE SAME ELEVATION AS THE DOWNSTREAM DAM (SEE DIAGRAM BELOW).

FILE: StormWater7

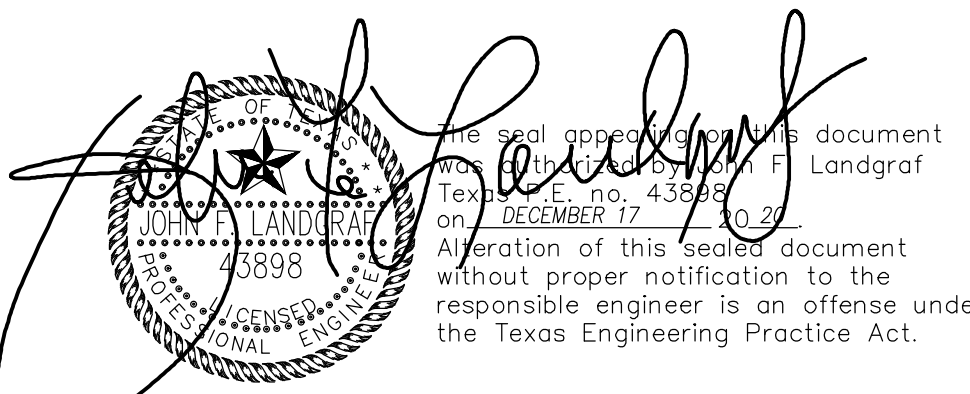
THESE SWP3 PLANS WILL BE PART OF THE SWP3 DOCUMENT AND ARE SHOWN FOR BIDDING PURPOSES ONLY. CONSULT THE FINAL SWP3 DOCUMENT FOR DETAILS AND SPECIFICATIONS.

- GENERAL NOTES:**
1. CONCRETE BATCH PLANTS, HOT MIX ASPHALTIC CONCRETE PLANTS AND FILL MATERIAL SOURCES ARE LOCATED AT OFF-SITE COMMERCIAL FACILITIES.
 2. AREAS FOR STAGING, CONSTRUCTION TRAFFIC, PARKING, VEHICULAR MAINTENANCE, CONCRETE TRUCK WASHING AND VEHICLE WASHING SHALL BE WITHIN THE LIMITS OF SWP3 PERIMETER CONTROLS. STAGE AREAS TO INCLUDE, AND LOCATIONS TO BE NOTED BY THE CONTRACTOR, FUEL STORAGE AREA, AND PORTALET LOCATIONS.
 3. SEE SECTION M OF THE SWP3 DOCUMENT FOR SILT FENCE, STABILIZED CONSTRUCTION ENTRANCE, AND TEMPORARY STABILIZATION SPECIFICATIONS AND DETAILS.
 4. THE SWP3 CONTROLS WILL BE INSTALLED BY THE PRIMARY OPERATOR. THE PRIMARY OPERATOR SHALL FILE TCEO PERMIT DOCUMENTS (NOI, NOC, NOT).
 5. ALL OPERATORS SHALL COMPLY WITH INSPECTION, MAINTENANCE AND REPORTING REQUIREMENTS OF THE GENERAL PERMIT.
 6. CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER METHODS TO LIMIT DUST AND DIRT MITIGATION.
 7. CONTRACTOR SHALL KEEP ALL DEBRIS AND SPOIL OUT OF DRAWS, CULVERTS, AND DROP INLETS AND ENSURE THAT THEY DO NOT BECOME CLOGGED AS A RESULT OF CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL INSPECT SURROUNDING INLETS PRIOR TO CONSTRUCTION. BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED DURING THE DURATION OF THE PROJECT.

- EROSION CONTROL NOTES:**
1. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PHASE OF THE PROJECT ACCORDING TO THE FOLLOWING SCHEDULE.
 1. FILTER FABRIC (SILT) FENCE
 - a. ACCUMULATED SEDIMENTS WILL BE REMOVED AS REQUIRED TO KEEP THE FENCE FUNCTIONAL. IN ALL CASES, REMOVE DEPOSITS WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.
 - b. ALL UNDERCUTTING OR EROSION OF THE TOE ANCHOR WILL BE REPAIRED IMMEDIATELY WITH COMPACTED BACKFILL MATERIALS.
 - c. ADHERE TO ANY MANUFACTURERS RECOMMENDATIONS FOR REPLACING FILTER FABRIC DUE TO WEATHERING.
 2. SITE INSPECTIONS MUST BE MADE AT LEAST ONCE EVERY 14 DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT 5" OR GREATER OR AT LEAST EVERY 7 DAYS REGARDLESS OF PRECIPITATION.

3. AS SITE CONDITIONS CHANGE, NECESSARY ADJUSTMENTS WILL BE MADE BY CONTRACTOR IN THE FIELD TO REDUCE STORM WATER RUNOFF AS NEEDED. SHOULD THE MEASURES SHOWN HEREON BE SUFFICIENT TO REDUCE RUNOFF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE STRUCTURES WITH A MORE EFFECTIVE RUNOFF PREVENTION METHOD.
4. UPON ADJUSTING AND/OR ALTERING STORM WATER POLLUTION PREVENTION MEASURES ONSITE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING AND REVISING SITE MAP IN A TIMELY MANNER.
5. SHOULD TCEO OR AN AUTHORIZED AGENCY OF MODIFY STORM WATER REGULATIONS PRIOR TO THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING NECESSARY MODIFICATIONS TO THE RUNOFF REDUCTION MEASURES IN PLACE IN ORDER TO COMPLY WITH THE MOST CURRENT STORM WATER REGULATIONS.
6. PERIMETER CONTROL MEASURES WILL BE MAINTAINED DURING CONSTRUCTION AND UNTIL THE SITE HAS ACHIEVED 70% NATIVE BACKGROUND VEGETATION.
7. 70% STABILIZATION MAY INCLUDE PAYEMENT AND/OR ESTABLISHED LANDSCAPING THAT WILL PREVENT STORM RUNOFF FROM ERODING OR COMPROMISING THE SITE AND DOWNSTREAM DRAINAGE FACILITIES.
8. UPON FINAL STABILIZATION THE CONTRACTOR IS RESPONSIBLE FOR REMOVING TEMPORARY EROSION CONTROL STRUCTURES.

- ROCK CHECK DAM NOTES:**
1. RIPRAP SIZE TO BE DESIGNED BY ENGINEER.
 2. CHECK DAMS MAY BE USED IN SLOPING DITCHES OR CHANNELS TO SLOW VELOCITY OR TO CREATE SEDIMENT TRAPS.
 3. ENSURE THAT MAXIMUM SPACING BETWEEN DAMS PLACES THE TOE OF THE UPSTREAM DAM AT THE SAME ELEVATION AS THE DOWNSTREAM DAM (SEE DIAGRAM ON THIS PAGE).



THE PRIMARY OPERATOR SHALL BE THE GENERAL CONTRACTOR.

PRIMARY OPERATOR WILL INSTALL & MAINTAIN EROSION CONTROL MEASURES TO PROTECT ADJACENT PROPERTIES & STORM SEWER SYSTEM

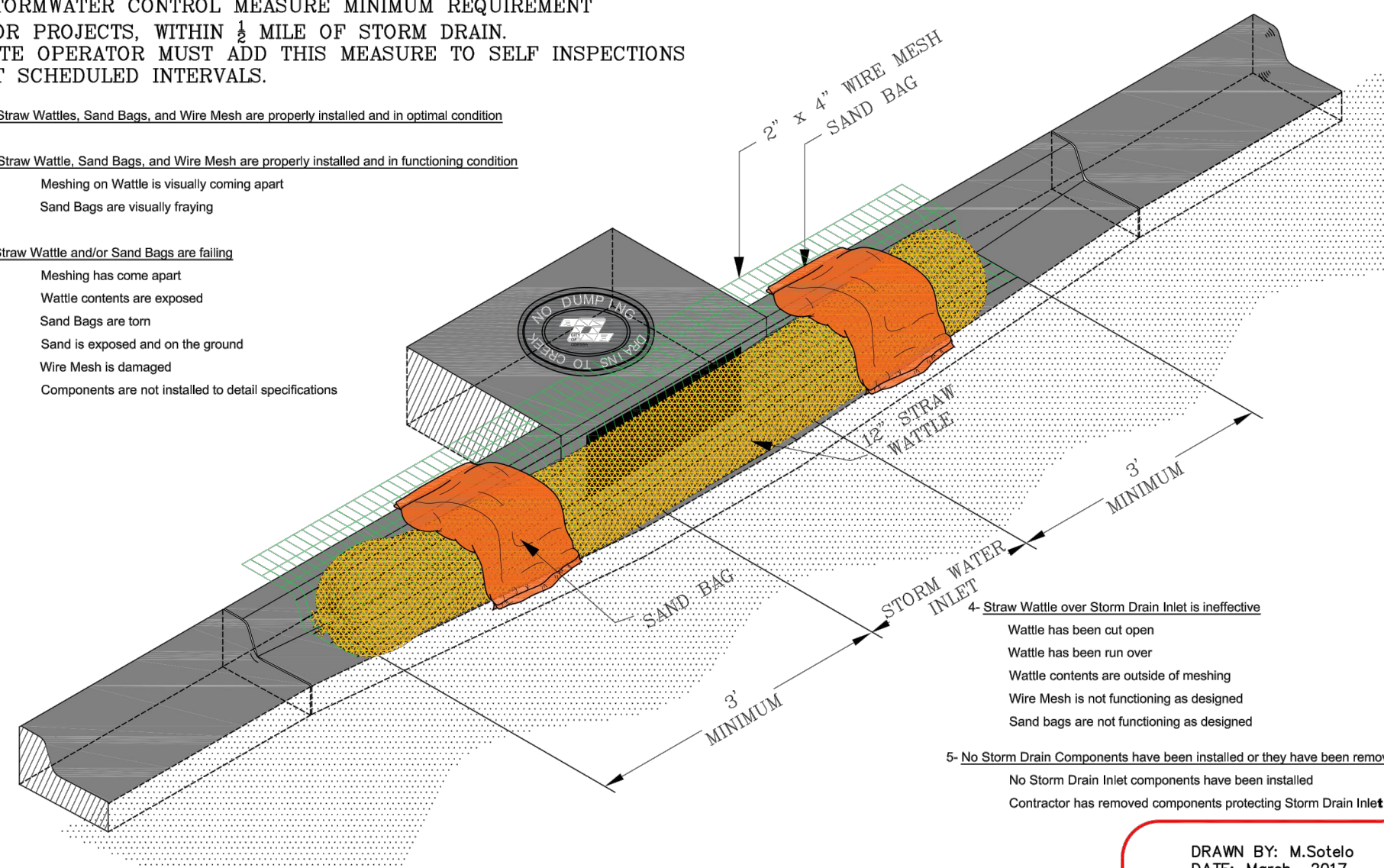
REVISED DATE	REVISION DONE	BY	DESIGNED BY R.A.R.	SCALE N.T.S.	<p>LCA ENVIRONMENTAL • CIVIL ENGINEERING • LAND SURVEYING 521 North Texas, Odessa Tx. 79761 F-001363 F-10034300 Phone # (432) 332-5058 E-Mail : lca@lcaodessa.com</p>	<p>FOR CONSTRUCTION</p>	<p>SWP3 DETAILS SANITARY SEWER TRUNK LINE P CITY OF ODESSA, ECTOR COUNTY, TEXAS</p>	Seq. 26 of 30
			DRAWN BY R.A.R.	DATE MARCH 2020				Page No. 26
			CHECKED BY J.F.L.	JOB No. 2018-043				



**STORM DRAIN INLET
MINIMUM STANDARDS
EROSION CONTROLS MUST REMAIN INSTALLED UNTIL
STABILIZATION REQUIREMENTS HAVE BEEN MET**

STORMWATER CONTROL MEASURE MINIMUM REQUIREMENT
FOR PROJECTS, WITHIN 1/4 MILE OF STORM DRAIN.
SITE OPERATOR MUST ADD THIS MEASURE TO SELF INSPECTIONS
AT SCHEDULED INTERVALS.

- 1- Straw Wattles, Sand Bags, and Wire Mesh are properly installed and in optimal condition
- 2- Straw Wattle, Sand Bags, and Wire Mesh are properly installed and in functioning condition
Meshing on Wattle is visually coming apart
Sand Bags are visually fraying
- 3- Straw Wattle and/or Sand Bags are failing
Meshing has come apart
Wattle contents are exposed
Sand Bags are torn
Sand is exposed and on the ground
Wire Mesh is damaged
Components are not installed to detail specifications



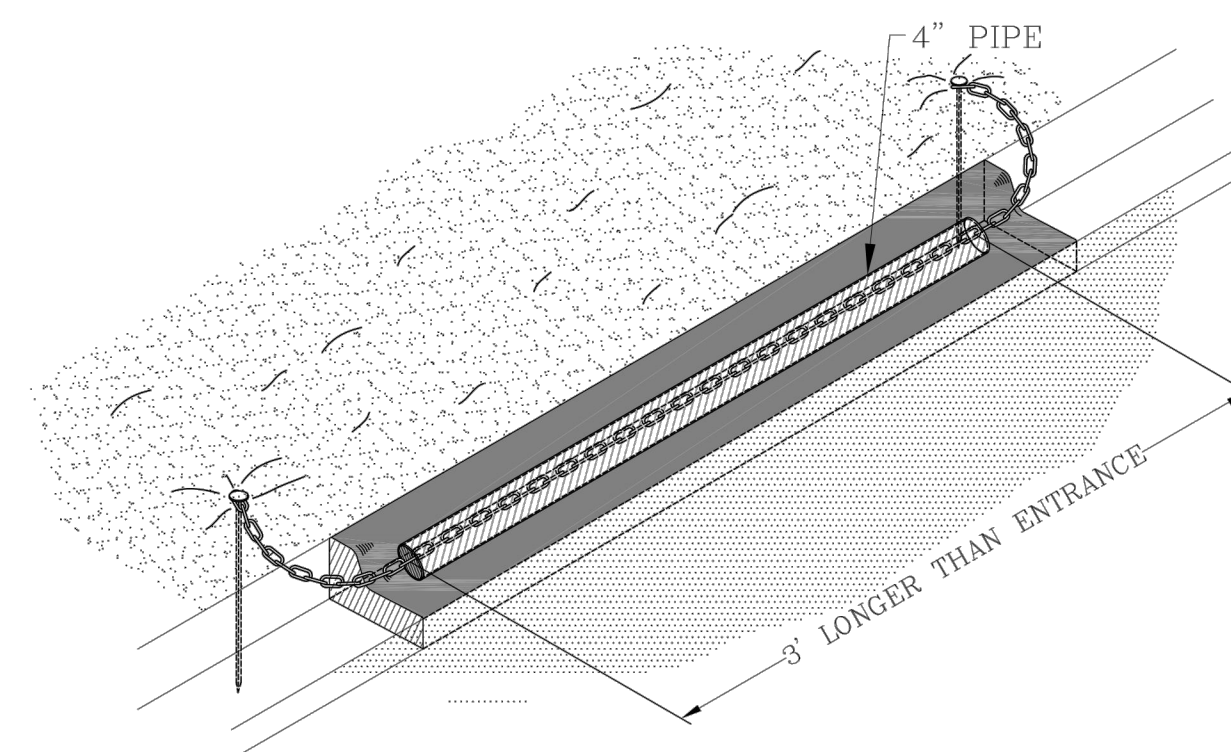
- 4- Straw Wattle over Storm Drain Inlet is ineffective
Wattle has been cut open
Wattle has been run over
Wattle contents are outside of meshing
Wire Mesh is not functioning as designed
Sand bags are not functioning as designed
- 5- No Storm Drain Components have been installed or they have been removed
No Storm Drain Inlet components have been installed
Contractor has removed components protecting Storm Drain Inlet

DRAWN BY: M.Sotelo
DATE: March, 2017
SCALE: NTS

FILE: Stormwater 14



RECOMMENDED CURB RAMP

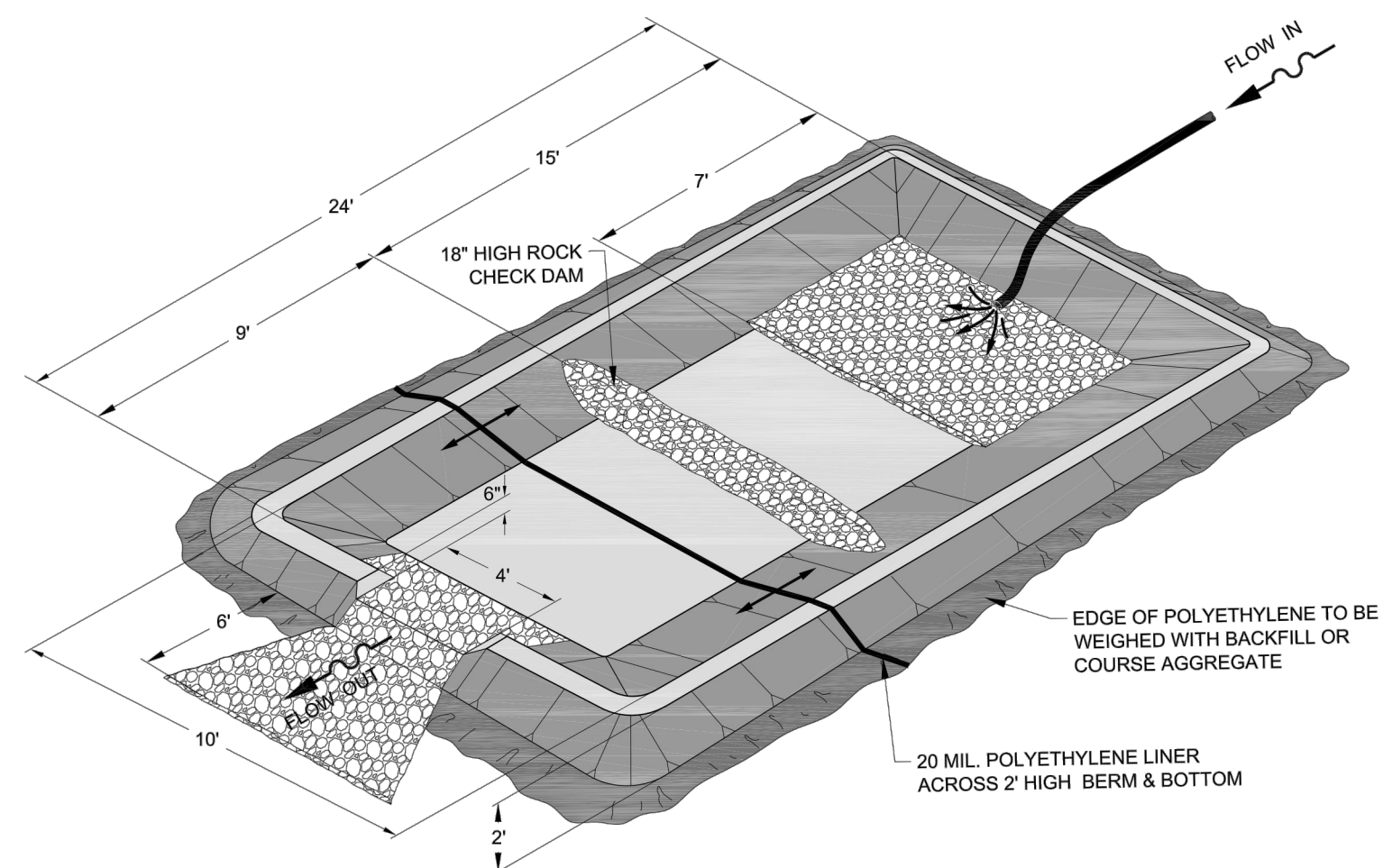


DRAWN BY: M.Sotelo
DATE: OCT., 2015
SCALE: NTS

FILE: Stormwater 15

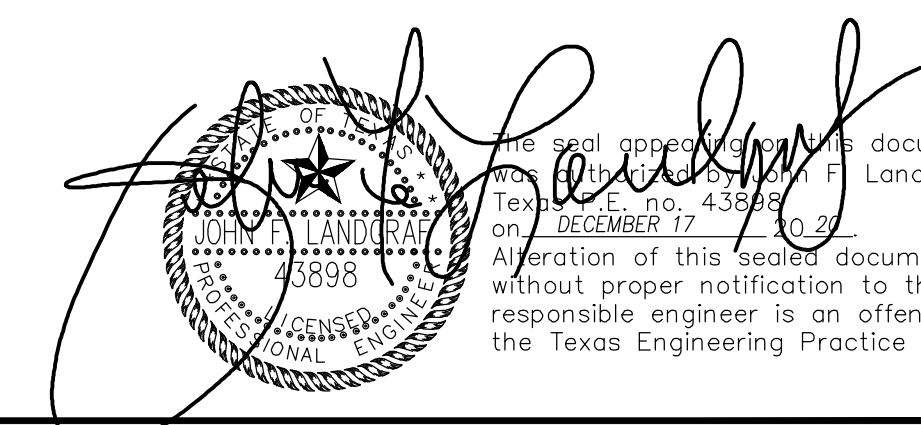


**DE-WATERING SEDIMENT BASIN FOR
UP TO 4" PUMP OR 1,000 GPM MAX.**



DRAWN BY: M.Sotelo
DATE: DEC, 2015
SCALE: NTS

FILE: STORMWATER 17



This seal appears on this document
Texas E. No. 43599
on DECEMBER 17, 2020
Alteration of this sealed document
without proper notification to the
responsible engineer is an offense under
the Texas Engineering Practice Act.



Know what's below.
Call before you dig.

REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

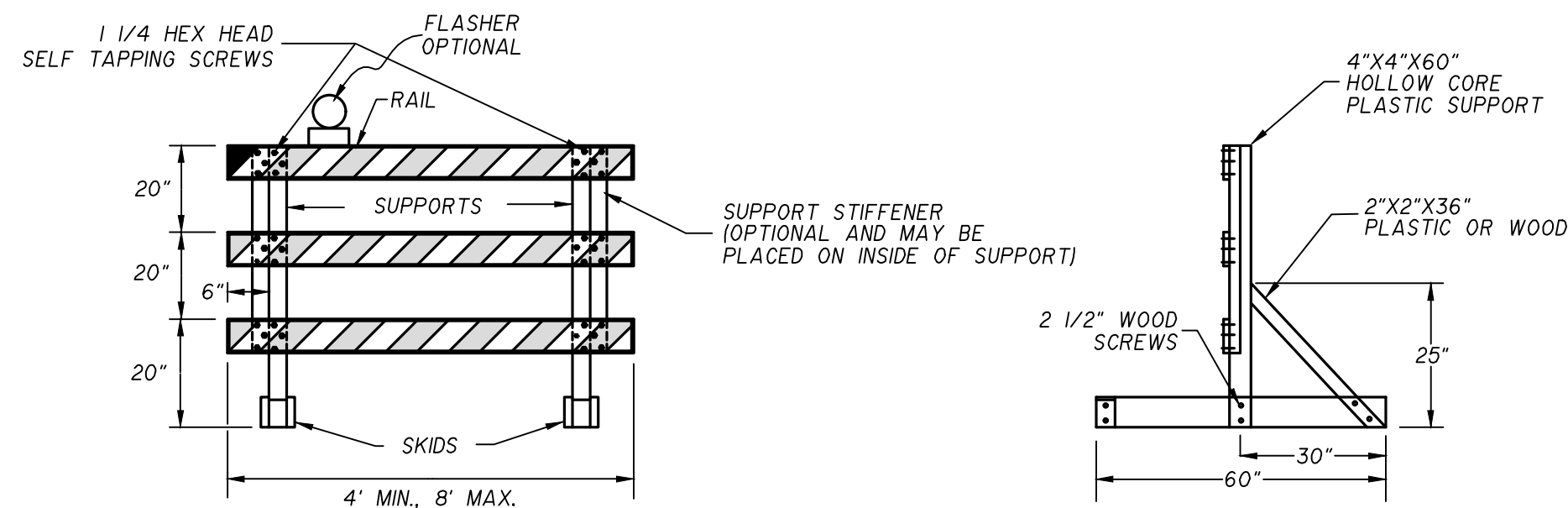
SCALE	N.T.S.
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

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FOR CONSTRUCTION

**SWP3 DETAILS
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS**

WOOD/PLASTIC TYPE III BARRICADE OPTION



GENERAL NOTES FOR TYPE III BARRICADES

TYPE III BARRICADES ARE TO BE USED AT EACH END OF CONSTRUCTION PROJECT CLOSED TO ALL TRAFFIC.

BARRICADES EXTENDING ACROSS A ROADWAY SHOULD NOT HAVE STRIPES THAT SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING, WHEN BOTH RIGHT AND LEFT TURNS ARE PROVIDED FOR.

THE CHEVRON STRIPING MAY SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE STRIPING OR RAILS.

FOR THE RIGHT SIDE OF THE ROADWAY, STRIPING SHOULD SLOPE DOWNWARD TO THE LEFT.

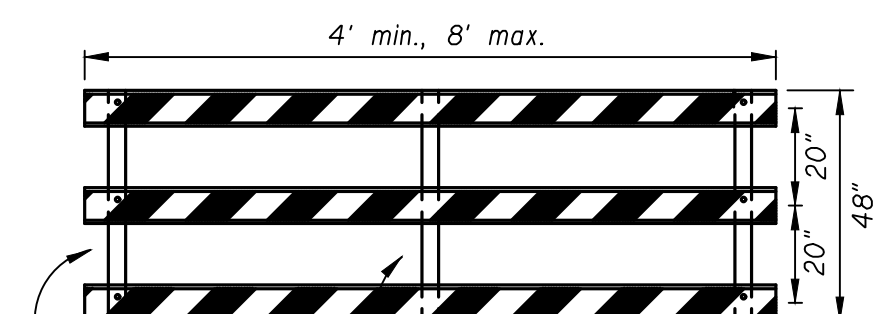
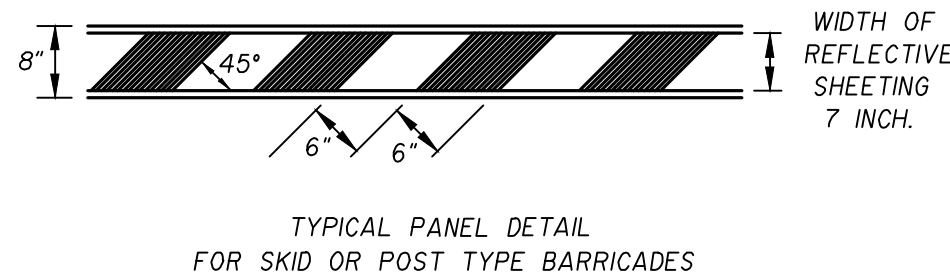
FOR THE LEFT SIDE OF THE ROADWAY, STRIPING SHOULD SLOPE TO THE RIGHT.

IDENTIFICATION MARKINGS MAY BE SHOWN ONLY ON BACK SIDE IF BARRICADES SHALL NOT BE PLACED PARALLEL TO TRAFFIC UNLESS AN ADEQUATE CLEAR ZONE IS PROVIDED.

BARRICADES SHALL BE MADE USING PRE-QUALIFIED MATERIALS

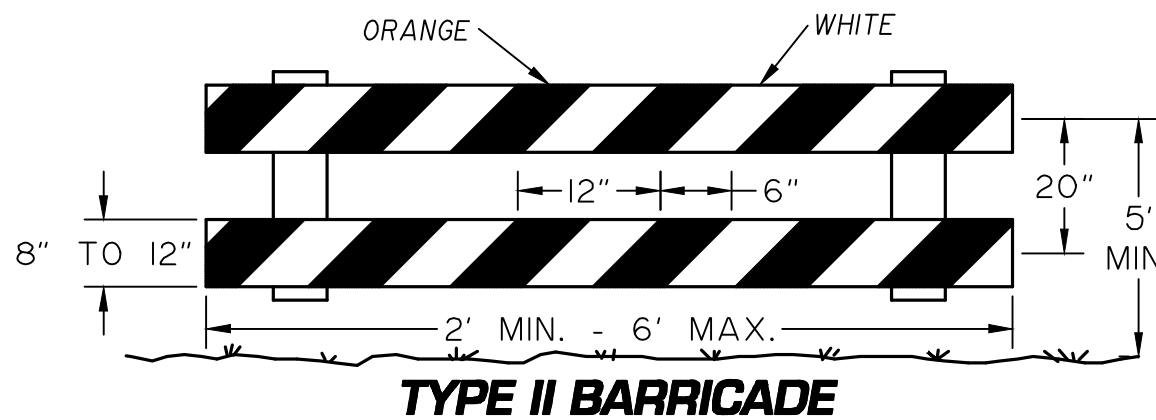
BARRICADES SHALL NOT BE USED AS A SIGN SUPPORT.

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL

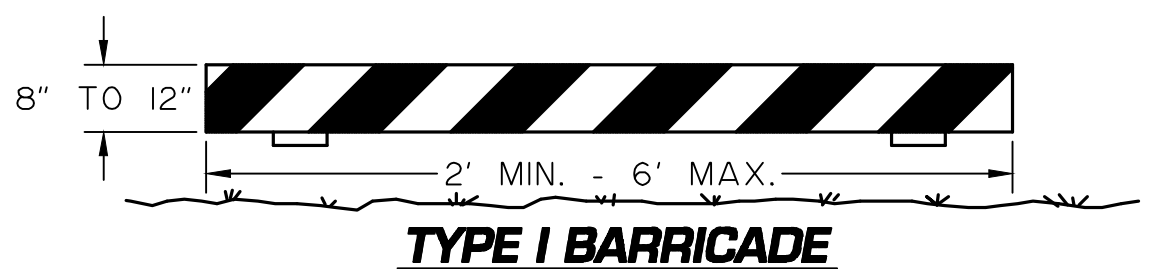


STIFFENER
FLAT RAIL
MID-RAIL STIFFENER
STIFFENER MAY BE INSIDE OR OUTSIDE OF SUPPORT.
* FOR DIMENSIONS OF COMPONENTS REFER TO TXDOT APPROVED PRODUCTS LIST.

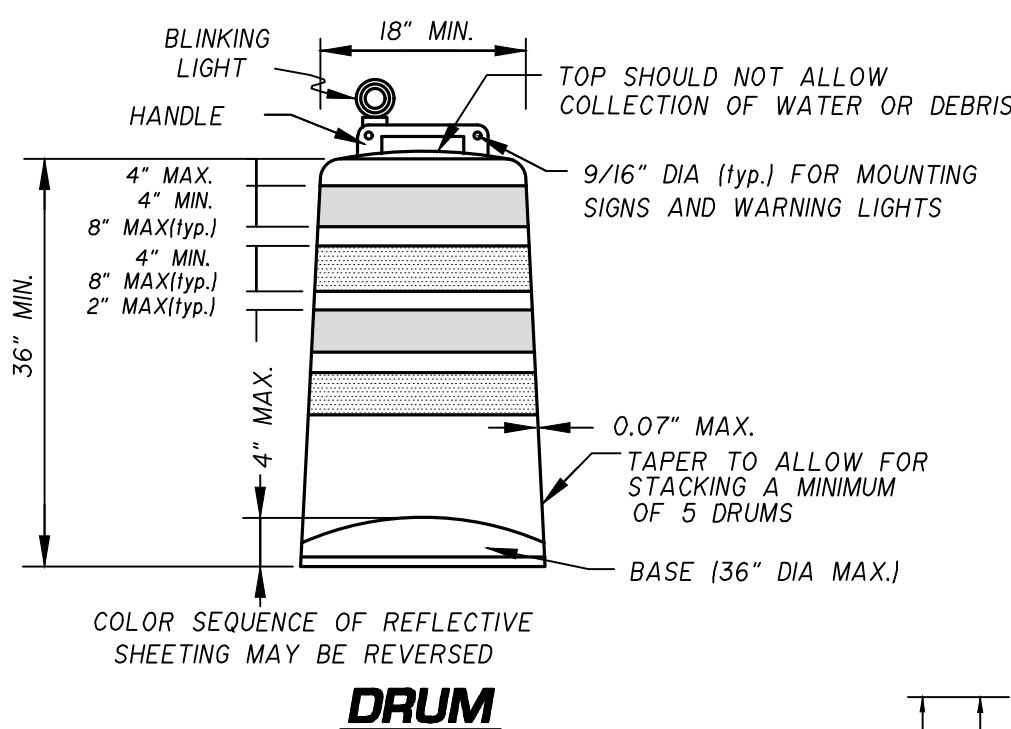
TYPE III BARRICADE (TXDOT)



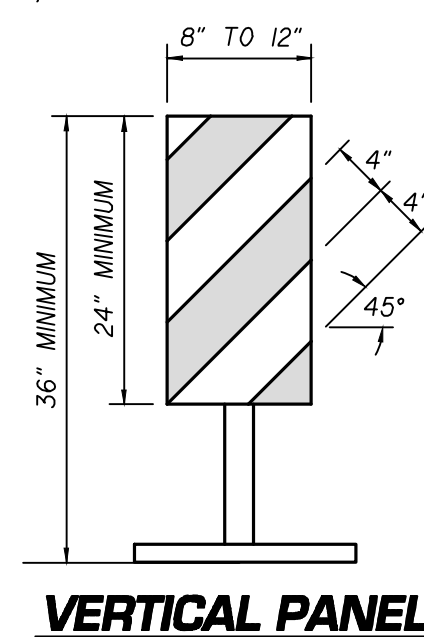
TYPE II BARRICADE



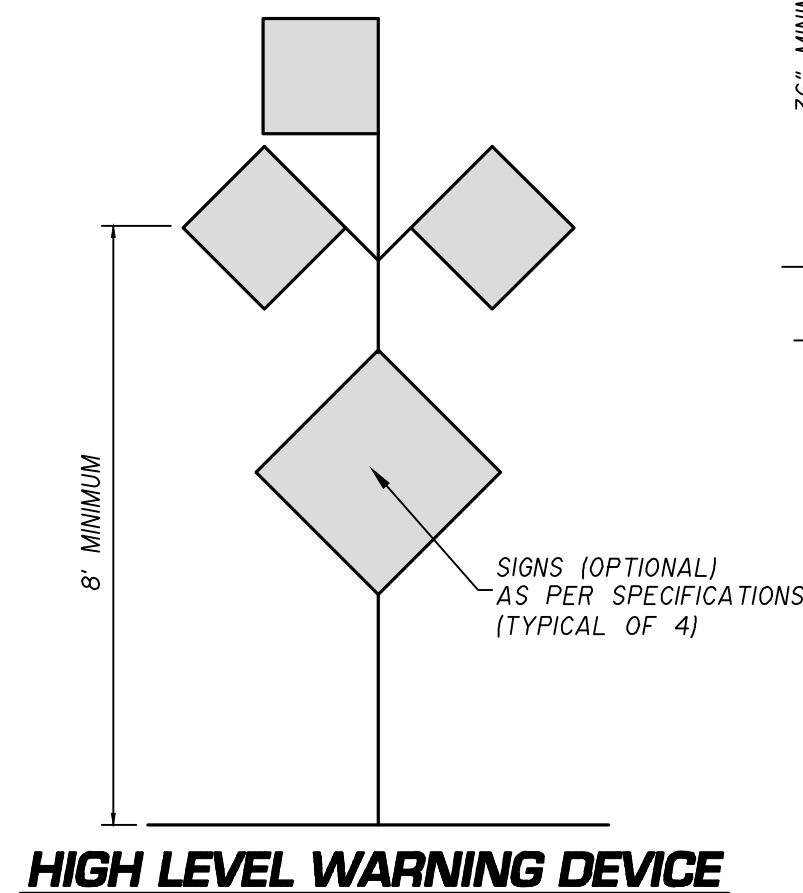
TYPE I BARRICADE



DRUM



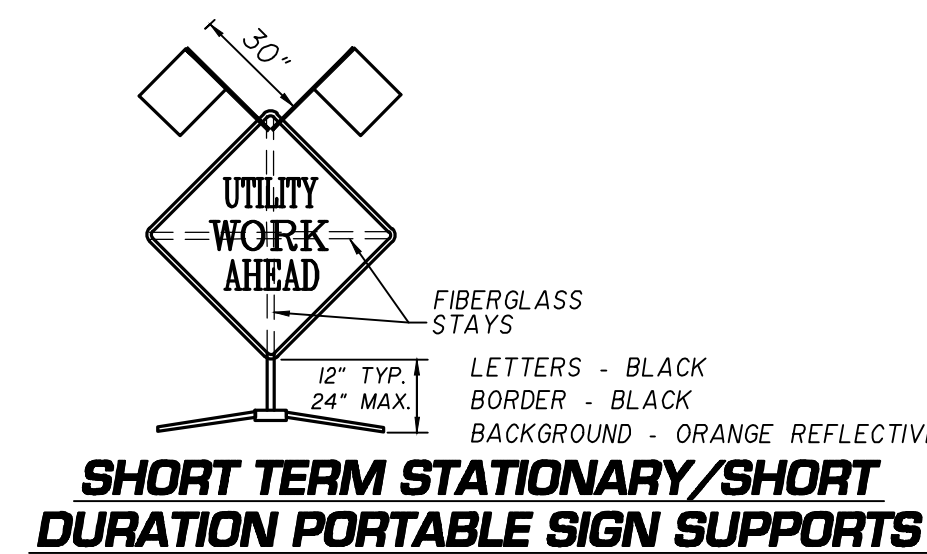
VERTICAL PANEL



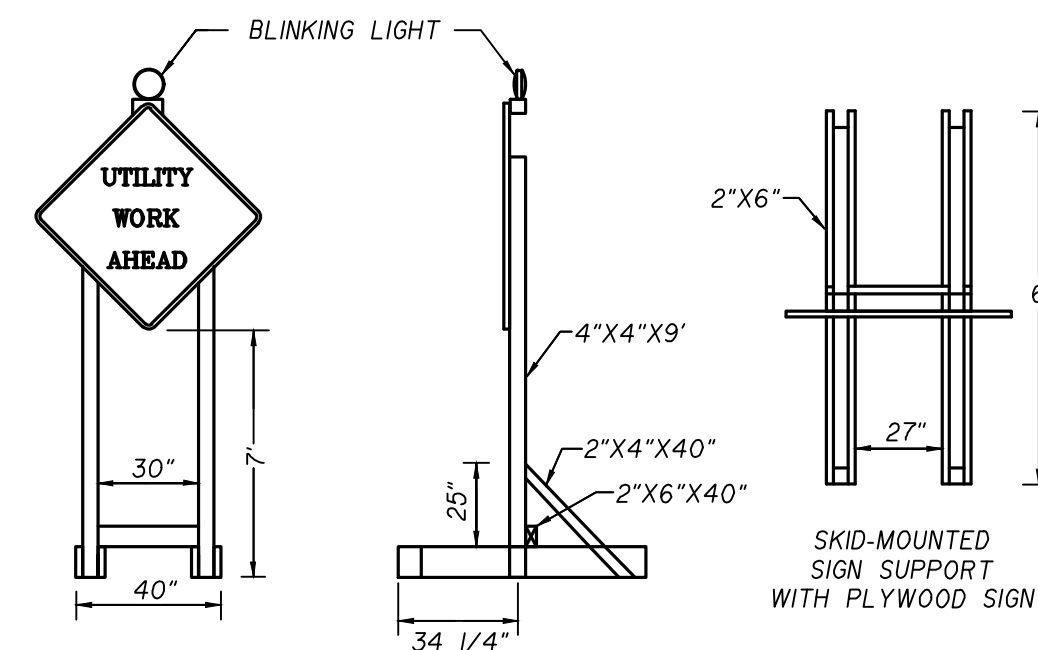
HIGH LEVEL WARNING DEVICE

CONTRACTOR SHALL PROVIDE, ON REQUEST FROM PROJECT ENGINEER, A LETTER FROM DRUM MANUFACTURER CERTIFYING THE PLASTIC DRUM MODEL NUMBER, THE YEAR AND MONTH OF CONSTRUCTION AND THAT IT MEETS THE SPECIFICATIONS ON THIS STANDARD

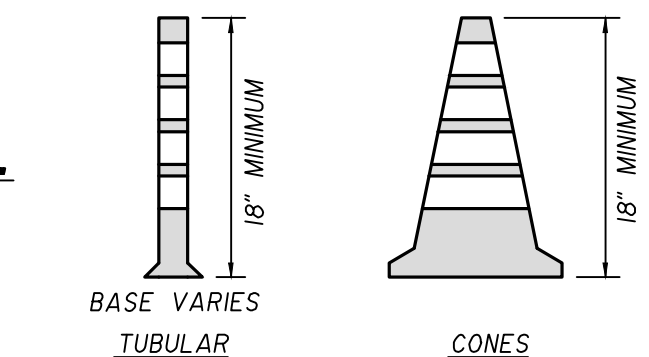
WHITE RETROREFLECTIVE TYPE C SHEETING ALTERNATING WITH ORANGE TYPE C RETROREFLECTIVE SHEETING. STRIPE PATTERN MAY BE REVERSED. ALL DRUMS USED IN SUCCESSION SHALL HAVE SAME STRIPE PATTERN.



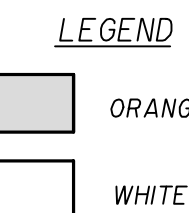
SHORT TERM STATIONARY/SHORT DURATION PORTABLE SIGN SUPPORTS



LONG/INTERMEDIATE TERM STATIONARY PORTABLE SIGN SUPPORTS



- A - 18" FOR LOWER SPEEDS AND DAY TIME USE (< 40 mph)
- B - 28" FOR HIGHER SPEEDS AND NIGHT TIME USE (> 45 mph)

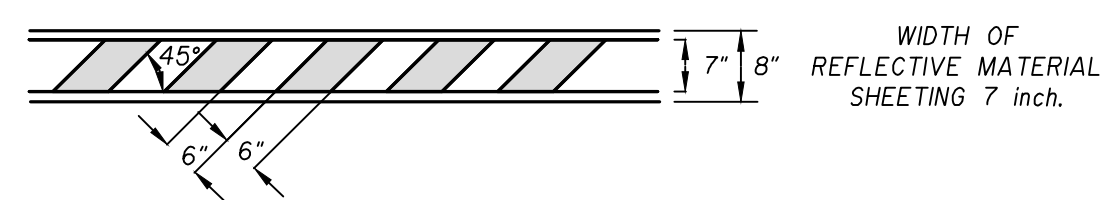
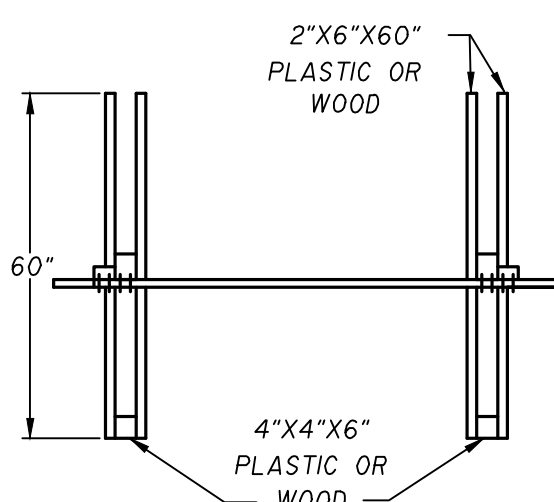


LEGEND
ORANGE
WHITE

GENERAL NOTES:

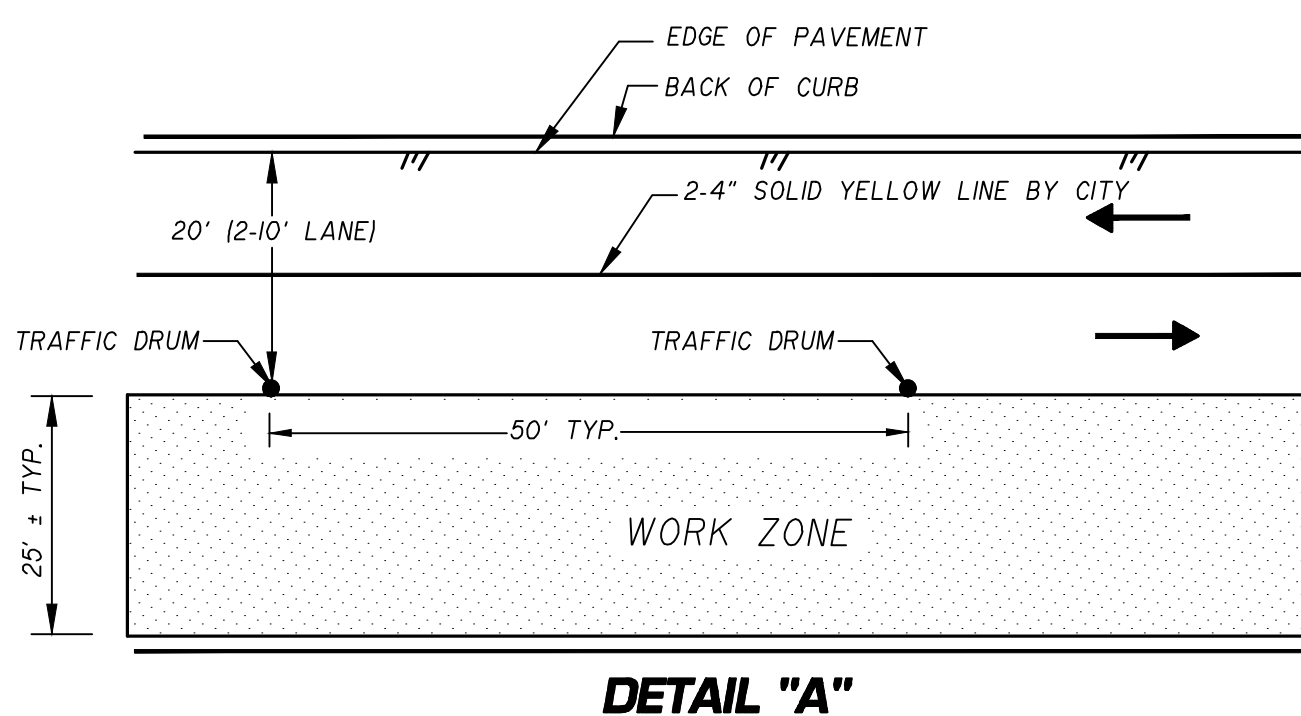
- TRAFFIC CONES MAY BE USED TO CONTROL TRAFFIC IN PROVIDING TEMPORARY DETOURS THROUGH THE PROJECT.
- THE LOCATION OF BARRICADES AND THE TYPE OF SIGNS INDICATED ON THE PLANS ARE TO BE ERECTED JUST PRIOR TO BEGINNING OF CONSTRUCTION AND MAINTAINED UNTIL COMPLETION OF THE PROJECT.
- ALL CONSTRUCTION SIGNS SHALL BE PROMPTLY REMOVED, COVERED, OR TURNED TO FACE AWAY FROM THE ROADWAY WHENEVER NOT IN USE.
- OTHER SIGNS AND BARRICADES ARE TO BE ERECTED WHEN NECESSITATED BY THE EXECUTION OF THE CONSTRUCTION OF THE PROJECT TO PROVIDE FOR THE ACCESSIBILITY AND SAFETY OF THE PUBLIC.
- ALL SIGNS THAT ARE TO CONVEY THEIR MESSAGE DURING THE HOURS OF DARKNESS SHALL BE REFLECTORIZED OR ILLUMINATED. SIGNS FOR DAYTIME USE ONLY MAY BE NONREFLECTORIZED BUT A FLOURESCENT BACKGROUND MATERIAL WHERE INCREASED DAYTIME VISIBILITY IS DESIRED.
- FLASHERS (BATTERY OPERATED) SHALL BE FASTENED TO THE TOP CORNERS OF THE BARRICADES, AND SHALL BE YELLOW IN COLOR AND SHALL BE BRIGHT ENOUGH TO BE CONSPICUOUSLY VISIBLE DURING THE HOURS OF DARKNESS AT ALL DISTANCES UP TO 800' FROM THE UNIT.
- ALL SIGNS SHALL BE CLEAN AND IN GOOD STATE OF REPAIR AT ALL TIMES ON THIS PROJECT.
- ALL BARRICADE LAYOUTS MUST BE IN COMPLIANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM CONTROL DEVICES FOR STREETS AND HIGHWAYS.

TYPICAL CHEVRON STRIPING DETAIL FOR BARRICADE RAIL

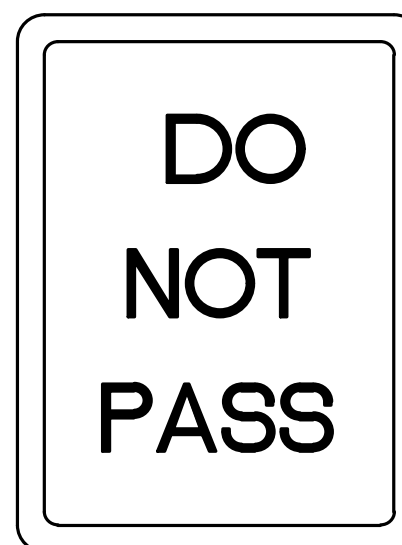


WIDTH OF REFLECTIVE MATERIAL SHEETING 7 inch.

SIGN LEGEND			
① ROAD WORK 500 FT. AHEAD CW 20-1C CW 20-ID	② 18" M.P.H. W 13-1P	③ 30" 30" END ROAD WORK W 14-1R "R" G 20-2	④ 24" ROAD CLOSED AHEAD R 3-2
⑤ ROAD CLOSED TO THRU TRAFFIC R 11-4	⑥ ROAD WORK AHEAD CW 20-ID	⑦ 36" X 18" 48" X 24" END ROAD WORK G 20-2	⑧ ROAD CLOSED AHEAD CW 20-3D

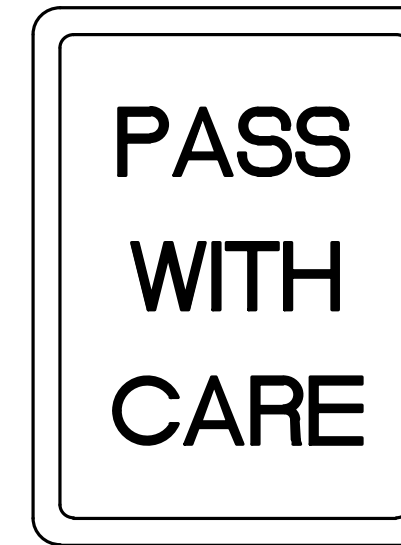


DETAIL "A"



R4-1
24" x 30"

LETTERS - BLACK
BORDER - BLACK
BACKGROUND - WHITE REFLECTIVE



R4-2
24" x 30"

LETTERS - BLACK
BORDER - BLACK
BACKGROUND - WHITE REFLECTIVE

NOTES:
CITY WILL PAINT 2-4" SOLID YELLOW LINES ON EXISTING PAVEMENT ONLY. WHEN TRAFFIC IS ROUTED TO NEW PAVEMENT, CHANNELIZATION WILL BE ACCOMPLISHED BY CONTRACTOR, FURNISHING AND ERECTING VERTICAL PANELS. PAYMENT WILL BE INCLUDED IN LUMP SUM FOR ALL BARRICADES.

[Signature]
Professional Engineer
No. 3898
State of Texas
December 17, 2020



Know what's below. Call before you dig.

REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.
DRAWN BY	R.A.R.
CHECKED BY	J.F.L.
REVIEWED BY	J.F.L.

SCALE	N.T.S.
DATE	MARCH 2020
JOB No.	2018-043
DWG No.	

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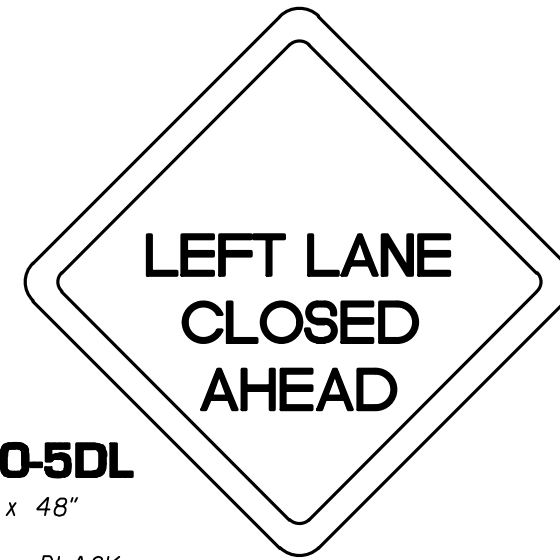
FOR CONSTRUCTION

BARRICADE DETAILS
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS

CW20-4D

48" x 48"

LETTERS - BLACK
BORDER - BLACK
BACKGROUND - ORANGE REFLECTIVE



CW20-5DL

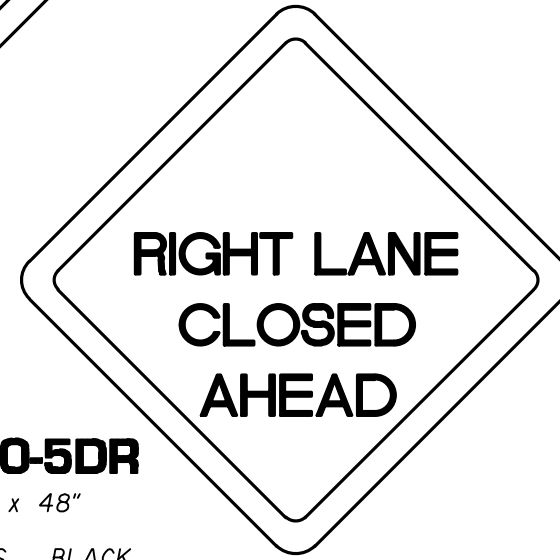
48" x 48"

LETTERS - BLACK
BORDER - BLACK
BACKGROUND - ORANGE REFLECTIVE

CW20-7D

48" x 48"

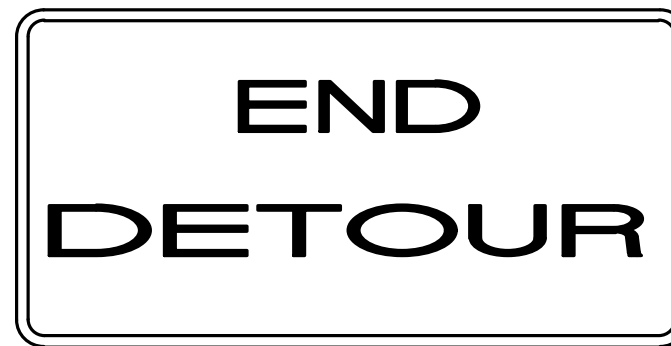
LETTERS - BLACK
BORDER - BLACK
BACKGROUND - ORANGE REFLECTIVE



CW20-5DR

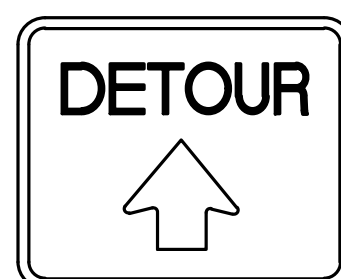
48" x 48"

LETTERS - BLACK
BORDER - BLACK
BACKGROUND - ORANGE REFLECTIVE



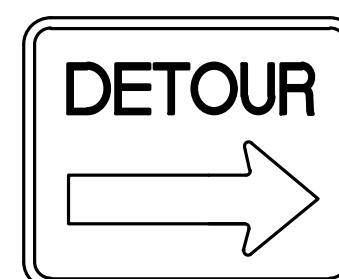
M4-8A

30" x 15"



M4-9S

30" x 24"



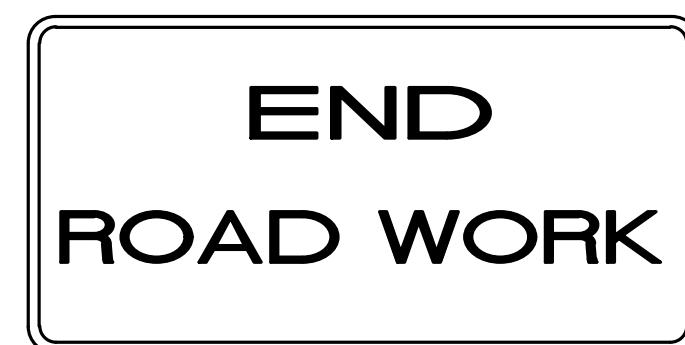
M4-9R

30" x 24"



M4-8

24" x 12"



G20-2

36" x 18"
48" x 24"



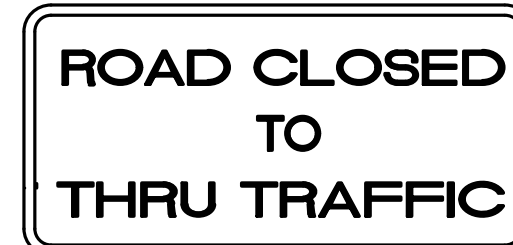
CW20-1D

48" x 48"



M4-10R

48" x 18"



R 11-4

60" x 30"



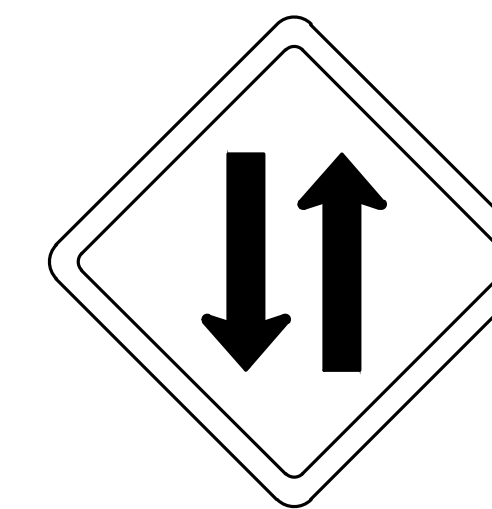
R 11-2

48" x 30"

NOTE:
LETTERS-BLACK
BORDER-BLACK
BACKGROUND-WHITE REFLECTIVE

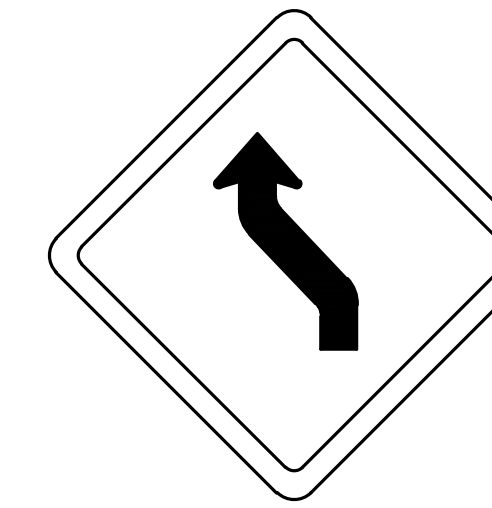
NOTE:

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8. FOR ADDITIONAL SIGNS, SEE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM CONTROL DEVICES FOR STREETS AND HIGHWAYS.
9. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN TO TxDOT AND THE CITY OF ODESSA FOR APPROVAL.



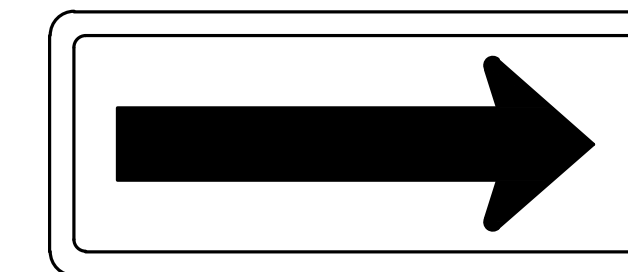
CW6-4

SYMBOL, BORDER-BLACK
BACKGROUND-YELLOW REFLECTIVE



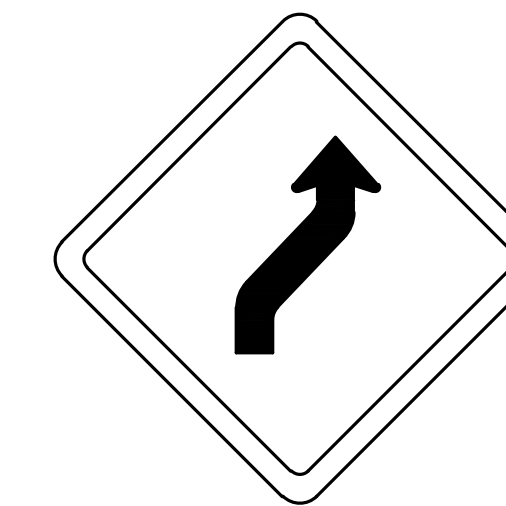
CW1-4L

SYMBOL, BORDER-BLACK
BACKGROUND-YELLOW REFLECTIVE



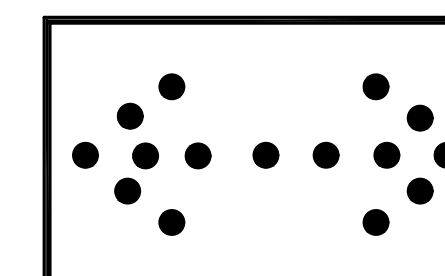
CW1-6

SYMBOL, BORDER-BLACK
BACKGROUND-ORANGE REFLECTIVE

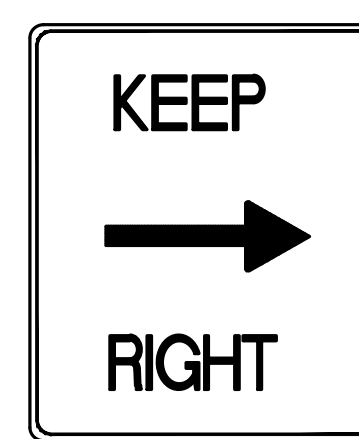


CW1-4R

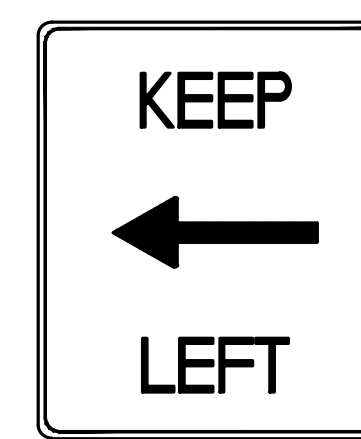
SYMBOL, BORDER-BLACK
BACKGROUND-YELLOW REFLECTIVE



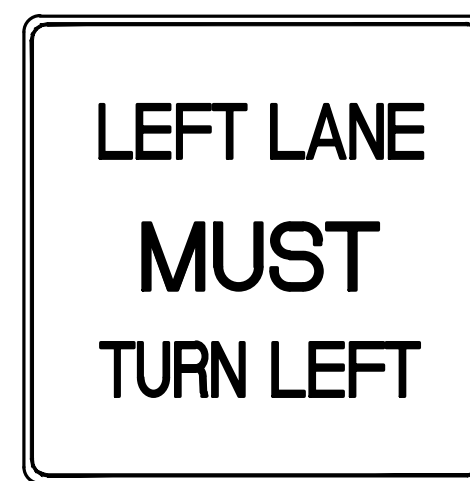
NOTE:
-ARROW PANELS SHALL BE EQUIPPED WITH AUTOMATIC DIMMING DEVICES.
-USE TYPE 'B' 30"x60"
TYPICAL FLASHING ARROW PANEL



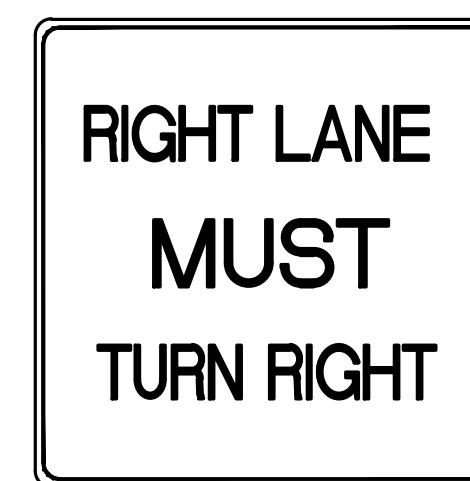
R4-7a



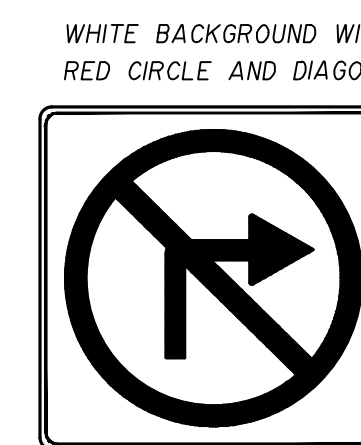
R4-8a



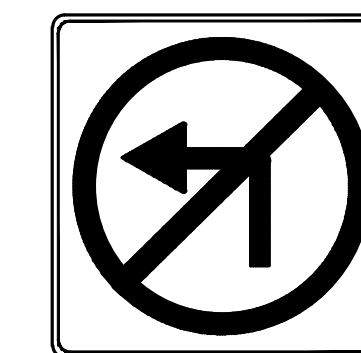
R3-7L



R3-7R



R3-1



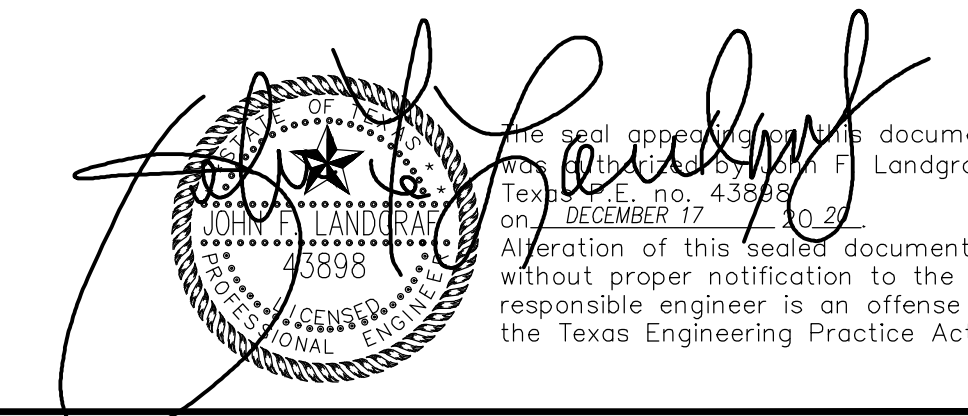
R3-2

WHITE BACKGROUND WITH BLACK ARROW,
RED CIRCLE AND DIAGONAL

NOTE:

- 1- THESE SIGNS FOR USE ON STAND No. CSS-S3 (TYP.)
- 2- WHITE BACKGROUND, BORDER & LETTERS BLACK FOR SIGNS R3-2a, R3-1a, R4-8a, R4-7a, R3-7L, R3-7R.

NOTE:
LETTERS-BLACK
BORDER-BLACK
BACKGROUND-ORANGE REFLECTIVE



Know what's below.
Call before you dig.

REVISED DATE	REVISION DONE	BY

DESIGNED BY	R.A.R.	SCALE	N.T.S.
DRAWN BY	R.A.R.	DATE	MARCH 2020
CHECKED BY	J.F.L.	JOB No.	2018-043
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FOR CONSTRUCTION

SIGN DETAILS
SANITARY SEWER TRUNK LINE P
CITY OF ODESSA, ECTOR COUNTY, TEXAS