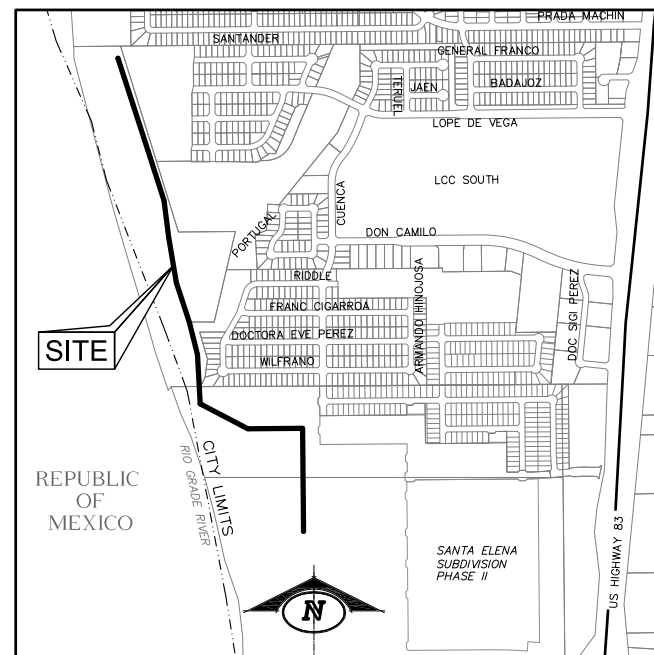


CONSTRUCTION PLANS
FOR
SANTA ELENA
12" WASTEWATER
COLLECTOR



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CITY OF LAREDO
WEBB COUNTY, TEXAS
12" OFFSITE WASTEWATER COLLECTION SYSTEM,
IMPROVEMENTS

	PORRAS NANCE	304 E. CALTON RD. LAREDO, TEXAS 78041	PRELIMINARY PLANS THIS DOCUMENT IS RELEASED FOR INTERIM REVIEW ONLY UNDER THE AUTHORITY OF WAYNE NANCE, P.E.
	ENGINEERING	TBPE F-6205 TBPLS F-101888 OFFICE (956) 724-3097 www.porrasnance.com	# 87006 ON 01/10/24. IT SHALL NOT BE USED FOR BIDDING, CONSTRUCTION, OR ANY OTHER PURPOSE.



BASIS OF ESTIMATE

ITEM	DESCRIPTION	QUANTITY	UNIT
STREET SYSTEM			
A1	Clearing & Grubbing (Haul or Burn) / Remove Fences	5	AC
A14	4" Caliche Flexible Base (Offsite Sewer)	6,230	SY

STORM WATER POLLUTION PREVENTION PLAN

G1	Trash & Debris Containment	1	EA
G3	Stabilized Construction Entrance	1	EA
G4	Silt Barrier Fence	4,990	LF
G5	Rock Riprap w/ Concrete Embedment	1,500	SF
G6	Rock Filter Dams (Type 3)	50	LF
G8	Hydromulch Seeding (per TxDOT Item 164)	10,500	SY
G14	Remove, Repair & Replace Existing Fences	1	LS
G12	Concrete Washout Pit	1	EA

SANITARY SEWER SYSTEM

L1	8" PVC Sanitary Sewer Siphon (SDR-26)(Depth 0'-8')	88	LF
L2	8" PVC Sanitary Sewer Siphon (SDR-26)(Depth 8'-12')	188	LF
L3	8" PVC Sanitary Sewer Siphon (SDR-26)(Depth 12'-16')	314	LF
L4	8" PVC Sanitary Sewer Siphon (SDR-26)(Depth 16'-20')	210	LF
L5	12" PVC Sanitary Sewer Line (SDR-26)(Depth 0'-8')	1,230	LF
L6	12" PVC Sanitary Sewer Line (SDR-26)(Depth 8'-12')	657	LF
L7	12" PVC Sanitary Sewer Line (SDR-26)(Depth 12'-16')	169	LF
L8	12" PVC Sanitary Sewer Line (SDR-26)(Depth 16'-20')	1,684	LF
L9	12" PVC Sanitary Sewer Line (SDR-26)(Depth >20')	794	LF
L10	Manholes (48") (Depth 0'-8')	2	EA
L11	Manholes (48") (Depth 8'-12')	2	EA
L12	Manholes (48") (Depth 12'-16')	1	EA
L13	Manholes (48") (Depth 16'-20')	4	EA
L14	Manholes (48") (Depth >20')	2	EA
L15	Manholes (72") (Depth 0'-8')	1	EA
L16	Manholes (72") (Depth 8'-12')(Precast)	1	EA
L17	Manholes (72") (Depth 12'-16')(Precast)	1	EA
L18	Concrete Pipe Encasement	42	CY
L19	Tie into Exist. 30" FRP Sewer Line	1	EA

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ENSURE THAT THE NOTICE OF INTENT (NOI) OR SMALL CONSTRUCTION SITE NOTICE HAS BEEN FILED AND POSTED ONSITE (>1 ACRE).

2. CONTRACTOR SHALL INSTALL STORM WATER POLLUTION PREVENTION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (DEMOLITION, EXCAVATION, GRUBBING, ETC.)

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEMOLITION AND THE PROPER REMOVAL/DISPOSAL OF SURPLUS EXCAVATED AND/OR DEMOLISHED MATERIAL AND ALL ABOVE GROUND ITEMS INCLUDING BUT NOT LIMITED TO FENCES, IRRIGATION HARDWARE, TREES, TRASH AND MISCELLANEOUS DEBRIS.

4. CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES TO LOCATE THE EXISTING FACILITIES. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL UTILITY COMPANIES REGARDING REMOVAL OF EXISTING SERVICE, VERIFYING UTILITIES ARE SHUT OFF OR DISCONNECTED, AND ALL POSSIBLE SAFETY PRECAUTIONS HAVE BEEN ENACTED TO ENSURE THE SAFEST ENVIRONMENT FOR ALL PERSONNEL. THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED.

5. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL THE PERMITTING AUTHORITIES.

6. NECESSARY BARRICADES, SUFFICIENT LINES, SIGNS, AND OTHER TRAFFIC CONTROL METHODS AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC, SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUAL ON UNIFORM CONTROL DEVICES AND MAINTAINED AT ALL TIMES (24 HOURS PER DAY) DURING THE CONSTRUCTION PROCESS.

7. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING FACILITIES FROM DAMAGE AND COST TO REPAIR EXISTING FACILITIES AND IMPROVEMENTS AS A RESULT OF THE CONTRACTOR'S WORK. ANY EXISTING PAVEMENT, CURBS, BUILDING, SIGNS, SIDEWALKS, WALLS, FENCES, UTILITY INFRASTRUCTURE, TREES, ETC. DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT HIS SOLE EXPENSE.

8.. CONTRACTOR SHALL INCLUDE IN HIS BID THE REQUIRED ADJUSTMENT OF ALL VALVES, VALVE COVERS, MANHOLE LIDS, FIRE HYDRANTS, CLEANOUTS, WATER METER BOXES, AND ANY OTHER MISC. UTILITY ITEM, WHETHER SHOWN ON THESE PLANS OR NOT.

9. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS IS APPROXIMATE AND HAS BEEN BASED UPON AVAILABLE RECORD INFORMATION AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS ENCOUNTERED IN THE FIELD. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND DEPTHS OF ALL UTILITY CROSSINGS (BOTH VERTICALLY AND HORIZONTALLY) PRIOR TO BEGINNING ANY CONSTRUCTION. AN INCOMPLETE CONTACT LIST FOR SOME OF THE UTILITIES THAT MAY BE ENCOUNTERED ON THE PROJECT ARE LISTED BELOW:

TEXAS ONE CALL SYSTEM 1-800-245-4545
SOUTHWESTERN BELL LOCATION GROUP AT 1-800-828-5127
LONESTAR NOTIFICATION COMPANY AT 1-800-669-8344
TEXAS EXCAVATION SAFETY SYSTEM GROUP AT 1-800-344-8377
LAREDO WATER UTILITIES DEPARTMENT, HUMBERTO SERRADELL (956) 721-2000
AMERICAN ELECTRIC POWER, MARK OCHOA (956) 721-3169
AT&T, LILY FARIAS (956) 727-6748
TIME WARNER CABLE, JOE VALENZUELA (956) 721-0600
CENTERPOINT ENERGY, ROEL PEÑA (956) 723-6548
COLUMBUS ENERGY, VICTOR (956) 251-8699
MEDINA ELECTRIC, OSCAR REYES, 956-763-4747

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT BOTH OVERHEAD AND UNDERGROUND UTILITIES EXIST IN THE VICINITY OF THE CONSTRUCTION AREA. THE EXACT LOCATION OF UNDERGROUND UTILITIES IS NOT CERTAIN. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE AREA UTILITY COMPANIES FOR EXACT LOCATIONS AT LEAST 48 HOURS PRIOR TO CONSTRUCTION OR COMMENCING ANY WORK SO AS TO PREVENT ANY DAMAGE OR INTERFERENCE WITH PRESENT UTILITIES.

10. DURING THE EXECUTION OF THE WORK, UTMOST CARE SHALL BE EXERCISED TO PREVENT DAMAGE TO ANY UTILITIES, STRUCTURES OR RIGTH-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING, LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES OR STRUCTURES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES SHALL BE REPAIRED PROMPTLY. IF IN THE COURSE OF THE WORK, UNDERGROUND UTILITIES OR STRUCTURES ARE ENCOUNTERED AND ARE IN CONFLICT WITH THE WORK, THE CONTRACTOR SHALL CONTACT THE ENGINEER WHO WILL DIRECT THE NECESSARY ADJUSTMENTS.

11. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S PLANS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH, AS MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

12. CONTRACTOR SHALL COORDINATE PROJECT CONSTRUCTION TESTING WITH THE CITY INSPECTOR. ALL FAILED TESTS SHALL BE PAID FOR BY THE CONTRACTOR.

13. CONTRACTOR SHALL ADJUST AND/OR SAW-CUT (1" MIN. DEPTH) EXISTING PAVEMENT, SIDEWALKS AND DRIVEWAYS AS NECESSARY TO ASSURE A SMOOTH AND CONTINUOUS TRANSITION GRADE.

14. THE CONTRACTOR SHALL PROTECT ALL AREAS OF THE RIGHT-OF-WAY WHICH ARE NOT INCLUDED IN THE ACTUAL LIMITS OF THE PROPOSED CONSTRUCTION AREAS FROM DAMAGE. CARE SHALL BE EXERCISED TO PREVENT DAMAGE TO TREES, VEGETATION AND OTHER NATURAL SURROUNDINGS. THE CRITERIA OF THE CITY OF LAREDO'S GREEN SPACE ORDINANCE (SEC. 24-57) APPLY TO THIS PROJECT, AS SHOWN IN THE PLANS. THE CONTRACTOR, AT HIS EXPENSE, SHALL RESTORE TO ANY AREAS DISTURBED AS A RESULT OF HIS OPERATIONS TO A CONDITION AS GOOD AS, OR BETTER THAN, THAT PRESENT PRIOR TO HIS CONTRACT.

GENERAL NOTES

15. ERECTION AND/OR REMOVAL OF POLES AND LUMINARIES LOCATED NEAR ANY OVERHEAD OR UNDERGROUND ELECTRICAL LINES SHALL BE ACCOMPLISHED USING ESTABLISHED INDUSTRY AND UTILITY SAFETY PRACTICES. THE CONTRACTOR SHALL CONSULT WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING SUCH WORK. IF ANY OVERHEAD OR UNDERGROUND ELECTRICAL LINES NEED TO BE DE-ENERGIZED, THE CONTRACTOR SHALL CALL THE POWER COMPANY TO DO THIS WORK. ANY COST ASSOCIATED WITH DE-ENERGIZING THE ELECTRICAL LINES AND/OR ANY OTHER PROTECTIVE MEASURES REQUIRED SHALL BE AT THE CONTRACTOR'S EXPENSE. WHEN THE CONTRACTOR IS WORKING NEAR ANY POWER LINES, IT IS HIS/HER RESPONSIBILITY TO COMPLY WITH THE APPROPRIATE SECTIONS OF TEXAS STATE LAW AND FEDERAL REGULATIONS RELATING TO THE TYPE OF WORK INVOLVED.

16. RIGHT-OF-WAY LINES SHOWN ARE SOLELY FOR REPRESENTATION; THESE PLANS DO NOT ATTEMPT TO REESTABLISH OR CONFIRM ANY PROPERTY OR EASEMENT LINES.

17. WHERE REQUIRED BY FIXED FEATURES OR UNUSAL CONDITIONS, THE SLOPES INDICATED HEREON MAY BE VARIED WHEN SPECIFICALLY DIRECTED BY THE ENGINEER.

18. ALL WET CONNECTIONS ARE TO BE DONE BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH LAREDO WATER UTILITIES DEPARTMENT AND CITY ENGINEERING DEPARTMENT.

19. THERE WILL BE NO SEPARATE MEASUREMENT OF PAYMENT FOR REMOVAL AND REPLACEMENT OF ALL TRAFFIC SIGNS, CONTROL BOXES, MAILBOXES, ETC, BY CONTRACTOR. ALL ASSOCIATED COST SHALL BE SUBSIDIARY TO THE VARIOUS BIDS ITEMS.

20. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE ACCESS TO RESIDENTS AT ALL TIMES. TEMPORARY EARTHEN RAMPS OR APPROVED EQUIVALENT MUST BE IN PLACE AT THE END OF EACH WORKING DAY.

21. SOIL BORES HAVE NOT BEEN DRILLED FOR THIS PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESEARCH AND VERIFY PRIOR TO BIDDING THE NEED FOR ADDITIONAL GEOPHYSICAL INFORMATION. NO DIRECT PAYMENT SHALL BE MADE FOR COSTS ASSOCIATED WITH OBTAINING SUCH INFORMATION. THERE WILL BE NO ADDITIONAL PAYMENT FOR ROCK EXCAVATION OR TRENCH DEWATERING, IF ENCOUNTERED.

22. CONTRACTOR SHALL PROVIDE A 48 HOUR WRITTEN NOTICE TO EACH RESIDENT TO BE AFFECTED BY DRIVEWAY CONSTRUCTION.


23. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT WHERE NOT SPECIFICALLY COVERED ON THESE PLANS SHALL CONFORM TO ALL APPLICABLE CITY OF LAREDO STANDARD TECHNICAL SPECIFICATION MANUAL, DIVISION "D" (http://www.cityoflaredo.com/city-Planning/Books_and_Manuals/Standard_Technical_Specifications_Manual.pdf)

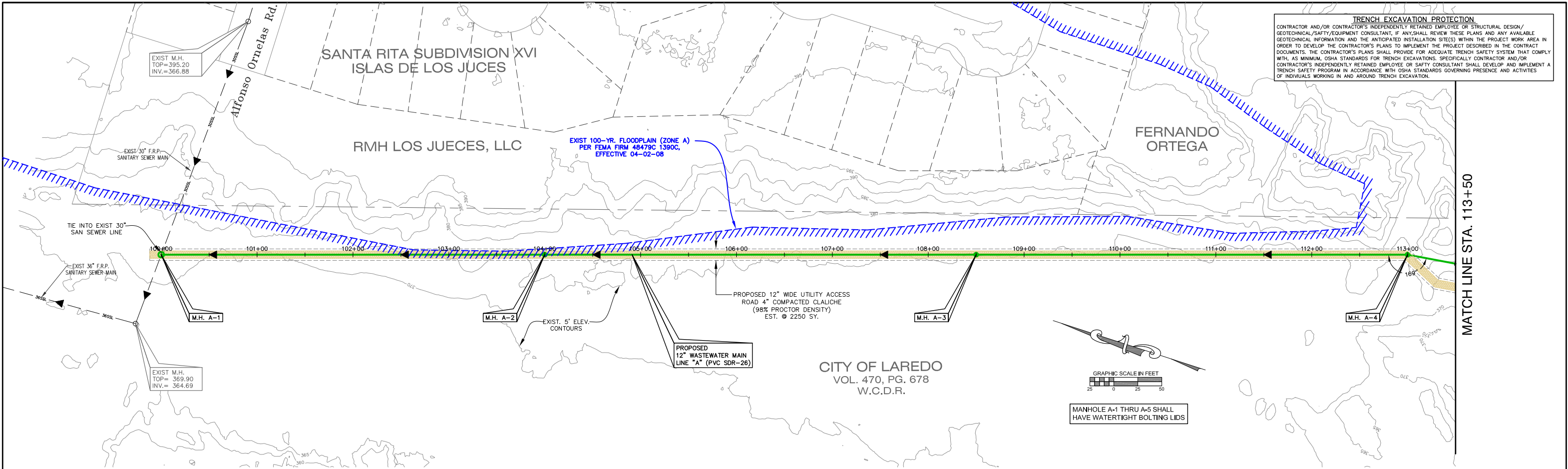
24. AS SPECIFIED ON THE CITY'S PUBLIC RIGHT-OF-WAY MANAGEMENT ORDINANCE, THE CONTRACTOR MUST REGISTER WITH THE CITY AND OBTAIN ALL NECESSARY PERMITS PRIOR TO WORKING WITHIN CITY RIGHT-OF-WAY. SEE <http://www.cityoflaredo.com/Building/> AND SELECT "RIGHT OF WAY ORDINANCE" LINK. THERE IS NO SEPARATE PAYMENT FOR REGISTRATION AND PERMIT FEES, WHICH MUST BE INCLUDED WITH AND CONSIDERED FULLY SUBSIDIARY TO THE VARIOUS BID ITEMS.

25. ALL BACKFILLED SANITARY SEWER MAINS MUST BE INSPECTED AND APPROVED BY CCTV METHODS CONDUCTED SOLELY BY THE WATER UTILITIES DEPARTMENT, AS DESCRIBED ON THE CITY OF LAREDO STANDARD TECHNICAL SPECIFICATIONS MANUAL, SECTION 223, WHICH ARE PERFORMED TO CHECK THE SEWERS FOR DIPS, PONDING, PIPE DEFLECTION, JOINT SEPARATION, INFILTRATION, AND OTHER UNACCEPTABLE PIPE CONDITIONS. THE CCTV TEST WILL BE CONDUCTED IN ADDITION TO THE CONTRACTOR'S AIR PRESSURE AND DEFLECTION TESTS SPECIFIED SEPARATELY. CONNECTION AND TIE-INS TO EXISTING DOWNSTREAM SANITARY SEWERS WILL BE PROHIBITED UNTIL ALL NEW SEWERS AND MANHOLES HAVE BEEN FULLY CLEANED, TESTED AND APPROVED BY THE CITY.

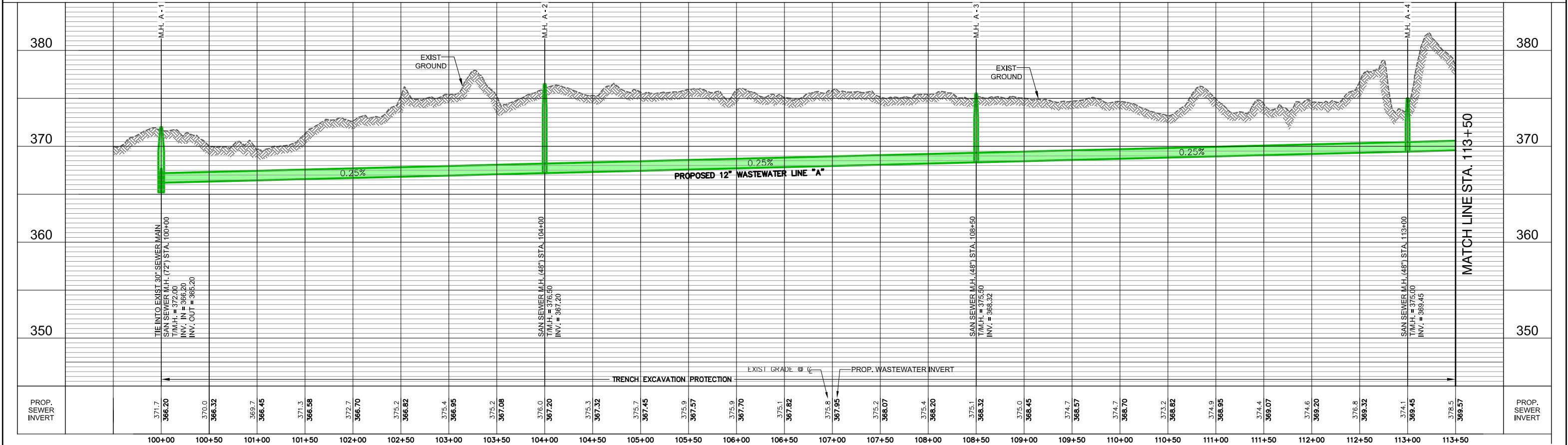
THE CONTRACTOR SHALL SEQUENCE SANITARY SEWER INSTALLATION AND BACKFILL AS AN INITIAL, UP FRONT CONSTRUCTION PRIORITY TO ALLOW ADEQUATE TIME FOR THE WATER UTILITIES DEPARTMENT TO SCHEDULE, CCTV TEST, APPROVE AND/OR DISAPPROVED WITH ASSOCIATED RESCHEDULE AND RETESTING. ALL SANITARY SEWER MAINS AND MANHOLES SHALL BE FULLY TESTED AND APPROVED BY THE CITY PRIOR TO COMMENCING CONCRETE CURB OR ASPHALT PAVEMENT INSTALLATION, UNLESS APPROVED IN WRITING BY THE ENGINEER AND OWNER. ALL REPAIRS OR RECONSTRUCTION OF ANY IMPROVEMENT RELATED TO FAILED TESTS SHALL BE COMPLETED BY THE CONTRACTOR AT NO COST TO THE OWNER. TIME DELAYS CAUSED BY CCTV FAILURES WILL BE CHARGED TO THE PROJECT SCHEDULE AND SUBJECT TO RELATED PENALTIES.

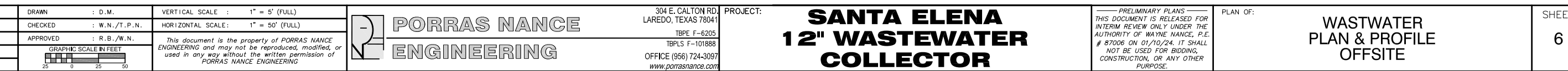
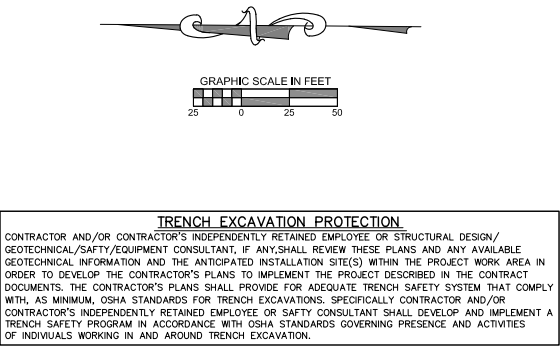
PRIOR TO A CCTV INSPECTION REQUEST, THE CONTRACTOR SHALL FULLY FLUSH AND CLEAN THE SEWER MAINS BY A HYDRAULIC, HIGH VELOCITY, OR MECHANICAL METHOD DESCRIBED IN CITY OF LAREDO STANDARD SPECIFICATIONS. THE CLEANING SHALL REMOVE ALL SILT, ROCK, AND DEBRIS. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, LABOR, WATER, AND PUMPING REQUIRED TO CLEAN THE NEW SEWERS. THERE WILL BE NO SEPARATE PAY ITEM FOR SEWER MAIN CLEANING OR ANY COST RELATED TO CCTV INSPECTION COORDINATION. ALL SUCH COSTS SHALL BE INCLUDED WITH AND CONSIDERED FULLY SUBSIDIARY TO UNIT BID PRICE FOR THE RELATED SANITARY SEWER BID ITEM.

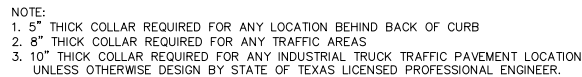
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REVISIONS :	CHECKED : W.N./T.P.N.	HORIZONTAL SCALE: N/A						
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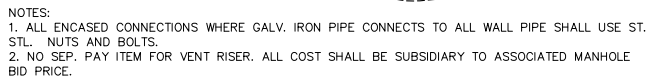
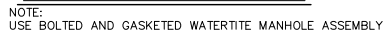
PROPOSED 12" OFFSITE SEWER MAIN







MANHOLE RING ENCASEMENT DETAIL



MANHOLE VENTED RISER DETAIL
N.T.S.



N.T.S.

NOTE


1.) THE U-SHAPED CHANNEL AT THE BOTTOM OF THE MANHOLE SHOULD BE AT LEAST 1/2 THE LARGEST PIPE DIAMETER IN DEPTH FOR PIPES LESS THAN 24 INCHES.

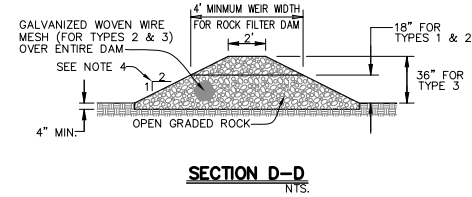
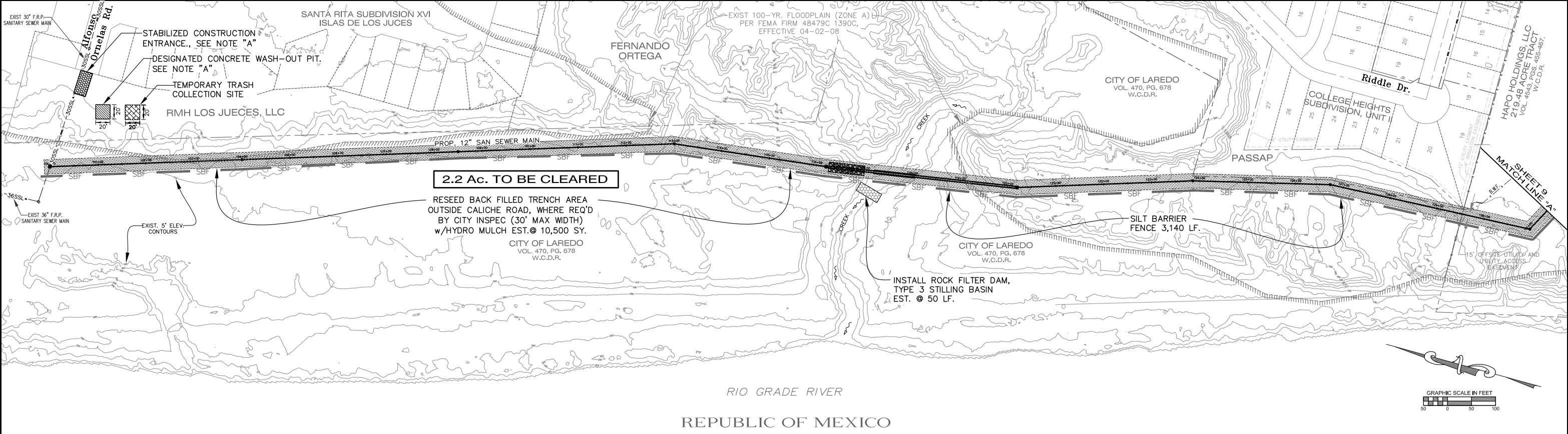
2.) MANHOLE CONNECTED TO A PIPE AT LEAST THAN TO 24 INCHES IN DIAMETER MUST HAVE U-SHAPED CHANNEL DEPTH EQUAL TO AT LEAST THREE FOURTHS OF THE LARGEST PIPE'S DIAMETER.

3.) A MANHOLE CONNECTED TO A PIPE GREATER THAN 24 INCHES IN DIAMETER MUST HAVE A U-SHAPED CHANNEL DEPTH EQUAL TO AT LEAST THE LARGEST PIPE'S DIAMETER.

4.) A MANHOLE WITH DIFFERENT SIZES MUST HAVE THE TOPS OF THE PIPES AT THE SAME ELEVATION AND FLOW CHANNELS IN THE INVERT SLOPED ON AN EVEN SLOPE FROM PIPE TO PIPE.



DATE : 01/10/2024	DRAWN : D.M.	VERTICAL SCALE : N/A	 PORRAS NANCE ENGINEERING	304 E. CALTON RD. LAREDO, TEXAS 78041	PROJECT: SANTA ELENA 12" WASTEWATER COLLECTOR	<div>— PRELIMINARY PLANS —</div> <div>THIS DOCUMENT IS RELEASED FOR INTERIM REVIEW ONLY UNDER THE AUTHORITY OF WAYNE NANCE, P.E. # 87006 ON 01/10/24. IT SHALL NOT BE USED FOR BIDDING, CONSTRUCTION, OR ANY OTHER PURPOSE.</div>	PLAN OF: WASTEWATER COLLECTION SYSTEM DETAILS	SHEET 7	
REVISIONS :	CHECKED : W.N./T.P.N.	HORIZONTAL SCALE : N/A		TBPE F-6205					
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ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND / OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 60 GPM / FT. SQUARED OF CROSS SECTIONAL AREAS. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (18" HIGH WITH NO WIRE MEASH).

TYPE 1 MAY BE USED AT THE TOE OF SLOP, AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROXIMATELY 8 FT. / SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY ENGINEER.

TYPE 2 (18" HIGH WITH WIRE MESH).

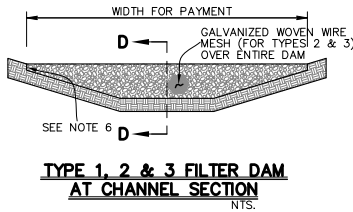
TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

TYPE 3 (36" HIGH WITH WIRE MESH).

TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 (SACK GABIONS).

TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FROM AN EROSION CONTROL DAM.

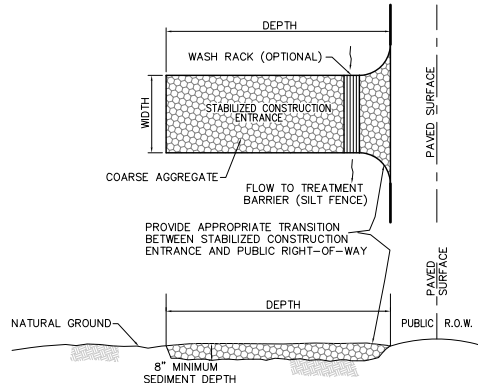


NOTE "A"
STABILIZED CONSTRUCTION ENTRANCE AND CONCRETE WASH OUT PIT SHOWN ON THIS PLAN, MAY BE RELOCATED BY CONTRACTOR DURING CONSTRUCTION, AS NEEDED. CONTRACTOR NEEDS TO COORDINATE ANY CHANGES WITH DESIGN ENGINEER AND CITY OF LAREDO ENGINEERING DEPT.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CLEANING ANY SILT AND/OR CONSTRUCTION DEBRIS WITHIN CITY'S ROW DUE TO SITE CONSTRUCTION ACTIVITIES. THE GENERAL CONTRACTOR MUST CLEAN ALL THE SITE SURROUNDINGS AFTER A MAJOR RAIN EVENT. CITY OF LAREDO MAY ISSUE CITATIONS TO GENERAL CONTRACTOR FAILING TO MAINTAIN CITY'S ROW FREE OF CONSTRUCTION RESIDUE AND/OR DEBRIS.

GENERAL NOTES

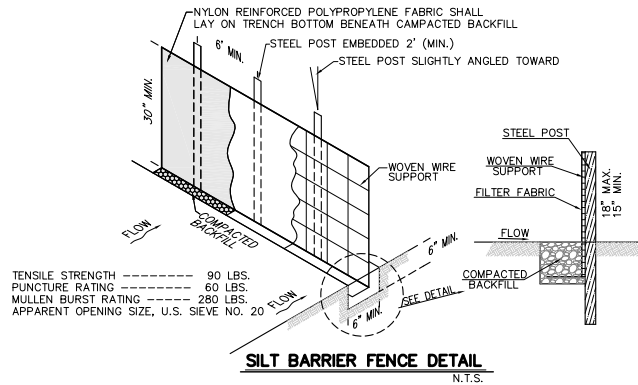
- IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF THE SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND / OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
- MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS FOLLOWS:
 - AGGREGATE: FURNISH AGGREGATE WITH HARDNESS, DURABILITY, CLEANLINESS, AND RESISTANCE TO CRUMBLING, FLAKING, AND ERODING TO THE ENGINEER. FOR TYPES 1, 2, AND 4 ROCK FILTER DAMS, USE 3 TO 6 IN. AGGREGATE. FOR TYPE 3 ROCK FILTER DAMS, USE 4 TO 8 IN. AGGREGATE.
 - WIRE: PROVIDE MINIMUM 20 GAUGE GALVANIZED WIRE FOR THE STEEL WIRE MESH AND THE WIRES FOR TYPE 2 AND 3 ROCK FILTER DAMS. TYPE 4 DAMS REQUIRE A DOUBLE-TWISTED HEXAGONAL WEAVE WITH A NOMINAL MESH OPENING OF 2-1/2 IN. x 3-1/4 IN. 0.066 (MIN) IN. STEEL WIRE FOR NETTING; 0.1063 (MIN) IN. STEEL WIRE FOR SELVAGES AND CORNERS; AND 0.0866 (MIN) IN. FOR BINDING OR TIE WIRE.
- THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE STORM WATER POLLUTION PREVENTION PLAN.
- SIDE SLOPES SHOULD BE 2 : 1 OR FLATTER, DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDE SLOPES OF 6 : 1 OR FLATTER.
- MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
- FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO EXISTING GROUND.
- THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
- ROCK FILLET DAM TYPES 2 & 3 SHALL SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED, THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE, THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
- SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
- FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.)
- THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.



- NOTES
- STABILIZED CONSTRUCTION ENTRANCE ARE TO BE CONSTRUCTED SUCH THAT DRAINAGE ACROSS THE ENTRANCE IS DIRECTED TO A CONTROLLED, STABILIZED OUTLET ON-SITE WITH PROVISIONS FOR STORAGE, PROPER FILTRATION AND REMOVAL OF WASHWATER, AND REMOVAL OF WASHWATER.
 - THE ENTRANCE MUST BE PROPERLY GRADED SO THAT STORM WATER IS NOT ALLOWED TO LEAVE THE SITE AND ENTER ROADWAYS.
 - THE MINIMUM WIDTH OF THE ENTRANCE SHALL BE 15 FEET, BUT IN NO CASE SHALL THE WIDTH BE LESS THAN THAT OF THE ENTRY WAY TO BE USED.
 - THE MINIMUM SEDIMENT DEPTH OF THE ENTRANCE SHALL BE 8 INCHES FOR THE ENTIRE LENGTH OF CONTROL.
 - MINIMUM DIMENSIONS FOR THE ENTRANCE SHALL BE AS FOLLOWS:

TRACT AREA	AVG. LOT DEPTH	MIN. WIDTH OF ENTRANCE	MIN. LENGTH OF ENTRANCE
< 1 ACRE	100 FEET	15 FEET	20 FEET
< 5 ACRES	200 FEET	20 FEET	30 FEET
< 10 ACRES	> 200 FEET	20 FEET	40 FEET
> 10 ACRES	> 200 FEET	25 FEET	50 FEET

MAINTENANCE REQUIREMENTS:
THE CONSTRUCTION ENTRANCE MUST BE INSPECTED DAILY TO DETERMINE IF SEDIMENT AND OTHER MATERIALS ARE BEING EFFECTIVELY DETAINED ON-SITE. WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE VOID AREA BETWEEN THE ROCKS, THE AGGREGATE MAT MUST BE WASHED DOWN OR REPLACED. PERIODIC REGRADEING AND TOP DRESSING WITH ADDITIONAL STONE WILL BE REQUIRED TO KEEP THE EFFICIENCY FROM BEING DIMINISHED.



SPECIFICATIONS FOR SILT BARRIER FENCE

- SYNTHETIC FILTER FABRIC SHALL BE A PREVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE/YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS (PER ASTM METHODS):

PHYSICAL PROPERTY	REQUIREMENTS
FILTERING EFFICIENCY	75% (MIN.)
TENSILE STRENGTH @ 20%	EXT. STRENGTH=90 LBS./LIN. IN. (MIN.)
MAX. ELONGATION	STD. STRENGTH=30 LBS./LIN. IN. (MIN.)
PUNCTURE RATING	60 LBS./LIN. IN. (MIN.)
MULLEN BURST RATING	280 PSI
FLOW RATE	0.3 GAL./SQ.FT./MIN. (MIN.)
- SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0° TO 120° F.
- INSTALLATION
 - THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 30" ABOVE FINAL GRADE.
 - STANDARD STRENGTH SYNTHETIC FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS (AND THUS IMPROVE THE BARRIER'S STRENGTH AND EFFICIENCY), AND SHALL BE REINFORCED WITH WOVEN WIRE SUPPORT.
 - STAKES FOR THE SILT FENCE SHALL BE # 6 STEEL POSTS WITH A MINIMUM LENGTH OF 3 FEET ABOVE FINAL GRADE AND SLIGHTLY ANGLED TOWARD ANTICIPATED RUNOFF SOURCE.
 - THE STAKES SHALL BE SPACED A MAXIMUM OF 6' APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (24" EMBEDDED MIN.).
 - A TRENCH SHALL BE EXCAVATED APPROX. 6" WIDE AND 6" DEEP ALONG THE LINE OF STAKES AND UPSLOPE FROM THE BARRIER.
 - THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FENCE MATERIAL.
 - IF A SILT FENCE IS TO BE CONSTRUCTED ACROSS A DITCH LINE OR SWALE, THE BARRIER SHALL BE OF SUFFICIENT TO ELIMINATE END FLOW, AND THE PLAN CONFIGURATION SHALL RESEMBLE AN ARC OR HORSESHOE WITH THE ENDS ORIENTED UPSLOPE.
 - SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- MAINTENANCE
 - SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
 - SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE SILT FENCE IS STILL NECESSARY, IT SHALL BE REPLACED IMMEDIATELY.
 - SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS REACH APPROX. 1/3 THE HEIGHT OF THE FENCE.
 - ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
 - THERE SHOULD BE NO GAPS OR SAGS IN THE SILT FENCE.

DATE : 01/10/2024	DRAWN : D.M.	VERTICAL SCALE : N/A
REVISIONS :	CHECKED : W.N./T.P.N.	HORIZONTAL SCALE: 1"=100' (FULL)
	APPROVED : R.B./W.N.	
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GRAPHIC SCALE IN FEET 50 0 50 100		

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PROJECT:

SANTA ELENA
12" WASTEWATER
COLLECTOR

PRELIMINARY PLANS
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PLAN OF:
STORM WATER POLLUTION
PREVENTION PLAN AND DETAILS

SHEET
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