

PORT OF PORT LAVACA - POINT COMFORT

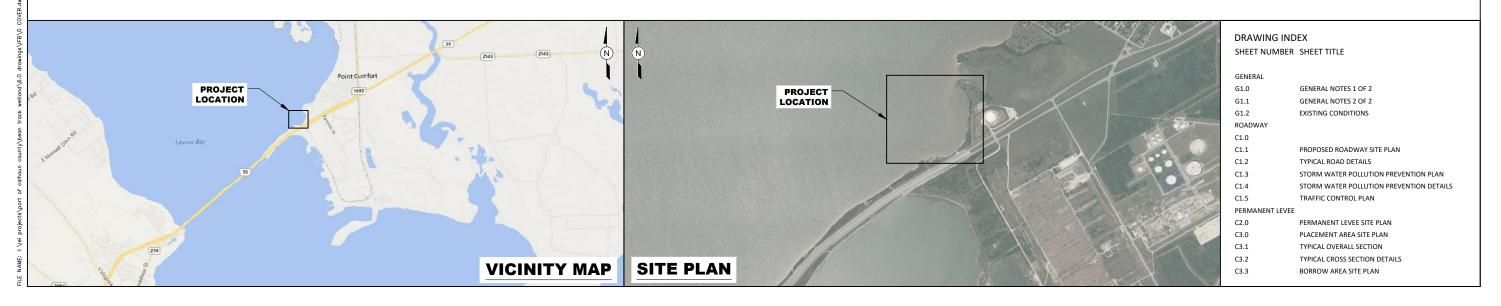
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POINT COMFORT, TEXAS

CALHOUN PORT AUTHORITY PROPOSED LEVEE - BEAN TRACT MITIGATION SITE

ISSUED FOR BIDDING SEPTEMBER 2022





- 1. ALL ELEVATIONS SHOWN REFERENCE NAVD 88.
- 2. CONTRACTOR SHALL FIELD CHECK AND VERIFY ALL ELEVATIONS, COORDINATES, DIMENSIONS, EXISTING CONDITIONS, AND INFORMATION INDICATED ON THE CONTRACT DOCUMENTS PRIOR TO COMMENCEMENT OF SITE WORK. THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES FOUND ON THE CONTRACT DOCUMENTS OR FOUND TO EXIST BETWEEN THE FIELD CONDITIONS AND THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION AS DIRECTED BY THE OWNER.
- 3. CONTRACTOR SHALL SUBMIT STORM WATER POLLUTION PREVENTION PLAN (SW3P) TO THE OWNER. CONSTRUCTION ACTIVITY MAY NOT COMMENCE UNIT SW3P IS APPROVED BY THE
- 4. THE TEXAS ONE CALL SYSTEM SHALL BE NOTIFIED 48-HOURS PRIOR TO EXCAVATING. THIS ACTION HOWEVER, SHALL IN NO WAY BE INTERPRETED AS RELIEVING THE CONTRACTOR OF THE RESPONSIBILITY UNDER THE TERMS OF THE CONTRACT AS SET OUT IN THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY HIS OPERATIONS AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE UTILITY COMPANY INVOLVED.
- 5. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE US ARMY CORPS OF ENGINEERS (USACE) PERMIT OBTAINED BY THE OWNER FOR THIS PROJECT. REFER TO US ARMY CORPS OF ENGINEERS PERMIT NO. SWG-2016-01066.
- 6. CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO NOT INTERFERE WITH, OR BE DETRIMENTAL TO VESSEL AND VEHICULAR TRAFFIC AND THE DAILY OPERATION OF THE OWNER DURING THE COURSE OF THE WORK
- 7. THE LOCATION AND DEPTH OF UTILITIES AND PIPELINES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE WORK COMMENCES. PRIOR TO BEGINNING ANY EXCAVATION WORK IN THE AREA OF EXISTING UTILITIES OR PIPELINES, THE CONTRACTOR SHALL CONTACT THE UTILITY OR PIPELINE COMPANIES OWNER FOR EXACT LOCATIONS AND DEPTHS TO PREVENT ANY DAMAGE OR INTERFERENCE WITH PRESENT FACILITIES
- 8. THE TEXAS ONE CALL SYSTEM SHALL BE NOTIFIED 48-HOURS PRIOR TO EXCAVATING. THIS ACTION HOWEVER, SHALL IN NO WAY BE INTERPRETED AS RELIEVING THE CONTRACTOR OF THE RESPONSIBILITY UNDER THE TERMS OF THE CONTRACT AS SET OUT IN THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY HIS OPERATIONS AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE UTILITY OR PIPELINE COMPANY
- 9. ALL EXISTING ROADWAYS AND OTHER FEATURES WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- WORKER SAFETY IN EXCAVATIONS AND TRENCHES SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS, 29 CFR 1926, SUBPART P - EXCAVATIONS, TRENCHING, AND SHORING. COMPLY WITH USACE-EM-385 FOR ALL ASPECTS OF CONSTRUCTION.

HORIZONTAL AND VERTICAL CONTROL:

- 1. TOPOGRAPHIC SURVEY WAS PERFORMED BY CRA ASSOCIATES, DATED NOVEMBER 2019.
- 2. HYDROGRAPHIC SURVEY WAS PERFORMED BY CRA ASSOCIATES, DATED NOVEMBER 2019.
- 3. COORDINATES SHOWN ARE STATE PLANE GRID, TEXAS SOUTH CENTRAL ZONE, IN U.S. FEET.
- 4. ALL ELEVATIONS SHOWN REFER TO US CORPS OF ENGINEERS MEAN LOWER LOW WATER (MLLW)

LEVEE/TEMPORARY BERM CONSTRUCTION:

- 1. SEMI-COMPACTED FILL SHALL BE PLACED WITH SUITABLE EQUIPMENT IN UNIFORM LAYERS WHICH, BEFORE COMPACTION, SHALL NOT EXCEED 12 TO 24 INCHES IN THICKNESS. EACH LAYER SHALL BE COMPACTED BY NOT LESS THAN THREE (3) COVERAGE OF A CRAWLER-TYPE TRACTOR D-5.
- 2. GEOTEXTILE FABRIC TO BE MIRAFI 500X OR EQUAL.

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- 3 ARTICULATED CONCRETE MATTRESS TO BE ARMORFLEX CLASS 70 MAT OR FOUAL
- 4. CONTRACTOR SHALL ANTICIPATE SATURATED GROUND CONDITIONS AT THE SITE AND APPLY APPROPRIATE MEANS AND METHODS FOR CONSTRUCTING IN SOFT WET SOILS.
- 5. USE RIPRAP PER TXDOT ITEM 432. SEE GRADATION BELOW:

RIPRAP GRADATION NO. 1										
	STONE LB			VOLUME CUBIC FT (2)		CUBICAL SHAPE FT (EACH SIDE)		SPHERICAL SHAPE FT (DIA.)		
PERCENT LIGHTER BY WEIGHT	LOWER LIMIT	UPPER LIMIT	LOWER LIMIT	UPPER LIMIT	LOWER LIMIT	UPPER LIMIT	LOWER LIMIT	UPPER LIMIT		
100	180	265	1.20	1.77	1.06	1.21	1.31	1.50		
50	80	110	0.53	0.73	0.81	0.90	1.01	1.12		
15	40	60	0.27	0.40	0.64	0.74	0.80	0.91		

EMBANKMENT:

1. MATERIALS THAT ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2487 AS CL WITH LESS THAN 35 PERCENT SAND CONTENT ARE SUITABLE FOR USE AS EMBANKMENT FILL. MATERIALS CLASSIFIED AS CL-ML OR ML ARE NOT SUITABLE. SEE TABLE 1. ALL FILL MATERIALS SHALL BE FREE FROM MASSES OF ORGANIC MATTER, STICKS, BRANCHES, ROOTS, AND OTHER DEBRIS, INCLUDING HAZARDOUS AND REGULATED SOLID WASTES. LARGE CLAY CLODS SHALL BE PULVERIZED AND REDUCED TO LESS THAN 1/2 INCH IN DIAMETER. AS EARTH FROM THE DESIGNATED EXCAVATION AREAS MAY CONTAIN EXCESSIVE AMOUNTS OF WOOD, ISOLATED PIECES OF WOOD WILL NOT BE CONSIDERED OBJECTIONABLE IN THE EMBANKMENT PROVIDED THEIR SIZE DOES NOT EXCEED ONE INCH IN DIAMETER. NOT MORE THAN 1 PERCENT (BY VOLUME) OF OBJECTIONABLE MATERIAL SHALL BE CONTAINED IN THE EARTH MATERIAL PLACED IN EACH CUBIC YARD OF THE LEVEE SECTION. POCKETS AND/OR ZONES OF WOOD SHALL NOT BE PLACED IN THE EMBANKMENT.

2. MATERIALS PLACED IN THE SECTION MUST HAVE A MINIMUM OF 60% PASSING THE NO. 200 SIEVE AS DETERMINED BY ASTM D422. ALSO, MATERIALS PLACED IN THIS SECTION SHALL BE AT OR BELOW ORGANIC CONTENT OF 9 PERCENT BY WEIGHT AS DETERMINED BY ASTM D 2974, METHOD C. MATERIALS PLACED IN THE SECTION MUST CONTAIN LESS THAN 35 PERCENT SAND CONTENT BY WEIGHT AS DETERMINED BY ASTM D 1140.

1. DO NOT CONDUCT PLACEMENT OPERATIONS DURING INCLEMENT WEATHER OR WHEN EXISTING GROUND OR FILL MATERIALS EXCEED 3 PERCENT OF OPTIMUM MOISTURE CONTENT. CONTRACTOR MAY MANIPULATE WET MATERIAL TO FACILITATE DRYING, BY DISKING OR WIND ROWING, EACH LAYER SHALL BE HOMOGENEOUS AND CONTAIN UNIFORM MOISTURE CONTENT BEFORE COMPACTION. MIX DISSIMILAR ABUTTING MATERIALS TO PREVENT ABRUPT CHANGES IN COMPOSITION OF FILL. LAYERS SHALL NOT EXCEED 12 INCHES OF COMPACTED THICKNESS.

COMPACT TO MINIMUM DENSITY OF 90 PERCENT OF MAXIMUM DRY DENSITY AT MOISTURE CONTENT OF OPTIMUM TO 3 PERCENT ABOVE OPTIMUM AS DETERMINED BY ASTM D 698.

- 2. UNSUITABLE MATERIAL: UNSUITABLE SOIL MATERIALS ARE THE FOLLOWING:
- MATERIALS CLASSIFIED AS ML, CL-ML, MH, PT, OH, AND OL ACCORDING TO ASTM D 2487.
- MATERIALS THAT CANNOT BE COMPACTED TO REQUIRED DENSITY DUE TO GRADATION, PLASTICITY, OR MOISTURE CONTENT.
- MATERIALS THAT CONTAIN LARGE CLODS, AGGREGATES, STONES GREATER THAN 4 INCHES IN ANY DIMENSION, DEBRIS, VEGETATION, WASTE OR ANY OTHER DELETERIOUS MATERIALS.
- . MATERIALS THAT ARE CONTAMINATED WITH HYDROCARBONS OR OTHER CHEMICAL
- 3. SUITABLE MATERIAL: INORGANIC FAT CLAYS (CH) MAY BE USED AS INORGANIC EMBANKMENT MATERIAL. WHEN REQUIRED DENSITY IS NOT ACHIEVED, REWORK, DRY OUT, USE LIME STABILIZATION OR OTHER APPROVED METHODS TO ACHIEVE COMPACTION REQUIREMENTS, OR USE DIFFERENT SUITABLE MATERIAL. MAXIMUM 9-INCH COMPACTED LIFT THICKNESS FOR CLAYEY SOILS AND MAXIMUM 12-INCH LIFT THICKNESS FOR GRANULAR SOILS. COMPACT TO MINIMUM OF 90 PERCENT OF MAXIMUM DRY DENSITY DETERMINED ACCORDING TO ASTM 698. THE LIQUID LIMIT SHALL BE 50 OR GREATER. GRADATION SHALL INCLUDE 50% OR GREATER PASSING SLEEVE 200.

CEMENT STABILIZED SAND:

- 1. PLACE SAND—CEMENT MIXTURE IN MAXIMUM 12—INCH—THICK LOOSE LIFTS AND COMPACT TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D558. TARGET MOISTURE CONTENT DURING COMPACTION IS $\pm 3\%$ OF OPTIMUM.
- 2. DO NOT PLACE OR COMPACT SAND-CEMENT MIXTURE IN STANDING OR FREE WATER.
- 3. USE SAND-CEMENT MIXTURE PRODUCING MINIMUM UNCONFINED COMPRESSIVE STRENGTH OF 150 POUND PER SQUARE INCH IN 48 HOURS
- 4. PROVIDE 1.5 SACK OF CEMENT PER TON OF DRY SAND. CEMENT SHALL BE TYPE 1 PORTLAND CEMENT CONFORMING TO ASTM C150.
- 5. SAND SHALL BE CLEAN AND FREE OF ORGANICS WITH A PLASTICITY INDEX OF 4 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM D4318.

ROADWAY PREPARATION:

- 1. FOLLOWING GRUBBING AND REMOVAL OF DELETERIOUS MATTER FROM THE EXISTING SURFACE AND AFTER CUT GRADES HAVE BEEN ESTABLISHED, THE EXPOSED SOIL SHOULD BE EXCAVATED TO AT LEAST TWO FEET BELOW DESIGN TOP-OF-SUBGRADE ELEVATION OR EXISTING GRADE, WHICHEVER IS DEEPER. THE OVER-EXCAVATION SHOULD EXTEND AT LEAST 3, AND PREFERABLY 5, FEET BEYOND THE LIMITS OF THE AREA TO RECEIVE SURFACE TREATMENT. IF POOR OR DELETERIOUS MATERIAL IS ENCOUNTERED AT THE BASE OF THE 2-FOOT OVER-EXCAVATION, ADDITIONAL OVER-EXCAVATION MAY BE REQUIRED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. THE OVER-EXCAVATION MAY BE TERMINATED IF COMPETENT NATURAL SOILS (I.E., MEDIUM DENSE SANDS OR STIFF COHESIVE SOILS) ARE ENCOUNTERED.
- 2. OVER-EXCAVATED AREAS SHOULD BE BACKFILLED WITH PROPERLY PLACED AND COMPACTED STRUCTURAL (SELECT) FILL TO ATTAIN DESIGN TOP-OF-SUBGRADE ELEVATION. STRUCTURAL FILL MAY CONSIST OF LOW PLASTICITY COHESIVE SOILS OR SANDY SOILS COHESIVE SOILS SHOULD HAVE A LIQUID LIMIT OF LESS THAN 40, A PLASTICITY INDEX BETWEEN 12 AND 30, AND A FINES CONTENT (I.E., PASSING THE NO. 200 SIEVE) BETWEEN 60 AND 85 PERCENT. STRUCTURAL FILL SHOULD BE FREE OF DELETERIOUS MATTER AND SHOULD HAVE AN EFFECTIVE CLOD DIAMETER LESS THAN 3 INCHES. STRUCTURAL FILL SHOULD BE PLACED IN MAXIMUM 8-INCH-THICK LOOSE LIFTS AND UNIFORMLY COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY. COHESIVE SOILS SHOULD BE PLACED AT A MOISTURE CONTENT OF 1 PERCENT "DRY" TO 3 PERCENT "WET" OF OPTIMUM AS DETERMINED BY ASTM D698 (STANDARD PROCTOR); THE MOISTURE CONTENT OF SANDY SOILS MAY BE WITHIN 3 PERCENT OF OPTIMUM. OVEREXCAVATED ONSITE SOILS MEETING THE REQUIREMENTS OF STRUCTURAL FILL MAY BE
- 3. THE SUBGRADE PREPARATION SHOULD EXTEND LATERALLY AT LEAST 3, AND PREFERABLY 5, FEET BEYOND THE EDGES OF THE AREAS TO RECEIVE SURFACE COVER. PRIOR TO PLACEMENT OF STRUCTURAL FILL TO BRING OVER-EXCAVATED AREAS TO DESIGN TOP-OF-SUBGRADE, THE EXPOSED SOILS SHOULD BE PROOFROLLED TO IDENTIFY AREAS OF UNSUITABLE SOILS AS

PROOF-ROLLING:

- 1. FOR LARGE AND EXPOSED AREAS, PROOF-ROLLING OF THE SUBGRADE SHOULD BE PERFORMED. WE RECOMMEND THAT PROOF—ROLLING BE PERFORMED USING A FULLY—LOADED DUMP TRUCK OR WATER TRUCK WITH A WEIGHT OF AT LEAST 20 TONS AND A TIRE PRESSURE OF AT LEAST 70 PSI. DO NOT RECOMMEND USE OF OFF—ROAD EARTH MOVING EQUIPMENT, COMPACTORS, OR TRACK-MOUNTED VEHICLES FOR PROOF-ROLLING. PROOF-ROLLING SHOULD EXTEND AT LEAST 3 FEET AND PREFERABLY 5 FEET (RIGHT-OF-WAY PERMITTING) BEYOND THE FOOTPRINT OF THE STUDY SITE.
- 2. PROOF-ROLLING SPECIFICATIONS SHOULD PROVIDE FOR RUT DEPTHS LESS THAN 1 INCH AND NO VISUAL EVIDENCE OF PUMPING. AREAS OF SUBGRADE SOILS WHERE RUTTING IN EXCESS OF 1 INCH OR PUMPING ARE OBSERVED SHOULD BE REMOVED TO EXPOSE COMPETENT SOILS AND REPLACED WITH PROPERLY COMPACTED STRUCTURAL FILL

3. SCHEDULE PROOF-ROLLING ACTIVITIES DURING A RELATIVELY DRY PERIOD. DO NOT ALLOW PROOF-ROLLING ACTIVITIES TO BEGIN DURING OR IMMEDIATELY AFTER A SIGNIFICANT RAIN EVENT. THE GEOTECHNICAL ENGINEER-OF-RECORD (GER) SHOULD BE CONTACTED TO EVALUATE THE SITE CONDITIONS IF A LARGE RAINFALL EVENT OCCURS DURING SUBGRADE PREPARATION.

SUBGRADE TREATMENT:

1. FOR SUBGRADE IMPROVEMENT, COHESIVE SOILS AND STRUCTURAL FILL SHOULD BE TREATED WITH LIME, WHILE COHESIONLESS (SANDY TO SILTY SOILS) SHOULD BE TREATED WITH LIME.

AGGREGATE-SURFACED AREA:

1. THE AGGREGATE-SURFACED PARKING/STORAGE/LAYOUT AREA SHOULD BE DESIGNED IN ACCORDANCE WITH AASHTO GUIDE FOR DESIGN OF PAVEMENT STRUCTURE (1993 EDITION), AND FEDERAL HIGHWAY ADMINISTRATION (FHWA) GRAVEL ROADS CONSTRUCTION AND MAINTENANCE GUIDE MANUAL (AUGUST 2015).

Recommended Gradations for Base and Surface Aggregate Layers						
Sieve	Base Aggregate Layer	Surface Aggregate Layer				
Sieve	Percent Passing	Percent Passing				
1"	100					
3/4"	80 - 100	100				
1/2"	68-91					
No. 4	46 - 70	50 - 78				
No. 8	34 – 54	37 – 67				
No. 40	13 - 35	13 - 35				
No. 200	3-12	4-15**				
Plasticity Index	0-6	4-12				

LIME:

- 1. THE OPTIMUM LIME CONTENT IS THE AMOUNT OF LIME NECESSARY TO ACHIEVE A PH OF 12.0, WHILE TRYING TO ACHIEVE PLASTICITY (PI) OF LESS THAN 2.0. FOR ESTIMATION PURPOSES, ABOUT 6-8% LIME, BY DRY WEIGHT MAY BE REQUIRED.
- 2. TYPE A HYDRATED LIME: DRY MATERIAL CONSISTING ESSENTIALLY OF CALCIUM HYDROXIDE OR MIXTURE OF CALCIUM HYDROXIDE AND AN ALLOWABLE PERCENTAGE OF CALCIUM OXIDE AS LISTED IN CHEMICAL COMPOSITION CHART.
- 3. TYPE B COMMERCIAL LIME SLURRY: LIQUID MIXTURE CONSISTING ESSENTIALLY OF LIME SOLIDS AND WATER IN SLURRY FORM. WATER OR LIQUID PORTION SHALL NOT CONTAIN DISSOLVED MATERIAL IN SUFFICIENT QUANTITY TO BE INJURIOUS OR OBJECTIONABLE FOR
- 4. TYPE C QUICKLIME: DRY MATERIAL CONSISTING ESSENTIALLY OF CALCIUM OXIDE: MATERIALS SHALL BE: FINELY-GRADED QUICKLIME FOR USE IN PREPARATION OF SLURRY FOR WET
- 5. CONFORM TO THE FOLLOWING REQUIREMENTS:

	TYPE						
CHEMICAL COMPOSITION	A	В	C				
Active lime content, % by weight Ca(OH) ₂ +CaO	90.0 min ¹	87.0 min ²	•				
Unhydrated lime content, % by weight CaO	5.0 max		87.0 min				
Free water content, % by weight H ₂ O:	5.0 max	-					
SIZING							
Wet Sieve, as % by weight residue retained:							
No. 6	0.2 max	0.2 max ²	8.0 max ³				
No. 30	4.0 max	4.0 max ²	-				
Dry sieve, as % by weight residue retained:							
1-inch	-	-	0.0				
1/2-inch	-	-	10.0 max				

 Maximum 5.0% by weight CaO shall be allowed in determining total active lime content.

- Maximum solids content of slurry.
- 3. Total active lime content, as CaO, in material retained on No. 6 sieve shall not exceed 2.0% by weight of original Type C lime.
- 6 LIME CONTAINING MAGNESIUM HYDROXIDE IS PROHIBITED.

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ENGINEER: P.O. PARKER	$\langle \rangle$						PROJECT NO.
LICENSE NO.: 103694	$\stackrel{\frown}{\nearrow}$						SCALE: AS NOTED
DATE:09/01/2022	$\overline{\wedge}$						DWN. BY: JB
IT IS NOT TO BE USED FOR	$\stackrel{\frown}{\hookrightarrow}$						CHK. BY: POP
CONSTRUCTION, INTERIM REVIEW OR PERMIT PURPOSES.	A	09/01/22	ISSUED	FOR BIDDING	-	POP	DATE: 04-22-2021
SEAL	REV.	DATE		DESCRIPTION	BY	CHK.	SHT. NO. G1.0

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LIME SLURRY APPLICATION:

- 1. MINIMUM LIME CONTENT SHALL BE 5 PERCENT OF DRY UNIT WEIGHT OF SUBGRADE AS
- 2. CURE SOIL LIME MATERIAL FOR 24 TO 72 HOURS OR AS REQUIRED TO OBTAIN OPTIMUM HYDRATION, KEEP SUBGRADE MOIST DURING CURE.
- 3. MIX AND PULVERIZE UNTIL ALL MATERIAL PASSES 13/4-INCH SIEVE; MINIMUM OF 85 PERCENT, EXCLUDING NON-SLACKING FRACTIONS, PASSES 3/4-INCH SIEVE; AND MINIMUM OF 60 PERCENT EXCLUDING NON-SLACKING FRACTIONS PASSES NO. 4 SIEVE. TEST ACCORDING TO TXDOT TEX-101-E, PART III USING DRY METHOD.
- 4. DO NOT EXPOSE HYDRATED LIME TO OPEN AIR FOR 6 HOURS OR MORE DURING INTERVAL BETWEEN APPLICATION AND MIXING. AVOID EXCESSIVE HYDRATED LIME LOSS DUE TO WASHING OR BLOWING.

COMPACTION:

- 1. AERATE OR SPRINKLE TO ATTAIN OPTIMUM MOISTURE CONTENT TO 3 PERCENT ABOVE OPTIMUM, AS DETERMINED BY ASTM D 698 ON MATERIAL SAMPLE FROM ROADWAY AFTER
- 2. START COMPACTION IMMEDIATELY AFTER FINAL MIXING.
- 3. DO NOT ALLOW STABILIZED SUBGRADE TO MIX WITH UNDERLYING MATERIAL. CORRECT IRREGULARITIES OR WEAK SPOTS IMMEDIATELY BY REPLACING MATERIAL AND RECOMPACTING.
- 4. COMPACT SUBGRADE TO MINIMUM DENSITY OF 95 PERCENT OF MAXIMUM DRY DENSITY, ACCORDING TO ASTM D 698, AT MOISTURE CONTENT OF OPTIMUM TO 3 PERCENT ABOVE OPTIMUM, UNLESS OTHERWISE INDICATED ON DRAWINGS.
- 5. SEAL WITH APPROVED LIGHT PNEUMATIC TIRED ROLLERS. PREVENT SURFACE HAIR LINE CRACKING. REWORK AND RECOMPACT AT AREAS WHERE HAIRLINE CRACKING DEVELOP.

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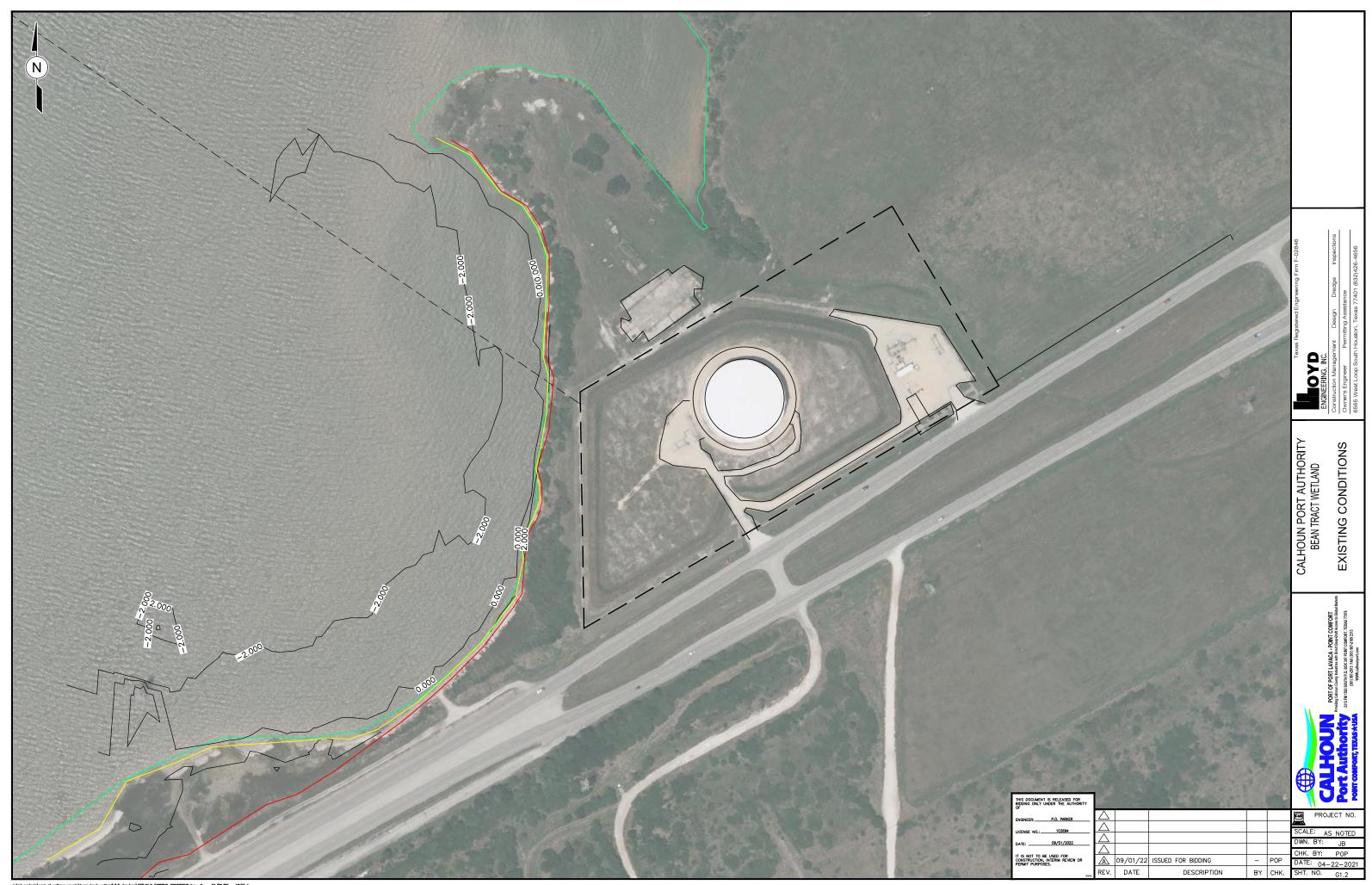
- 1. MOIST CURE FOR MINIMUM OF 3 DAYS BEFORE PLACING BASE OR SURFACE COURSE, OR OPENING TO TRAFFIC. SUBGRADE MAY BE OPENED TO TRAFFIC AFTER 2 DAYS WHEN ADEQUATE STRENGTH HAS BEEN ATTAINED TO PREVENT DAMAGE. RESTRICT TRAFFIC TO LIGHT PNEUMATIC ROLLERS OR VEHICLES WEIGHING LESS THAN 10 TONS.
- 2. PLACE BASE OR SURFACE WITHIN 14 DAYS AFTER FINAL MIXING AND COMPACTION. RESTART COMPACTION AND MOISTURE CONTENT OF BASE MATERIAL WHEN TIME IS EXCEEDED.

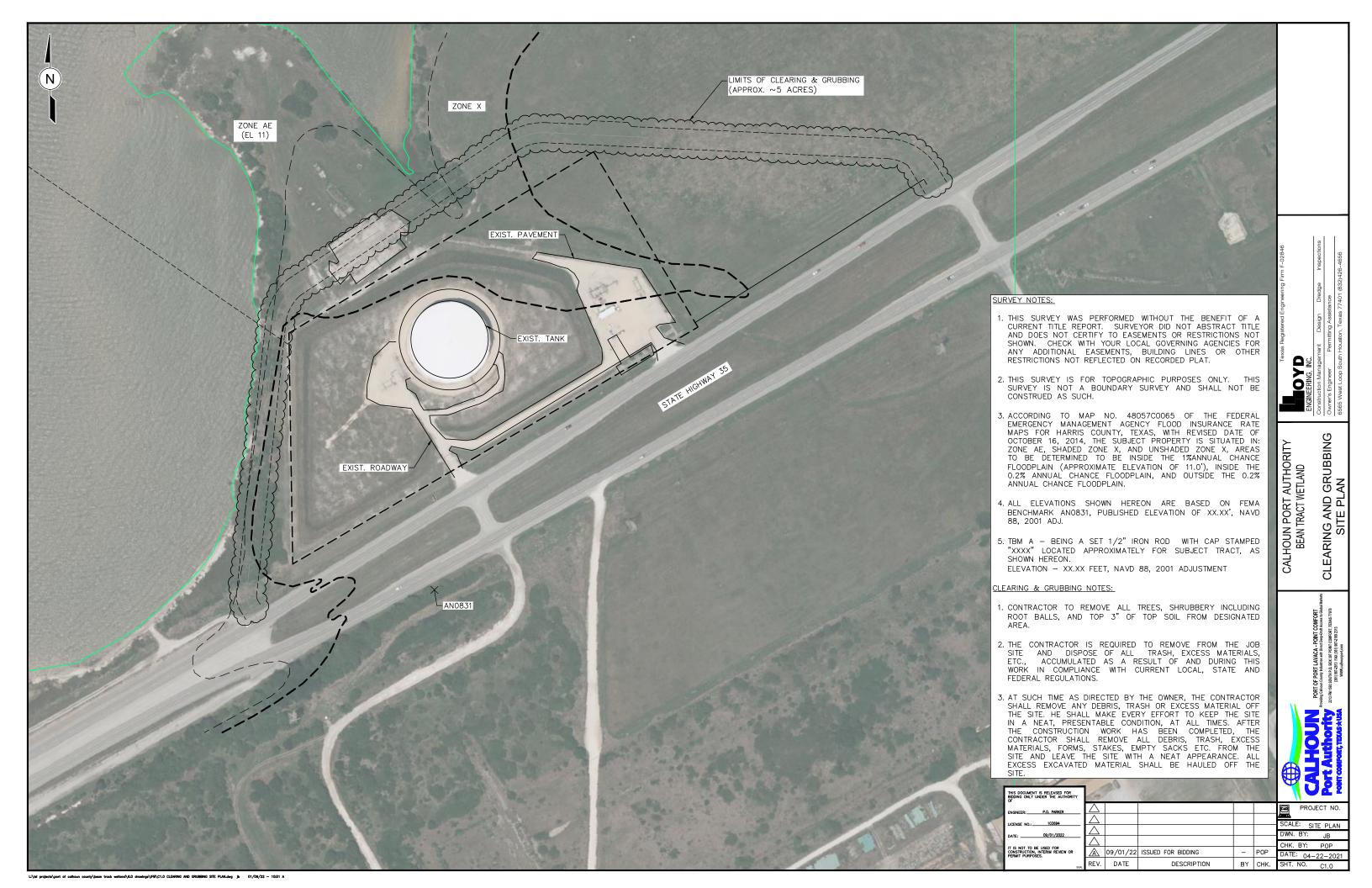
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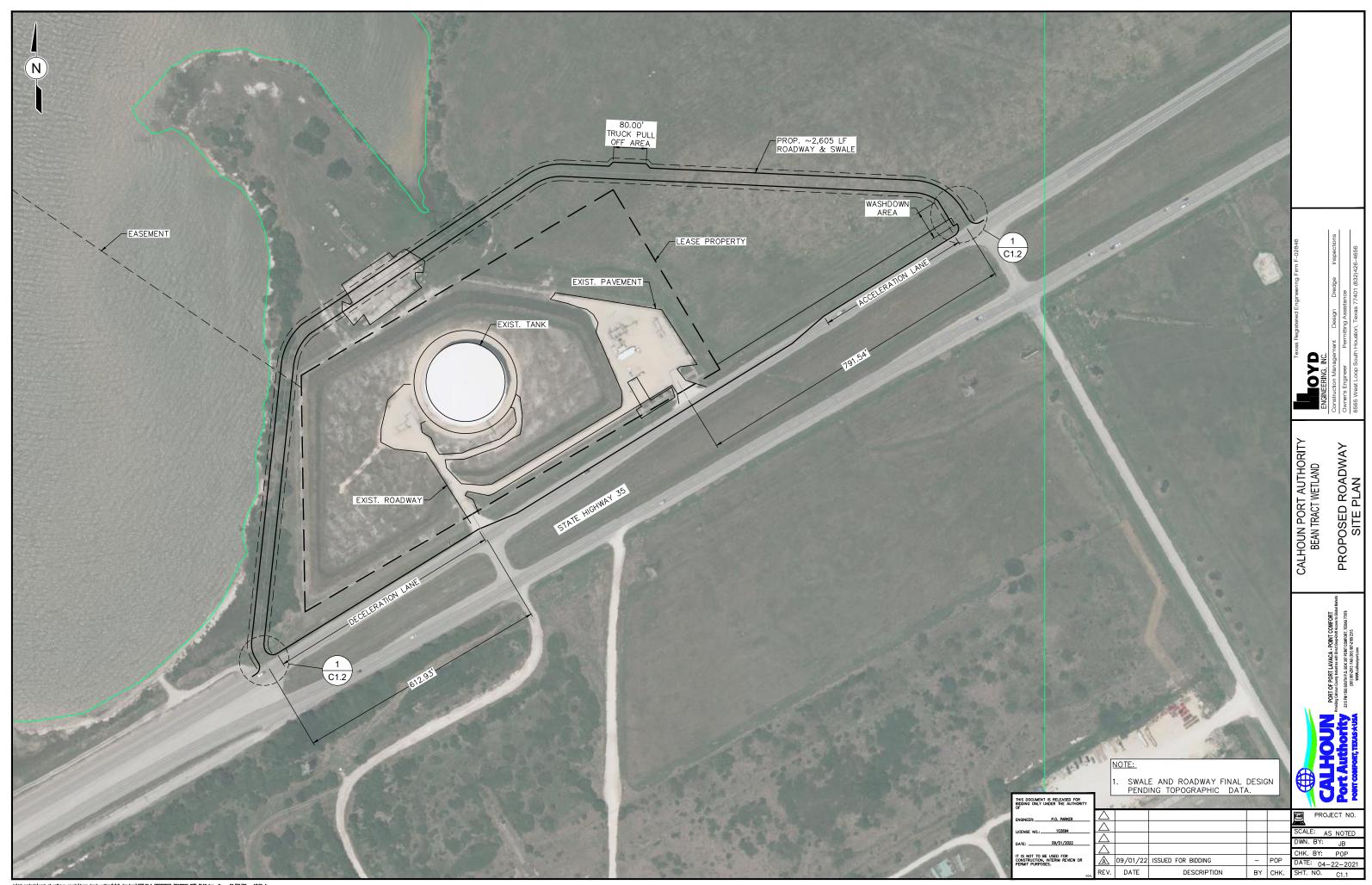
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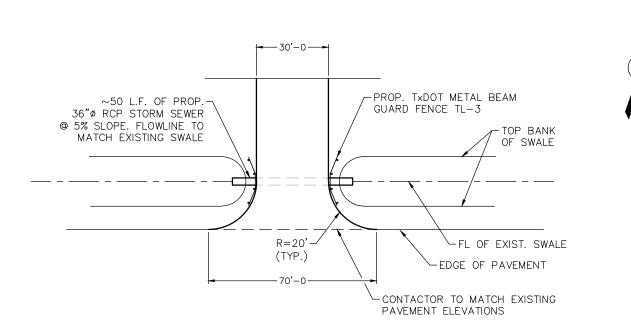
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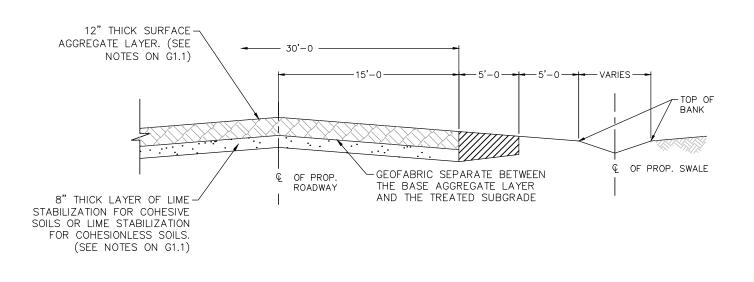






TYPICAL DRIVEWAY PLAN
C1.1 SCALE= HORZ 1:20, VERT 1:2

NOTES: CONTRACTOR TO SUBMIT INSTALLATION PLAN OF CULVERT TO PORT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. CULVERT TO BE INSTALLED PER TXDOT STANDARDS.

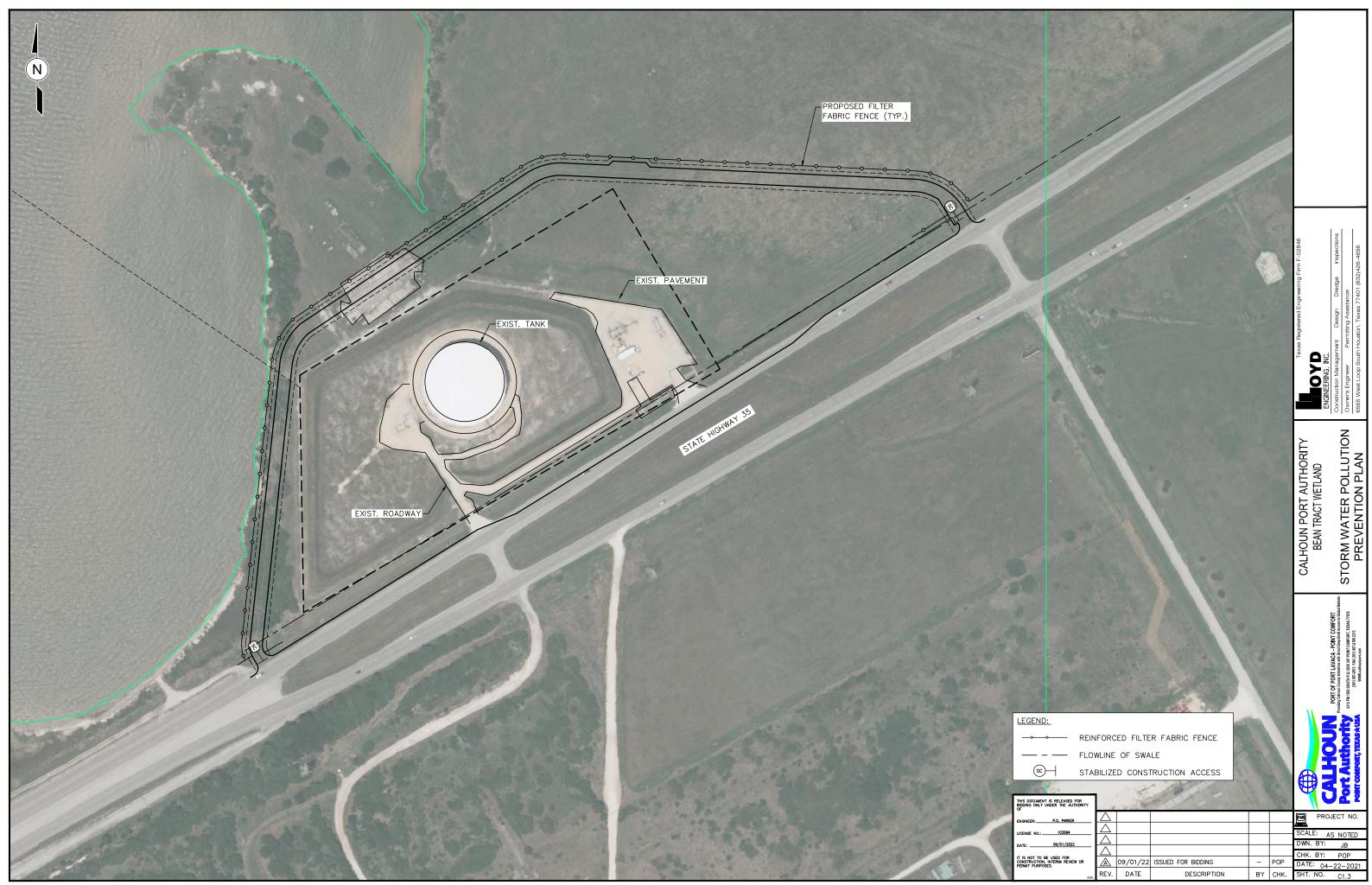


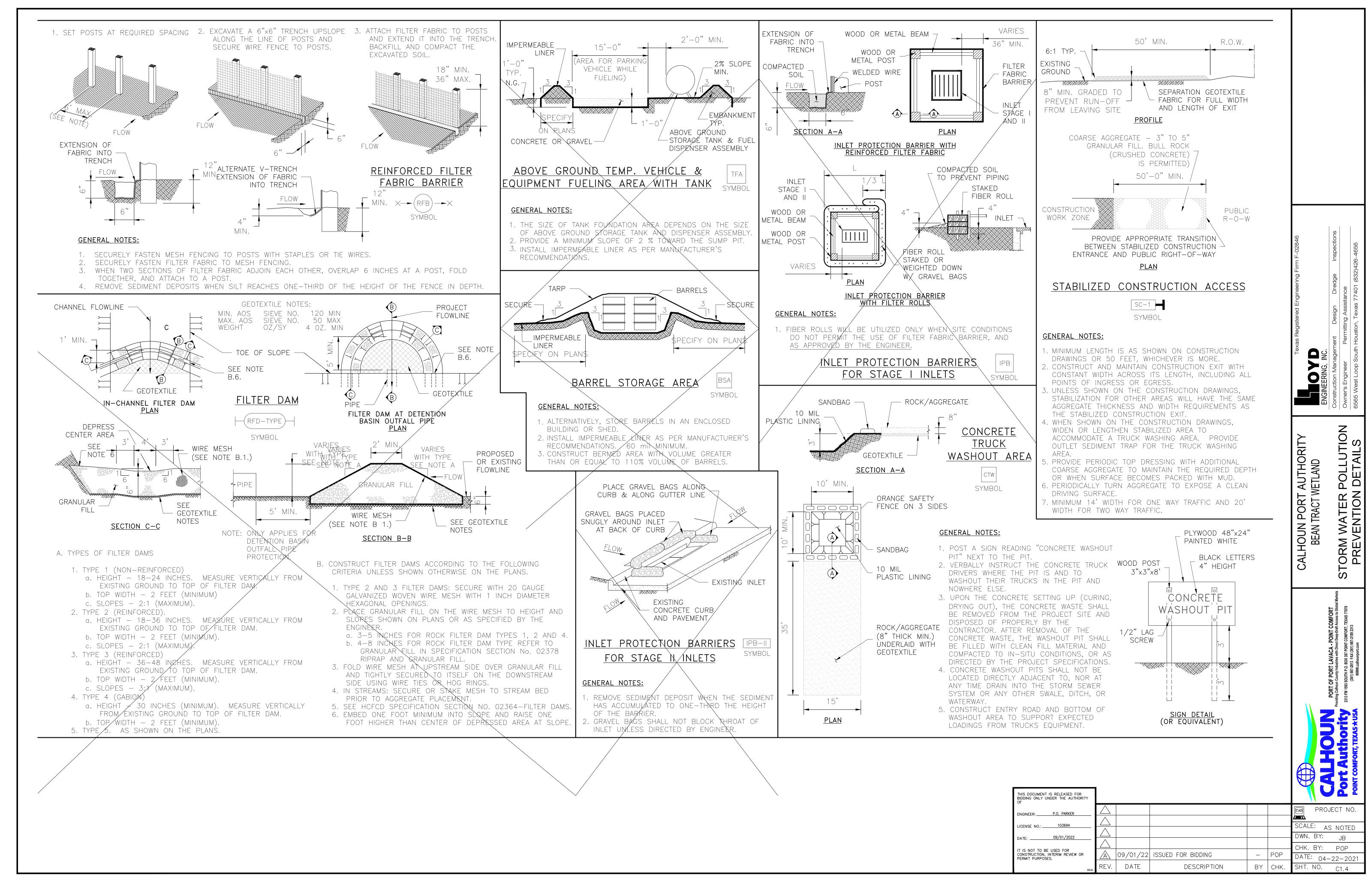
TYPICAL ROADWAY SECTION

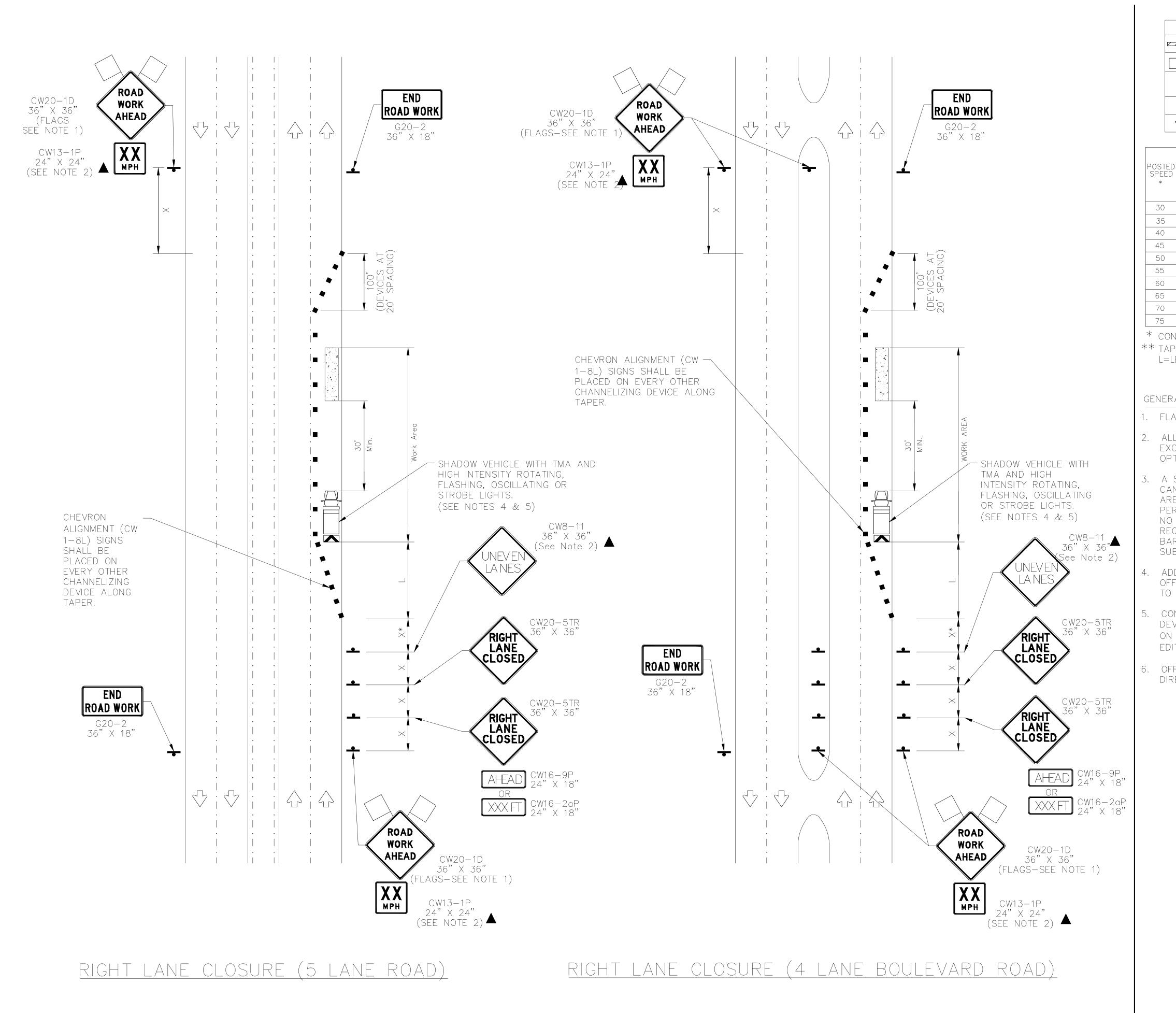
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CALHOUN PORT AUTHORITY BEAN TRACT WETLAND TYPICAL ROAD DETAILS

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	LEGEND											
	BARRICADE		CHANNELIZING DEVICES									
	HEAVY WORK VEHICLE		TRUCK MOUNTED ATTENUATOR (TMA)									
	TRAILER MOUNTED FLASHING ARROW BOAF	RD M	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)									
•	SIGN		TRAFFIC FLOW									
	FLAG	Lo	FLAGGER									

POSTED SPEED *			MINIMUM DESIRABLE TAPER LENGTHS "L" * *		SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES		MINIMUM SIGN SPACING "X"	SUGGESTED LONGITUDINAL BUFFER SPACE
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT	DISTANCE	"B"
30	2	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40	60	265'	295'	320'	40'	80'	240'	155'
45		450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55	L=WS	550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* CONVENTIONAL ROADS ONLY

** TAPER LENGTHS HAVE BEEN ROUNDED OFF.

L=LENGTH OF TAPER(FT) W=WIDTH OF OFFSET(FT) S=POSTED SPEED(MPH)

GENERAL NOTES

- 1. FLAGS ATTACHED TO SIGNS WHERE SHOWN ARE OPTIONAL.
- 2. ALL TRAFFIC CONTROL DEVICES ILLUSTRATED ARE REQUIRED, EXCEPT THOSE DENOTED WITH THE TRIANGLE SYMBOL ARE OPTIONAL.
- 3. A SHADOW VEHICLE WITH A TMA SHOULD BE USED ANYTIME IT CAN BE POSITIONED 30 TO 100 FEET IN ADVANCE OF THE AREA OF CREW EXPOSURE WITHOUT ADVERSELY AFFECTING THE PERFORMANCE OR QUALITY OF THE WORK. IF WORKERS ARE NO LONGER PRESENT BUT ROAD OR WORK CONDITIONS REQUIRE THE TRAFFIC CONTROL TO REMAIN IN PLACE, BARRICADES OR OTHER CHANNELIZING DEVICES MAY BE SUBSTITUTED FOR THE SHADOW VEHICLE AND TMA.
- 4. ADDITIONAL SHADOW VEHICLES WITH TMAS MAY BE POSITIONED OFF THE PAVED SURFACE, NEXT TO THOSE SHOWN IN ORDER TO PROTECT WIDER WORK SPACES.
- CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD — LATEST EDITION WITH REVISIONS) DURING CONSTRUCTION.
- 6. OFF DUTY POLICE OFFICERS/FLAGGERS ARE REQUIRED TO DIRECT TRAFFIC WHEN APPLICABLE.

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09/01/2022

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ENGINEER: P.O. PARKER

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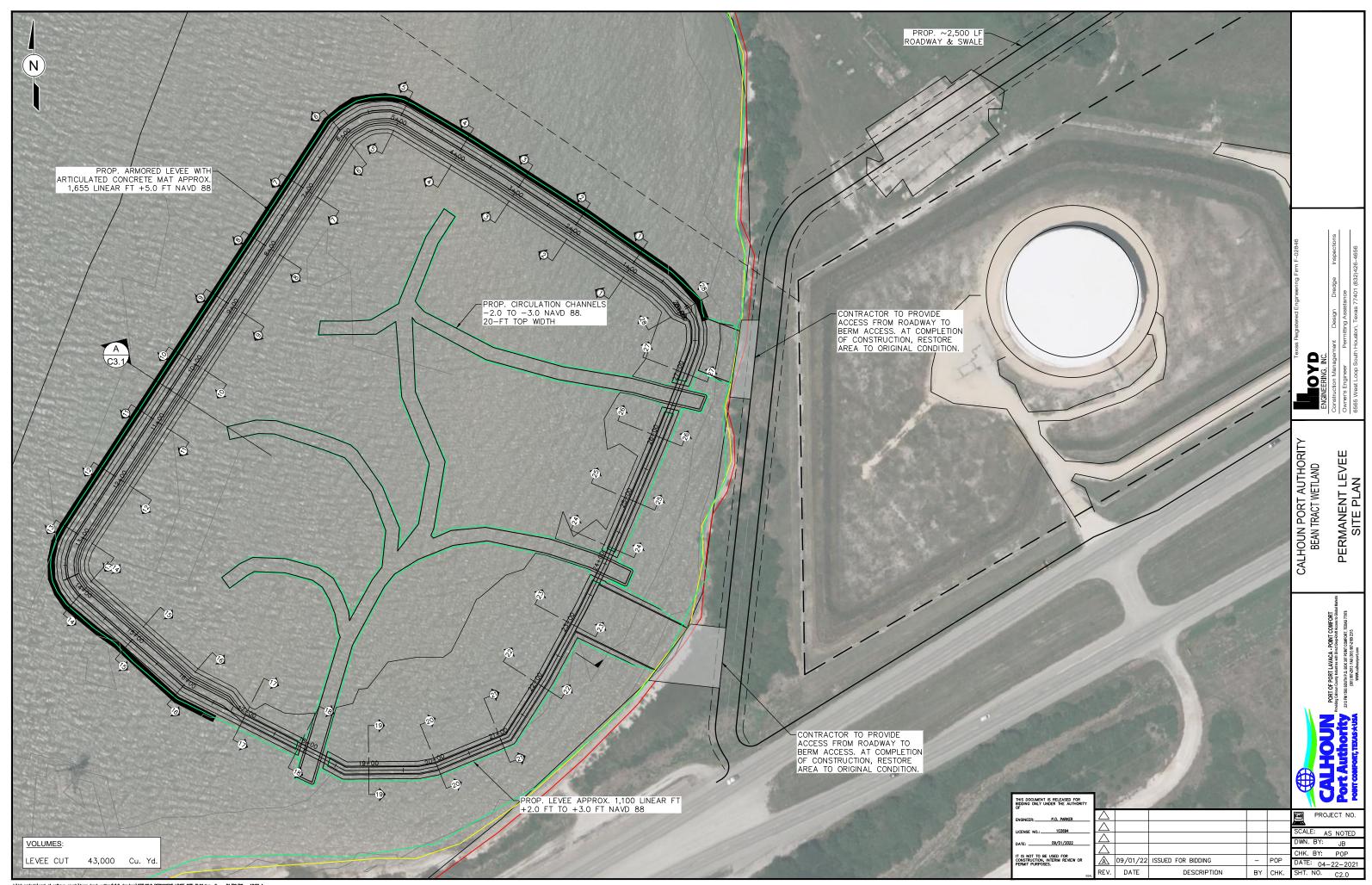
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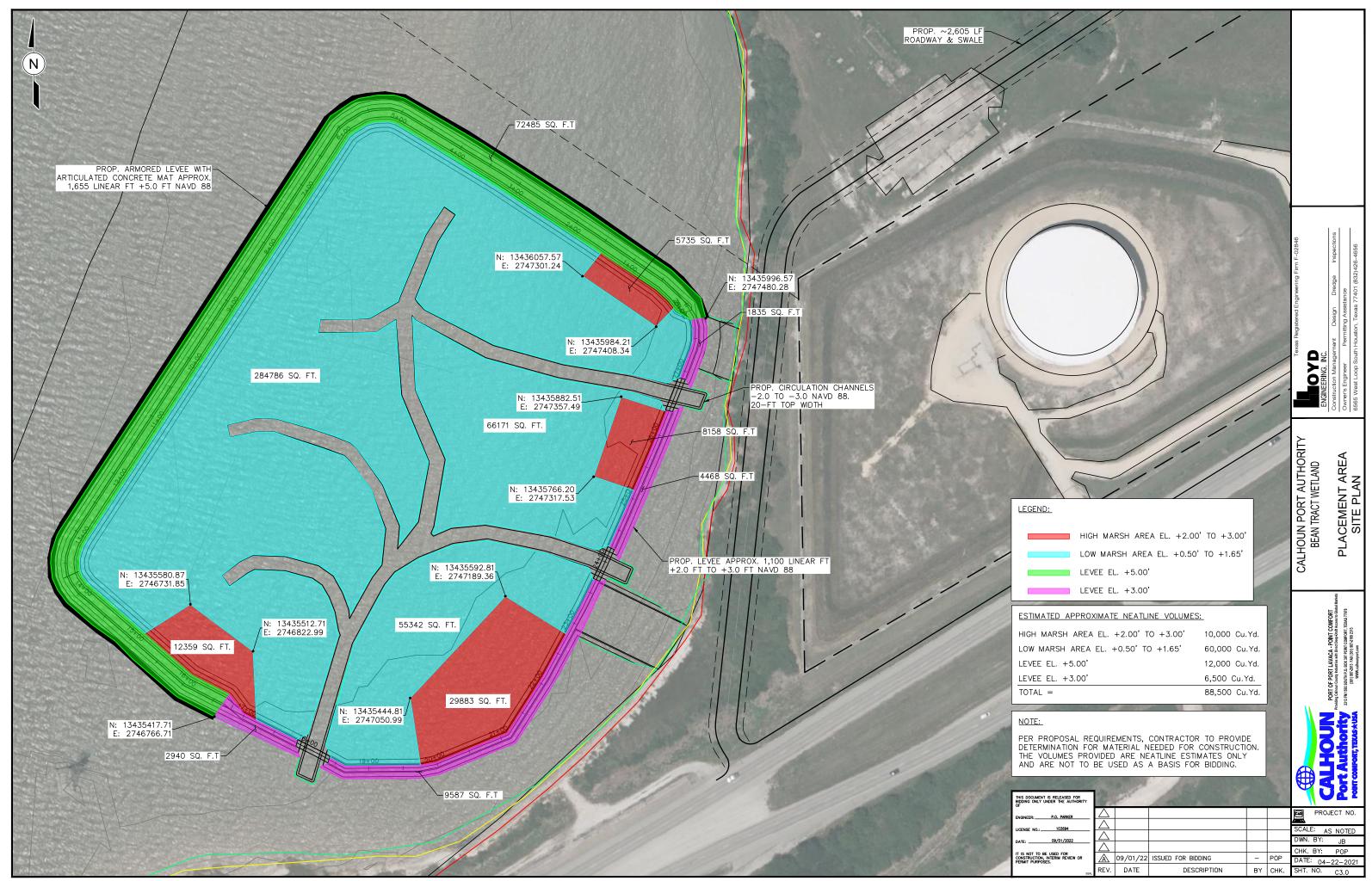
PROJECT NO. SCALE: AS NOTED DWN. BY: CHK. BY: POP

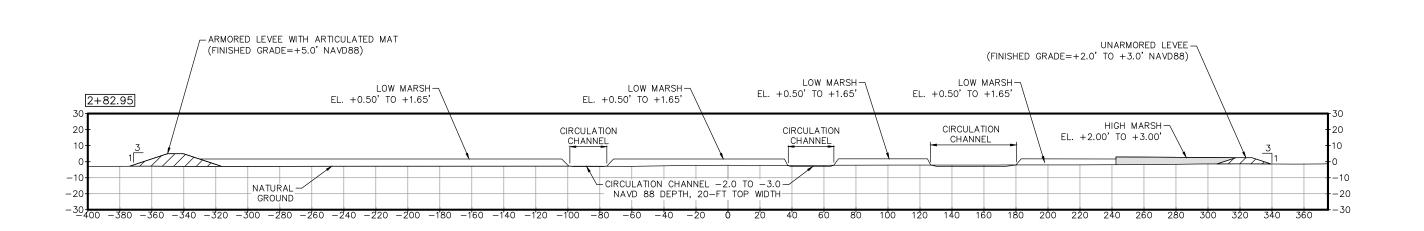
DATE: 04-22-2021 SHT. NO. C1.5

- POP

L:\lei projects\port of calhoun county\bean track wetland\6.0 drawings\IFB\C1.5 TRAFFIC CONTROL PLAN.dwg $\,$ jb $\,$ 01/09/22 - 10:02 A



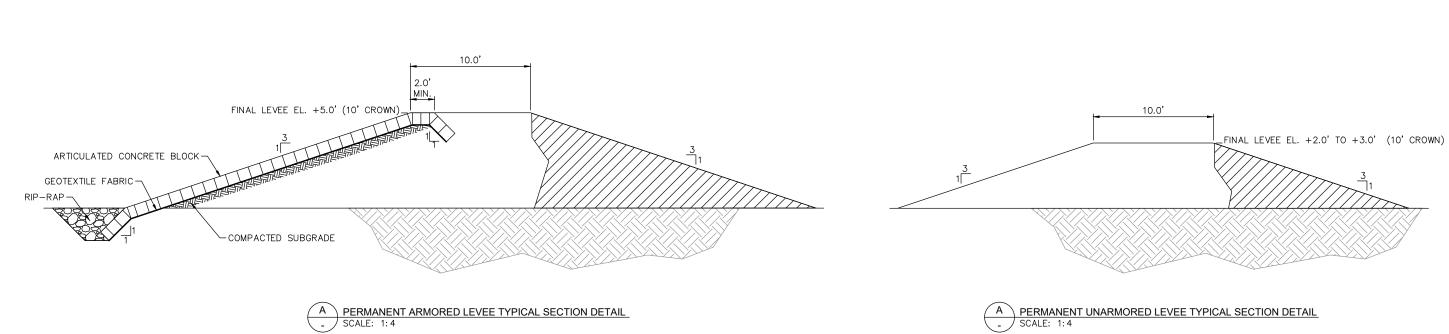




A TYPICAL OVERALL CROSS SECTION C2.0

PROJECT NO. SCALE: AS NOTED CHK. BY: POP IT IS NOT TO BE USED FOR CONSTRUCTION, INTERIM REVIEW OR PERMIT PURPOSES. DATE: 04-22-2021 A 09/01/22 ISSUED FOR BIDDING - POP REV. DATE DESCRIPTION BY CHK.

TYPICAL OVERALL SECTION CALHOUN PORT AUTHORITY
BEAN TRACT WETLAND



A PERMANENT UNARMORED LEVEE TYPICAL SECTION DETAIL
SCALE: 1:4

HORIZONTAL AND VERTICAL CONTROL:

- COORDINATES SHOWS ARE STATE PLANE GRID, TEXAS SOUTH ZONE, NAVD 1988 DATUM IN U.S. FEET.
- 2. ALL ELEVATIONS SHOWN REFER TO MLLW, MEAN LOWER LOW WATER DATUM, UNLESS NOTED OTHERWISE.

- 1. REMOVE AND DISPOSAL OF ALL DEBRIS FROM THE SLOPE AREA PRIOR TO PLACING THE NEW STONE.
- 2. CONTRACTOR TO SUBMIT CROSS SECTION AFTER THE WORK IS FINISHED TO ENGINEERS & OWNERS FOR APPROVAL.

DOCUMENT IS RELEASED FOR IG ONLY UNDER THE AUTHORITY						
EER: P.O. PARKER	\triangle					PROJECT NO.
SE NO.: 103694	$\stackrel{\triangle}{\wedge}$					SCALE: AS NOTED
09/01/2022						DWN. BY: JB CHK. BY: POP
NOT TO BE USED FOR TRUCTION, INTERIM REVIEW OR T PURPOSES.	\triangle	09/01/22	ISSUED FOR BIDDING	_	POP	DATE: 04-22-2021
SEAL	REV.	DATE	DESCRIPTION	BY	CHK.	SHT. NO. C3.2

L CROSS SECTION DETAILS

TYPICAL

CALHOUN PORT AUTHORITY
BEAN TRACT WETLAND

