



April 2, 2023

Mr. Otis Spriggs  
Director of Development Services  
City of Angleton  
121 S. Velasco  
Angleton, TX 77515

Re: On-Going Services  
Riverwood Ranch Section 3 Final Plat and Construction Plans – 1<sup>st</sup> Submittal Review  
Angleton, Texas  
HDR Job No. 10361761

Dear Mr. Spriggs:

HDR Engineering, Inc. (HDR) has reviewed the construction plans and final plat for the above referenced subdivision and offers the following comments:

Final Plat - Sheet 1 of 2

1. Show existing Riverwood Ranch Section 1 in grey scale or dashed lines.
2. Notate future Riverwood Ranch phases on Final plat.
3. Show existing Northview Subdivision Section 1 in grey scale or dashed lines.

Construction Plans

Sheet 9 – Plan & Profile Emma Street Sta. 10+00 to 15+60

1. Verify if overflow weir to extend into ROW where notated on the plans.
2. Revise water line offset (Sta. 14+00) shown to be more gradual deflection. Example shown on profile.

Sheet 10 – Plan & Profile Robin Street Sta. 1+60 to 4+20

1. Proposed water line is in conflict with proposed sanitary sewer near Sta. 3+15.

Sheet 14 – Plan & Profile Amy Street Sta. 0+00 to 3+20

1. Verify and update water surface elevations shown for 25yr and 100yr.

Sheet 24 – Paving Marking , Street Sign, and Roadway Lighting Layout

1. Update lighting to meet requirements found in Angleton LDC Sec.23-13 G. 1.b. See sheet for locations.
2. Update plan sheet to include all proposed striping including stop bar locations and striping on Buchta Road.

Sheet 40 – Residential Curb Construction Details SL-23

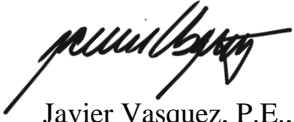
1. Revise subgrade section shown. 8-inch minimum to be used.

The proposed plat and plans are incomplete. We are unable to complete the review until the recommended corrections/changes are made and the additional information requested is submitted. HDR recommends that the Riverwood Ranch Section 3 Final Plat and Construction Plans be Revised and Resubmitted.

If you have any questions, please feel free to contact us at our office (713)-622-9264.

Sincerely,

HDR Engineering, Inc.

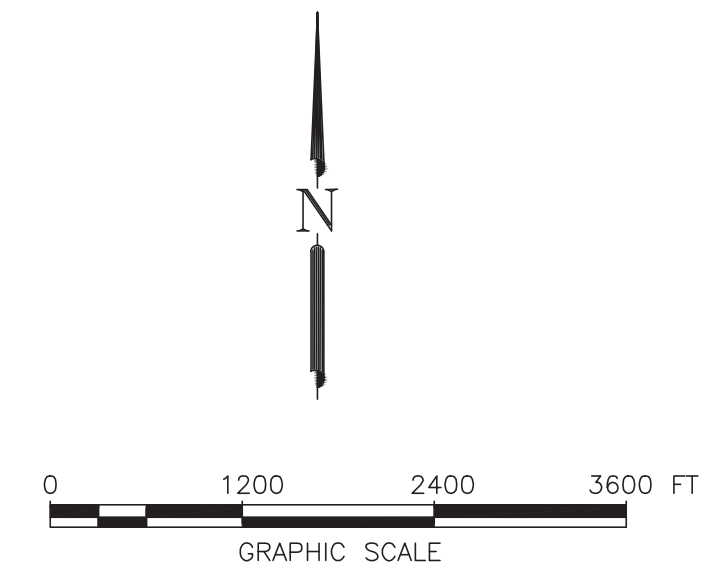
A handwritten signature in black ink, appearing to read 'Javier Vasquez', written in a cursive style.

Javier Vasquez, P.E., CFM  
Civil Engineer

cc: Files (10361761)

Attachments

# CONSTRUCTION OF PAVING, DRAINAGE AND UTILITIES ON RIVERWOOD RANCH SUBDIVISION SECTIONS 3 & 4 8 BLOCKS, 145 LOTS IN THE CITY OF ANGLETON BRAZORIA COUNTY B&L JOB No. 14396

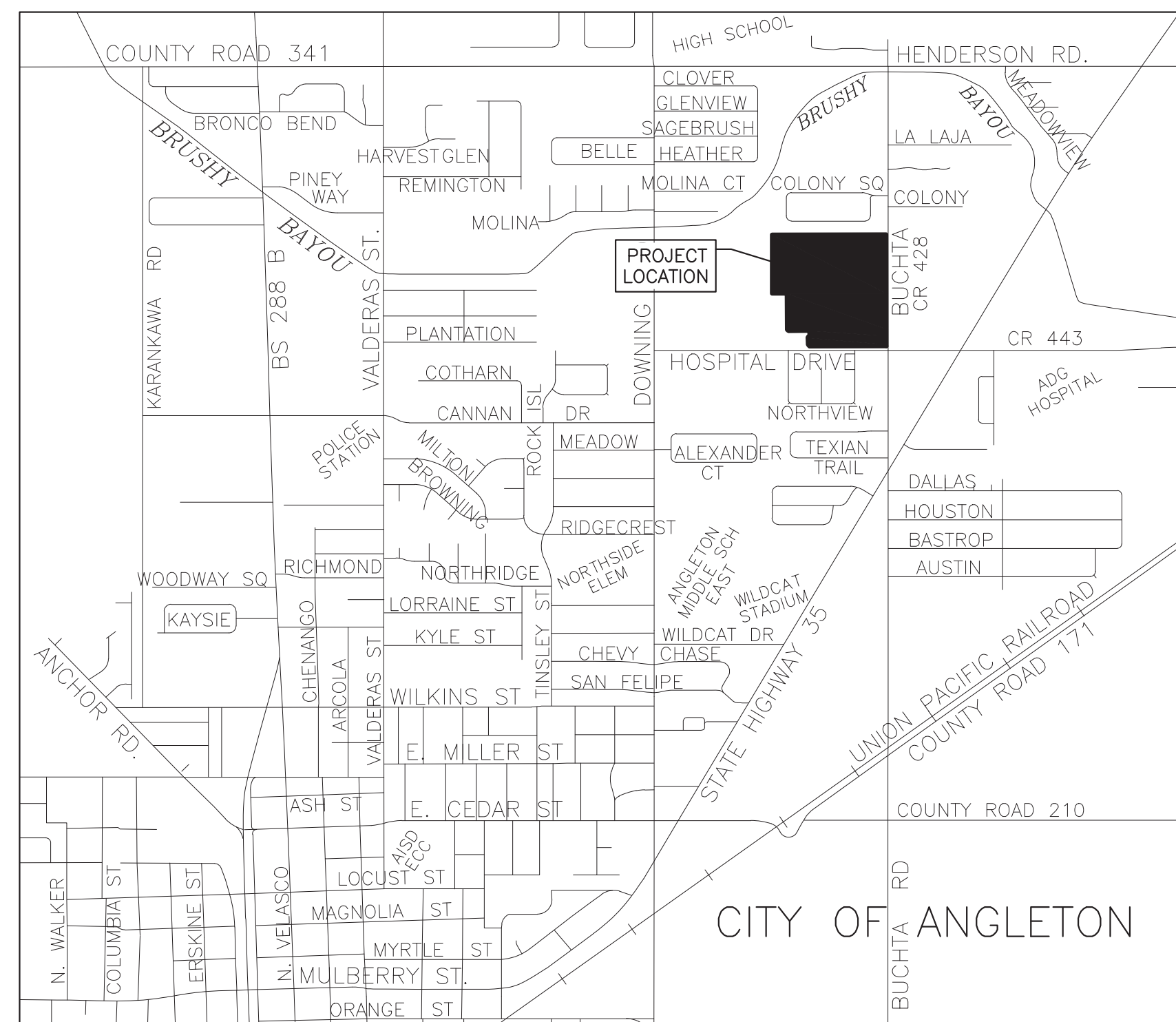


### INDEX OF DRAWINGS

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### CITY OF ANGLETON

**MAYOR**  
JASON PEREZ

**CITY MANAGER**  
CHRIS WHITTAKER

**CITY COUNCIL**

CHRISTIENE DANIEL  
CECIL BOOTH  
JOHN WRIGHT  
MARK GONGORA  
TRAVIS TOWNSEND

This subdivision lies within the Brushy Bayou Watershed.

"Release of this application does not constitute a verification of all data, information and calculations supplied by the applicant. The engineer of record is solely responsible for the completeness, accuracy and adequacy of their submittal, whether or not the application is reviewed for Code compliance by the City Engineer."

"All responsibility for the adequacy of these plans remains with the Engineer who prepared them. In approving these plans, the City of Angleton must rely on the adequacy of the work of the Design Engineer."

FLOOD ZONE STATEMENT: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR BRAZORIA COUNTY, MAP NUMBER 48039C0435K AND 48039C0445K, WITH EFFECTIVE DATE OF DECEMBER 30, 2020, THE PROPERTY SURVEYED LIES WITHIN ZONE "X" (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD-PLAIN. WARNING: THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR STRUCTURES WILL BE FREE FROM FLOODING OR FLOOD DAMAGE, AND WILL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	DR
DRAWN	BT
CHECKED	
DATE	

**BAKER & LAWSON, INC.**  
ENGINEERS • PLANNERS • SURVEYORS  
4905 TECHNOLOGY DRIVE, SUITE 1530  
ANGLETON, TEXAS 77515 (979) 849-6681  
REG. NO. F-825

The seal appearing on this document was authorized by Douglas B. Roesler P.E. 56739

OWNER:  
**RIVERWAY PROPERTIES**  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

TITLE SHEET

PROJECT NO. 14396

**FIELD NOTES FOR 35.620 ACRE TRACT**

BEING A 35.620 ACRE TRACT OF LAND, LOCATED IN THE T.S. LEE SURVEY, ABSTRACT NO. 318, IN BRAZORIA COUNTY, TEXAS, BEING A PORTION OF A CALLED 73.74 ACRE TRACT IN THE NAME RIVERWOOD RANCH LAND HOLDINGS, L.L.C. A TEXAS LIMITED LIABILITY COMPANY, AS RECORDED IN COUNTY CLERK'S FILE NO. (C.C.F.N.) 2020043779 OF THE OFFICIAL PUBLIC RECORDS BRAZORIA COUNTY TEXAS (O.P.R.B.C.T.), BEING REFERRED TO HEREIN AFTER AS THE ABOVE REFERENCED TRACT OF LAND, SAID 35.620 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS (BEARINGS ARE BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, (NAD83) SOUTH CENTRAL ZONE, PER GPS OBSERVATIONS):

BEGINNING AT 5/8-INCH CAPPED IRON ROD, STAMPED "BAKER & LAWSON" (CAPPED B.&L.), FOUND ON THE SOUTH LINE OF THE ABOVE REFERENCED TRACT, SAME BEING THE NORTH RIGHT-OF-WAY LINE OF HOSPITAL DRIVE (60' WIDE);

THENCE NORTHWESTERLY, OVER AND ACROSS SAID 73.74 ACRE TRACT, SAME BEING THE EAST LINE OF RIVERWOOD RANCH SUBDIVISION SECTION 2 (RIVERWOOD S/D SEC 2), THE FOLLOWING COURSES AND DISTANCES:

NORTH 47°52'30" WEST, A DISTANCE OF 28.28 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER;

NORTH 02°52'30" WEST, A DISTANCE OF 80.00 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER, SAID POINT BEING IN THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 20.00 FEET;

NORTHEASTERLY, ALONG THE ARC OF SAID CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 90°00'00" (THE CHORD BEARS NORTH 42°07'30" EAST, A DISTANCE OF 28.28 FEET) AN ARC DISTANCE OF 31.42 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER;

NORTH 87°07'30" EAST, A DISTANCE OF 11.50 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER;

NORTH 02°52'30" WEST, A DISTANCE OF 60.00 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER;

SOUTH 87°07'30" WEST, A DISTANCE OF 250.98 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER, SAID POINT BEING IN THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 20.00 FEET;

NORTHWESTERLY, ALONG THE ARC OF SAID CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 90°00'00" (THE CHORD BEARS NORTH 47°52'30" WEST, A DISTANCE OF 28.28 FEET) AN ARC DISTANCE OF 31.42 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER;

NORTH 02°52'30" WEST, A DISTANCE OF 405.00 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER;

SOUTH 87°07'30" WEST, A DISTANCE OF 170.00 FEET TO A 5/8-INCH IRON ROD CAPPED "B & L" FOUND FOR CORNER;

THENCE NORTH 02°52'31" WEST, CONTINUING OVER AND ACROSS SAID 73.74 ACRE TRACT, SAME BEING THE EAST LINE OF SAID RIVERWOOD S/D SEC 2 AND THE EAST LINE OF RIVERWOOD RANCH SUBDIVISION SECTION 1 (RIVERWOOD S/D SEC 1) AS RECORDED IN C.C.F.N. 2021015058 OF THE O.P.R.B.C.T., PASSING AT A DISTANCE OF 55.00 FEET THE SOUTHEAST CORNER OF SAID RIVERWOOD S/D SEC 1, CONTINUING A TOTAL DISTANCE OF 685.00 FEET TO A 5/8-INCH IRON ROD CAPPED B.&L. FOUND FOR THE NORTHWEST CORNER OF SAID 35.620 ACRE TRACT, SAME BEING ON THE NORTH LINE OF THE ABOVE REFERENCED TRACT, THE SOUTH LINE OF COLONY SQUARE SUBDIVISION, AS RECORDED IN VOLUME 16, PAGE 321 OF THE BRAZORIA COUNTY PLAT RECORDS AND THE NORTHEAST CORNER OF SAID RIVERWOOD S/D SEC 1;

THENCE NORTH 87°07'30" EAST, ALONG THE NORTH LINE OF THE ABOVE REFERENCED TRACT OF LAND, SAME BEING THE SOUTH LINE OF SAID COLONY SQUARE SUBDIVISION, A DISTANCE OF 1,317.70 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "PINPOINT" FOUND FOR THE NORTHEAST CORNER OF THE ABOVE REFERENCED TRACT OF LAND, SAME BEING ON THE WEST RIGHT-OF-WAY LINE OF BUCHTA ROAD (60' WIDE);

THENCE SOUTH 02°52'30" EAST, ALONG THE EAST LINE OF THE ABOVE REFERENCED TRACT OF LAND, SAME BEING THE EAST RIGHT-OF-WAY LINE OF SAID BUCHTA ROAD, A DISTANCE OF 1,290.00 FEET TO A 5/8-INCH CAPPED IRON ROD, CAPPED B.&L. SET FOR THE SOUTHEAST CORNER OF THE ABOVE REFERENCED TRACT, SAME BEING ON SAID NORTH RIGHT-OF-WAY LINE OF HOSPITAL DRIVE;

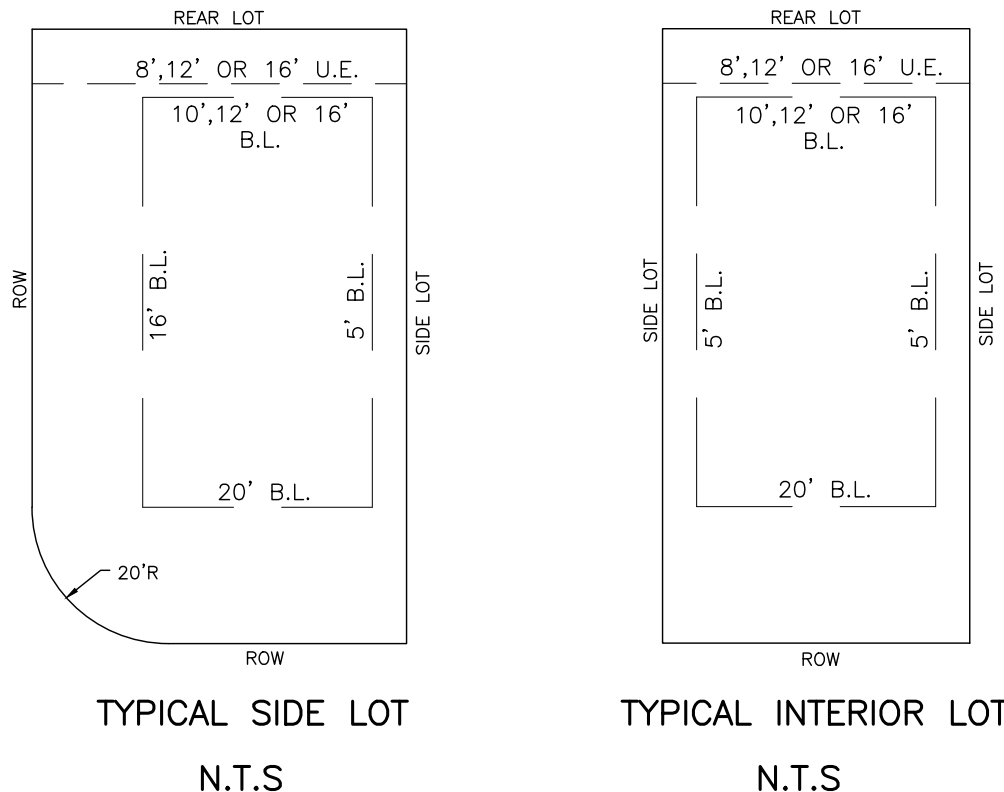
THENCE SOUTH 87°07'30" WEST, ALONG THE SOUTH LINE OF THE ABOVE REFERENCED TRACT OF LAND, SAME BEING THE NORTH RIGHT-OF-WAY LINE OF SAID HOSPITAL DRIVE, A DISTANCE OF 888.21 FEET TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT, CONTAINING 35.620 ACRES OF LAND, MORE OR LESS.

Curve Table				
Curve No.	Length	Radius	Delta	Chord Bearing
C1	31.42'	20.00'	90°00'00"	N42°07'30"E
C2	31.42'	20.00'	90°00'00"	N47°52'30"W
C3	78.54'	50.00'	90°00'04"	N42°07'32"E
C4	78.54'	50.00'	90°00'00"	N47°52'30"W
C5	78.54'	50.00'	90°00'00"	S42°07'30"W
C6	31.42'	20.00'	90°00'00"	N42°07'30"E
C7	31.42'	20.00'	90°00'00"	N47°52'30"W
C8	10.48'	20.00'	30°01'29"	S72°06'45"W
C9	130.94'	50.00'	150°02'59"	N47°52'30"W
C10	10.48'	20.00'	30°01'29"	N12°08'14"E
C11	31.42'	20.00'	90°00'00"	N47°52'30"W
C12	31.42'	20.00'	90°00'00"	S42°07'30"E
C13	10.48'	20.00'	30°01'29"	N17°53'15"W
C14	130.94'	50.00'	150°02'59"	N42°07'30"E
C15	10.48'	20.00'	30°01'29"	S77°51'46"E
C16	31.42'	20.00'	90°00'00"	N42°07'30"E
C17	31.42'	20.00'	90°00'00"	S47°52'30"E
C18	44.63'	30.00'	85°14'11"	N39°44'35"E
C19	47.12'	30.00'	90°00'00"	S47°52'30"E

Curve Table				
Curve No.	Length	Radius	Delta	Chord Bearing
C20	47.12'	30.00'	90°00'00"	S42°07'30"W
C21	44.63'	30.00'	85°14'11"	N45°29'36"W
C22	31.42'	20.00'	90°00'00"	S42°07'30"W
C23	10.48'	20.00'	30°01'29"	S17°53'15"E
C24	130.94'	50.00'	150°02'59"	S42°07'30"W
C25	10.48'	20.00'	30°01'29"	N77°51'46"W
C26	23.81'	50.00'	27°16'52"	S70°44'26"W
C27	46.06'	50.00'	52°46'37"	N69°13'49"W
C28	50.53'	50.00'	57°53'51"	N13°53'35"W
C29	10.55'	50.00'	12°05'39"	N21°06'10"E
C30	29.72'	50.00'	34°03'12"	N15°52'24"W
C31	37.36'	50.00'	42°48'24"	N22°33'24"E
C32	36.06'	50.00'	41°19'24"	N64°37'19"E
C33	27.81'	50.00'	31°51'58"	S78°47'00"E
C34	2.35'	50.00'	2°41'52"	S31°33'04"E
C35	41.46'	50.00'	47°30'51"	S06°26'42"E
C36	34.74'	50.00'	39°48'52"	S37°13'10"W
C37	47.75'	50.00'	54°43'17"	S84°29'15"W
C38	4.63'	50.00'	5°18'06"	N65°30'04"W

LINE TABLE		
Line No.	Length	Direction
L1	28.28'	N47°52'30"W
L2	80.00'	N02°52'30"E
L3	11.50'	N87°07'30"E
L4	60.00'	N02°52'30"W
L5	28.28'	S47°52'30"E
L6	70.00'	N87°07'30"E
L7	60.00'	N87°49'17"E
L8	60.00'	S86°25'43"W
L9	70.00'	S87°07'29"W
L10	28.28'	S42°07'31"W
L11	120.00'	S02°52'30"E

BLOCK 1 SECTION 3			BLOCK 2 SECTION 3			BLOCK 3 SECTION 3			BLOCK 4 SECTION 3		
LOT NO.	AREA S.F.	PARCEL TABLE	LOT NO.	AREA S.F.	PARCEL TABLE	LOT NO.	AREA S.F.	PARCEL TABLE	LOT NO.	AREA S.F.	PARCEL TABLE
1	7,112	1	6,160	1	7,234	21	6,000	1	7,200	1	7,200
2	5,950	2	5,500	2	6,000	22	6,000	2	7,200	2	7,200
3	5,950	3	5,500	3	6,000	23	8,194	3	7,200	3	7,200
4	5,950	4	5,515	4	6,000	24	6,000	4	7,200	4	7,200
5	5,950	5	10,361	5	6,000	25	6,000	5	7,954	5	7,954
6	5,950	6	10,975	6	6,000	26	6,000	6	7,200	6	7,200
7	5,950	7	5,796	7	6,000	27	6,000	7	7,200	7	7,200
8	5,926	8	6,000	8	6,000	28	5,833	8	7,200	8	7,200
9	6,668	9	6,000	9	7,200	29	14,158	9	7,200	9	7,200
10	14,121	10	6,000	10	7,200	30	11,652	10	7,200	10	7,200
11	7,786	11	7,234	11	9,034	31	5,943	11	7,200	11	7,200
12	7,184			12	6,360	32	6,000				
13	6,000			13	6,000	33	6,000				
14	6,000			14	6,000	34	6,000				
15	8,910			15	6,000	35	6,000				
				16	6,000	36	7,234				
				17	6,000						
				18	6,000						
				19	7,200						
				20	8,434						



PROPOSED STREETS		
STREET NAME	R.O.W. WIDTH	TOTAL LENGTH
EMMA STREET	60' TO 90'	1,523.24
AMY STREET	60'	1,185.60

RESERVE TABLE			
SYMBOL	DESCRIPTION	RESERVE USE	AREA
(A)	RESIDENTIAL RESERVE "A"	RESTRICTED TO RESIDENTIAL USE	13.052 AC.
(B)	RESIDENTIAL RESERVE "B"	RESTRICTED TO RESIDENTIAL USE	2.865 AC.
(C)	DRAINAGE RESERVE "C"	RESTRICTED TO DRAINAGE AND UTILITY USE	4.932 AC.
(D)	LANDSCAPE RESERVE "D"	RESTRICTED TO LANDSCAPE USE	0.032 AC.
(E)	LANDSCAPE RESERVE "E"	RESTRICTED TO LANDSCAPE USE	0.018 AC.

**SHEET 1 OF 2**

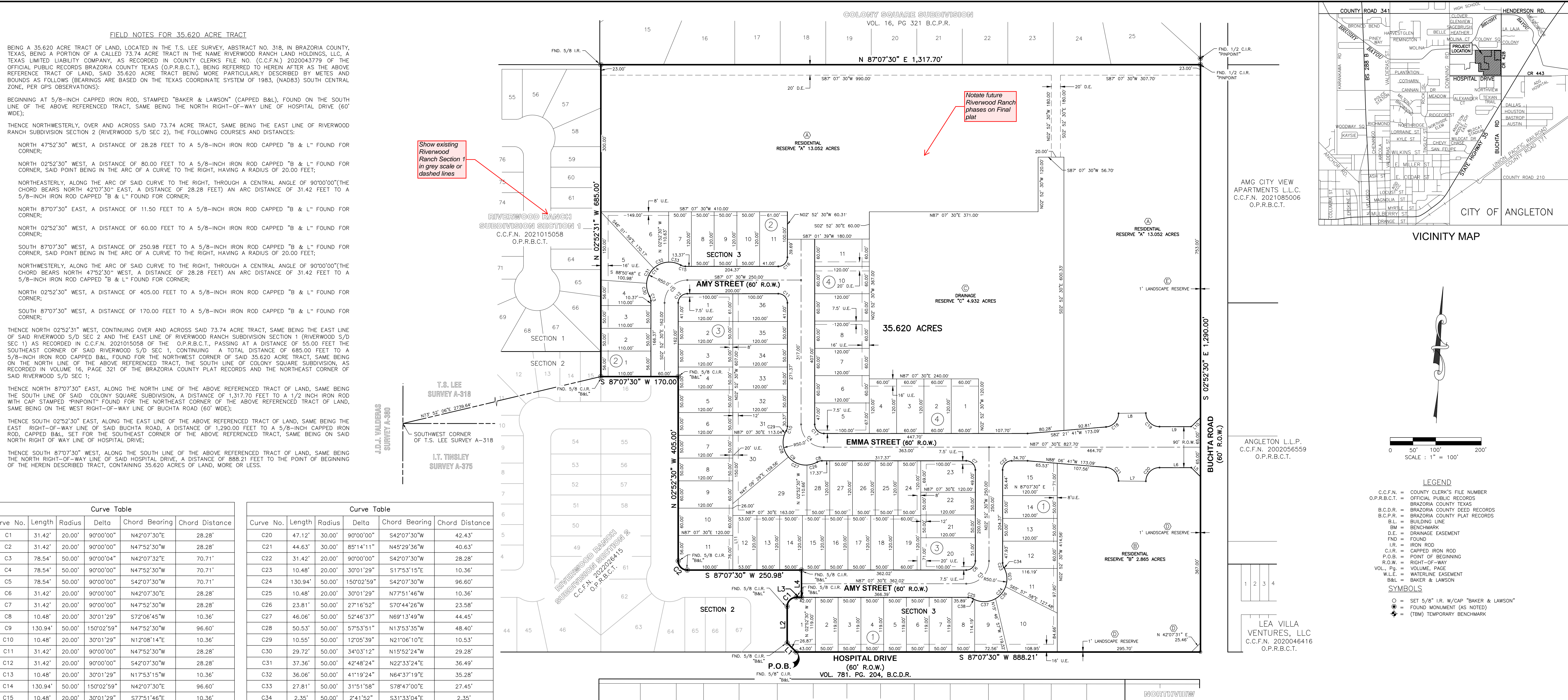
**FINAL PLAT**  
**RIVERWOOD RANCH SUBDIVISION**  
**SECTION 3**  
**A 35.620 ACRES**  
**73 LOTS 4 BLOCKS 5 RESERVE SUBDIVISION**  
**BEING A PORTION OF A CALLED 73.74 ACRE TRACT AS**  
**RECORDED IN C.C.F.N. 2020043779**  
**OF THE O.P.R.B.C.T.**

**LOCATED IN THE**  
**THEODORE S. LEE SURVEY**  
**ABSTRACT NO. 318**  
**CITY OF ANGLETON**  
**BRAZORIA COUNTY, TEXAS**

**4005 TECHNOLOGY DR., SUITE 1530**  
**ANGLETON, TEXAS 77515**  
**OFFICE: (979) 849-6681**  
**TBPELS No. 10052500 REG. NO. F-825**

**OWNERS:**  
**JOHN SANTASIERO**  
**RIVERWOOD RANCH L.L.C.**  
**1027 YALE STREET**  
**HOUSTON, TEXAS 77008**

PROJECT NO.: 14396	SCALE: 1" = 100'	DRAWN BY: BT
DRAWING NO.: 14396 PLAT SEC 3	DATE: 3/1/2023	CHECKED BY: DH



OWNER'S ACKNOWLEDGEMENT:

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS: THAT JOHN SANTASIERO, PRESIDENT OF RIVERWOOD RANCH LLC, A TEXAS LIMITED LIABILITY COMPANY, ACTING HEREIN BY AND THROUGH ITS DULY AUTHORIZED OFFICERS, DOES HEREBY ADOPT THIS PLAT DESIGNATING THE HEREINAbove DESCRIBED PROPERTY AS RIVERWOOD RANCH, SECTION 3, A SUBDIVISION IN THE JURISDICTION OF THE CITY OF ANGLETON, TEXAS, AND DOES HEREBY DEDICATE, IN FEE SIMPLE, TO THE PUBLIC USE FOREVER, THE STREETS, ALLEYS AND PUBLIC PARKLAND SHOWN THEREON. THE STREETS, ALLEYS AND PARKLAND ARE DEDICATED FOR STREET PURPOSES. THE EASEMENTS AND PUBLIC USE AREAS, AS SHOWN, ARE DEDICATED FOR THE PUBLIC USE FOREVER, FOR THE PURPOSES INDICATED ON THIS PLAT. NO BUILDINGS, FENCES, TREES, SHRUBS, OR OTHER IMPROVEMENTS OR GROWTHS SHALL BE CONSTRUCTED OR PLACED UPON, OVER, OR ACROSS THE EASEMENTS AS SHOWN, EXCEPT THAT LANDSCAPE IMPROVEMENTS MAY BE PLACED IN LANDSCAPE EASEMENTS, IF APPROVED BY THE CITY OF ANGLETON. IN ADDITION, UTILITY EASEMENTS MAY ALSO BE USED FOR THE MUTUAL USE AND ACCOMMODATION OF ALL PUBLIC UTILITIES DESIRING TO USE OR USING THE SAME UNLESS THE EASEMENT LIMITS THE USE TO PARTICULAR UTILITIES, SAID USE BY PUBLIC UTILITIES BEING SUBORDINATE TO THE PUBLIC'S AND CITY OF ANGLETON'S USE THEREOF. THE CITY OF ANGLETON AND PUBLIC UTILITY ENTITIES SHALL HAVE THE RIGHT TO REMOVE AND KEEP REMOVED ALL OR PARTS OF ANY BUILDINGS, FENCES, TREES, SHRUBS, OR OTHER IMPROVEMENTS OR GROWTHS WHICH MAY IN ANY WAY ENDANGER OR INTERFERE WITH THE CONSTRUCTION, MAINTENANCE, OR EFFICIENCY OF THEIR RESPECTIVE SYSTEMS IN SAID EASEMENTS. THE CITY OF ANGLETON AND PUBLIC UTILITY ENTITIES SHALL AT ALL TIMES HAVE THE FULL RIGHT OF INGRESS AND EGRESS TO OR FROM THEIR RESPECTIVE EASEMENTS FOR THE PURPOSE OF CONSTRUCTING, RECONSTRUCTING, INSPECTING, PATROLLING, MAINTAINING, READING METERS, AND ADDING TO OR REMOVING ALL OR PARTS OF THEIR RESPECTIVE SYSTEMS WITHOUT THE NECESSITY AT ANY TIME OF PROCURING PERMISSION FROM ANYONE.

OWNER'S ACKNOWLEDGEMENT:

STATE OF TEXAS §  
COUNTY OF BRAZORIA §

THE OWNER OF LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

\_\_\_\_\_  
JOHN SANTASIERO, PRESIDENT  
RIVERWOOD RANCH LLC, A TEXAS LIMITED LIABILITY COMPANY

STATE OF TEXAS §  
COUNTY OF BRAZORIA §

BEFORE ME THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED JOHN SANTASIERO, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THE SAME WAS THE ACTING OWNER FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MY COMMISSION EXPIRES \_\_\_\_\_

PLANNING AND ZONING COMMISSION AND CITY COUNCIL:

APPROVED THIS \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_ BY THE PLANNING AND ZONING COMMISSION, CITY OF ANGLETON, TEXAS.

\_\_\_\_\_  
BILL GARWOOD, CHAIRMAN, PLANNING AND ZONING COMMISSION

CITY SECRETARY

APPROVED THIS \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_ BY THE CITY COUNCIL, CITY OF ANGLETON, TEXAS.

\_\_\_\_\_  
JASON PEREZ, MAYOR

CITY SECRETARY

STATE OF TEXAS §  
COUNTY OF BRAZORIA §

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

MY COMMISSION EXPIRES \_\_\_\_\_

DRAINAGE AND DETENTION EASEMENT

THIS PLAT IS HEREBY ADOPTED BY THE OWNERS AND APPROVED BY THE CITY OF ANGLETON (CALLED "CITY") SUBJECT TO THE FOLLOWING CONDITIONS WHICH SHALL BE BINDING UPON THE OWNERS, THEIR HEIRS, GRANTEEES AND SUCCESSORS: THE PORTION OF BLOCK 1, AS SHOWN ON THE PLAT IS CALLED "DRAINAGE AND DETENTION EASEMENT". THE DRAINAGE AND DETENTION EASEMENT WITHIN THE LIMITS OF THIS ADDITION, WILL REMAIN OPEN AT ALL TIMES AND WILL BE MAINTAINED IN A SAFE AND SANITARY CONDITION BY THE OWNERS OF THE LOT OR LOTS THAT ARE TRAVERSED BY OR ADJACENT TO THE DRAINAGE AND DETENTION EASEMENT. THE CITY WILL NOT BE RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF SAID EASEMENT OR FOR ANY DAMAGE TO PRIVATE PROPERTY OR PERSON THAT RESULTS FROM CONDITIONS IN THE EASEMENT, OR FOR THE CONTROL OF EROSION. NO OBSTRUCTION TO THE NATURAL FLOW OF STORMWATER RUN-OFF SHALL BE PERMITTED BY CONSTRUCTION OF ANY TYPE OF BUILDING, FENCE, OR ANY OTHER STRUCTURE WITHIN THE DRAINAGE AND DETENTION EASEMENT AS HEREINAbove DEFINED, UNLESS APPROVED BY THE CITY ENGINEER. PROVIDED, HOWEVER, IT IS UNDERSTOOD THAT IN THE EVENT IT BECOMES NECESSARY FOR THE CITY TO ERECT OR CONSIDER ERECTING ANY TYPE OF DRAINAGE STRUCTURE IN ORDER TO IMPROVE THE STORM DRAINAGE THAT MAY BE OCCASIONED BY THE CITY SHALL HAVE THE RIGHT TO ENTER UPON THE DRAINAGE AND DETENTION EASEMENT AT ANY POINT, OR POINTS, TO INVESTIGATE, SURVEY OR TO ERECT, CONSTRUCT AND MAINTAIN ANY DRAINAGE FACILITY DEEMED NECESSARY FOR DRAINAGE PURPOSES. EACH PROPERTY OWNER SHALL KEEP THE DRAINAGE AND DETENTION EASEMENT CLEAN AND FREE OF DEBRIS, SLT, AND ANY SUBSTANCE WHICH WOULD RESULT IN UNSANITARY CONDITIONS OR OBSTRUCT THE FLOW OF WATER, AND THE CITY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS FOR THE PURPOSE OF INSPECTION AND SUPERVISION OF MAINTENANCE WORK BY THE PROPERTY OWNER TO ALLEVIATE ANY UNDESIRABLE CONDITIONS WHICH MAY OCCUR. THE NATURAL DRAINAGE THROUGH THE DRAINAGE AND DETENTION EASEMENT IS SUBJECT TO STORM WATER OVERFLOW AND NATURAL BANK EROSION TO AN EXTENT WHICH CANNOT BE DEFINITELY DEFINED. THE CITY SHALL NOT BE HELD LIABLE FOR ANY DAMAGES OF ANY NATURE RESULTING FROM THE OCCURRENCE OF THESE NATURAL PHENOMENA, OR RESULTING FROM THE FAILURE OF ANY STRUCTURE, OR STRUCTURES, WITHIN THE EASEMENT.

ANGLETON DRAINAGE DISTRICT

ACCEPTED THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, BY THE ANGLETON DRAINAGE DISTRICT.

THE BOARD OF SUPERVISORS OF THE ANGLETON DRAINAGE DISTRICT DOES NOT WARRANT, REPRESENT OR GUARANTEE:

1. THAT DRAINAGE FACILITIES OUTSIDE THE BOUNDARIES OF THE SUBDIVISION PLAT ARE AVAILABLE TO RECEIVE RUNOFF FROM THE FACILITIES DESCRIBED IN THIS PLAT.
2. THAT DRAINAGE FACILITIES DESCRIBED IN THIS PLAT ARE ADEQUATE FOR RAINFALL IN EXCESS OF ANGLETON DRAINAGE DISTRICT MINIMUM REQUIREMENTS.
3. THAT BUILDING ELEVATION REQUIREMENTS HAVE BEEN DETERMINED BY THE ANGLETON DRAINAGE DISTRICT.
4. THAT THE DISTRICT ASSUMES ANY RESPONSIBILITY FOR CONSTRUCTION, OPERATION OR MAINTENANCE OF SUBDIVISION DRAINAGE FACILITIES.

THE DISTRICT'S REVIEW IS BASED SOLELY ON THE DOCUMENTATION SUBMITTED FOR REVIEW, AND ON THE RELIANCE ON THE REPORT SUBMITTED BY THE TEXAS REGISTERED PROFESSIONAL ENGINEER.

THE DISTRICT'S REVIEW IS NOT INTENDED NOR WILL SERVE AS A SUBSTITUTION OF THE OVERALL RESPONSIBILITY AND/OR DECISION MAKING POWER OF THE PARTY SUBMITTING THE PLAT OR PLAN HEREIN, THEIR OR ITS PRINCIPALS OR AGENTS.

\_\_\_\_\_  
CHAIRMAN, BOARD OF SUPERVISORS

\_\_\_\_\_  
BOARD MEMBER

\_\_\_\_\_  
BOARD MEMBER

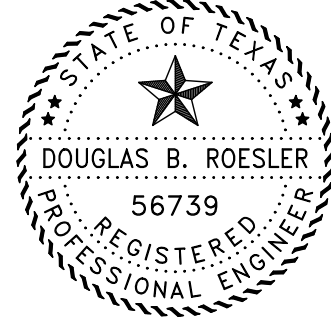
STATE OF TEXAS §  
COUNTY OF BRAZORIA §

KNOW ALL MEN BY THESE PRESENTS:

THAT I, DOUGLAS B. ROESLER, DO HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN PROVIDED IN THIS PLAT. TO THE BEST OF MY KNOWLEDGE, THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE ANGLETON LDC, EXCEPT FOR ANY VARIANCES THAT WERE EXPRESSLY GRANTED BY THE CITY COUNCIL.

SIGNED: \_\_\_\_\_ DATE \_\_\_\_\_

DOUGLAS B. ROESLER  
PROFESSIONAL ENGINEER  
TEXAS REGISTRATION NO. 56739



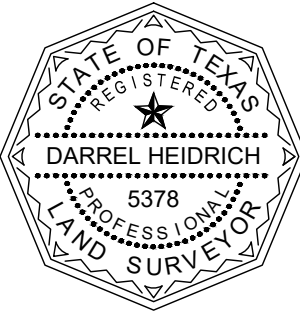
STATE OF TEXAS §  
COUNTY OF BRAZORIA §

KNOW ALL MEN BY THESE PRESENTS:

THAT I, DARREL HEIDRICH, DO HEREBY CERTIFY THAT I PREPARED THIS PLAT FROM AN ACTUAL AND ACCURATE SURVEY OF THE LAND AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PROPERLY PLACED UNDER MY SUPERVISION.

SIGNED: \_\_\_\_\_ DATE \_\_\_\_\_

DARREL HEIDRICH  
REGISTERED PROFESSIONAL LAND SURVEYOR  
TEXAS REGISTRATION NO. 5378



NOTES:

1. THE PURPOSE OF THIS PLAT IS TO PLAT THE 35.620 ACRES INTO A 73 LOT 5 RESERVE SUBDIVISION.
2. ALL BEARINGS AND DISTANCES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD-83, U.S. SURVEY FEET.
3. FLOOD ZONE STATEMENT: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR BRAZORIA COUNTY, MAP NUMBER 48039C0435K AND 48039C0445K, WITH EFFECTIVE DATE OF DECEMBER 30, 2020, THE PROPERTY SURVEYED LIES WITHIN ZONE "X" (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD-PLAIN. WARNING: THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR STRUCTURES WILL BE FREE FROM FLOODING OR FLOOD DAMAGE, AND WILL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.
4. REFERENCE BENCHMARK:  
NGS MONUMENT R1182 (PID AW1171)  
A BRASS DISK STAMPED R1182, ON THE NORTH LINE OF CR 171, ON THE CURB OF A BRIDGE, APPROXIMATELY 275 SOUTHWEST OF INTERSECTION WITH CR 428.  
ELEVATION = 26.31 FEET NGVD29
5. THE POSSIBLE EXISTENCE OF UNDERGROUND FACILITIES OR SUBSURFACE CONDITIONS OTHER THAN THOSE SHOWN MAY AFFECT THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHOWN HEREON.
6. NOTICE: SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF ANGLETON AND STATE PLATTING STATUTES AND IS SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING PERMITS.
7. NOTICE: PLAT APPROVAL SHALL NOT BE DEEMED TO OR PRESUMED TO GIVE AUTHORITY TO VIOLATE, NULLIFY, VOID, OR CANCEL ANY PROVISIONS OF LOCAL, STATE, OR FEDERAL LAWS, ORDINANCES, OR CODES.
8. NOTICE: THE APPLICANT IS RESPONSIBLE FOR SECURING ANY FEDERAL PERMITS THAT MAY BE NECESSARY AS THE RESULT OF PROPOSED DEVELOPMENT ACTIVITY. THE CITY OF ANGLETON IS NOT RESPONSIBLE FOR DETERMINING THE NEED FOR, OR ENSURING COMPLIANCE WITH ANY FEDERAL PERMIT.
9. NOTICE: APPROVAL OF THIS PLAT DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT, THE ENGINEER OF RECORD OR REGISTERED PUBLIC LAND SURVEYOR IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY THE CITY ENGINEER.
10. NOTICE: ALL RESPONSIBILITY FOR THE ADEQUACY OF THIS PLAT REMAINS WITH THE ENGINEER OR SURVEYOR WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF ANGLETON MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER AND/OR SURVEYOR OF RECORD.
11. IT SHALL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION TO MAINTAIN LANDSCAPE RESERVE.
12. IT SHALL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION TO MAINTAIN DRAINAGE RESERVES A & B.
13. THE PURPOSE OF THE 1' WIDE RESERVE IS TO RESTRICT DRIVEWAY ACCESS TO BUCHTA ROAD AND HOSPITAL DRIVE. THE CITY OF ANGLETON WILL MAINTAIN THE 1' WIDE RESERVE.

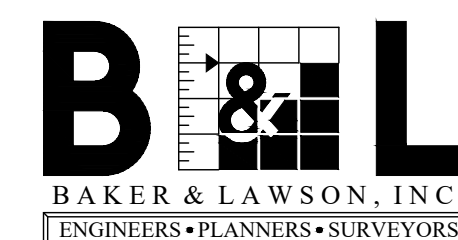
**SHEET 2 OF 2**

**FINAL PLAT  
RIVERWOOD RANCH SUBDIVISION  
SECTION 3**

**A 35.620 ACRES  
73 LOTS 4 BLOCKS 5 RESERVE SUBDIVISION**

**BEING A PORTION OF A CALLED 73.74 ACRE TRACT AS  
RECORDED IN C.C.F.N. 2020043779  
OF THE O.P.R.B.C.T.**

**LOCATED IN THE  
THEODORE S. LEE SURVEY  
ABSTRACT NO. 318  
CITY OF ANGLETON  
BRAZORIA COUNTY, TEXAS**



4005 TECHNOLOGY DR., SUITE 1530  
ANGLETON, TEXAS 77515  
OFFICE: (979) 849-6681  
TBPELS No. 10052500 REG. NO. F-825

OWNERS:  
JOHN SANTASIERO  
RIVERWOOD RANCH LLC  
1027 YALE STREET  
HOUSTON, TEXAS 77008

PROJECT NO.: 14396	SCALE: 1" = 100'	DRAWN BY: BT
DRAWING NO.: 14396 SEC 3-4 FINAL PLAT	DATE: 12/02/2022	CHECKED BY: DH

GENERAL CONSTRUCTION NOTES

- 1. CONTRACTOR SHALL NOTIFY THE "UNDERGROUND UTILITY COORDINATING COMMITTEE" (TELEPHONE NO. (979) 849-4364 AND THE CITY OF ANGLETON (TELEPHONE NO. (979) 849-4364) 48 HOURS BEFORE STARTING WORK IN STREET RIGHT-OF-WAYS OR EASEMENTS.
2. ALL EXISTING UNDERGROUND UTILITIES ARE NOT GUARANTEED TO BE COMPLETE OR DEFINITE, BUT WERE OBTAINED FROM INFORMATION AVAILABLE. CONTRACTOR HAS SOLE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL EXISTING FACILITIES SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL CONFLICTS WITH THE APPROPRIATE GOVERNING AGENCY. NO SEPARATE PAY.
3. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF OSHA SAFETY AND HEALTH REGULATION, PART 1926, SUBPART P AS PUBLISHED IN THE FEDERAL REGISTER, VOLUME 54, NO. 209, DATED OCTOBER 31, 1989.
4. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS MUTCD MOST RECENT EDITION AS REVISED) DURING CONSTRUCTION.
5. CONTRACTOR SHALL COVER OPEN EXCAVATIONS IN PUBLIC STREETS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS.
6. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION, AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY. ALL CONSTRUCTION STORM RUNOFF SHALL COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS.
7. EXISTING PAVEMENTS, CURBS, SIDEWALKS, CULVERTS AND DRIVEWAYS (ADJACENT TO THE WORK) DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO EQUAL OR BETTER THAN THEIR ORIGINAL CONDITION AT CONTRACTOR EXPENSE.
8. CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY UPON COMPLETION OF JOB, SHALL BE AS GOOD AS OR BETTER THAN THE CONDITION PRIOR TO STARTING WORK. CONTRACTOR SHALL TAKE NECESSARY ACTIONS TO PROTECT THE EXISTING SURFACES OUTSIDE THE WORK AREA FROM THE EQUIPMENT USED. ALL TRACKED MACHINERY (STREET PADS INCLUDED) SHALL NOT BE OPERATED DIRECTLY ATOP THE PAVEMENT WITHOUT APPROPRIATE PADDING AND PROTECTION OF THE SURFACES. ANY MARRED OR DISTRESSED AREAS SHALL BE REMOVED AND RESTORED WITH NEW MATERIALS TO THE SATISFACTION OF THE ENGINEER. ANY EXISTING DISTRESSED AREAS SHALL BE MADE KNOWN TO THE ENGINEER PRIOR TO OPERATIONS IN THE WORK AREA.
9. ALIGNMENT, CENTERLINE CURVE DATA AND STATIONING TO BE VERIFIED BY ON-THE-GROUND SURVEY FROM APPROVED SUBDIVISION PLAT (OR APPROVED PLOT FOR OFF SITE EASEMENTS), AND ELEVATIONS OF ALL CONNECTIONS TO EXISTING FACILITIES TO BE CONFIRMED PRIOR TO WORK START. CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
10. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK.
11. CONTRACTOR SHALL ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK.
12. ALL UTILITY TRENCHES TO BE BACK FILLED TO 90 PERCENT (90%) STANDARD PROCTOR DENSITY UNLESS OTHERWISE NOTED.
13. ALL SURVEY, LAYOUT, MEASUREMENT, AND GRADE STAKE WORK SHALL BE PERFORMED BY BAKER & LAWSON, INC. AS PART OF THE WORK UNDER THIS CONTACT.
14. BAKER & LAWSON, INC. WILL PROVIDE EXPERIENCED INSTRUMENT MEN, COMPETENT ASSISTANTS, AND SUCH INSTRUMENTS, TOOLS, STAKES, AND OTHER MATERIALS REQUIRED TO COMPLETE THE SURVEY, LAYOUT AND MEASUREMENT WORK.
15. CONSTRUCTION DEBRIS AND OTHER UNCLASSIFIED UNSUITABLE EXCESS MATERIAL SHALL BE HAULED TO A STATE APPROVED DISPOSAL SITE OR AS DIRECTED BY THE ENGINEER. AN EXISTING LANDFILL APPROXIMATELY 10 MILES FROM THE PROJECT SITE IS THE NEAREST STATE APPROVED FEE FACILITY. ALL REFUSE MATERIALS (BROKEN CONCRETE, TREES, ASPHALT, ETC.) SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE.
16. PLAN QUANTITIES WILL BE USED FOR FINAL PAYMENT UNLESS DESIGN CHANGES ARE MADE DURING CONSTRUCTION.

CONSTRUCTION NOTES FOR PAVING & DRAINAGE

- 1. GUIDELINES SET FORTH IN THE MANUAL ON UNIFORM CONTROL DEVICES SHALL BE OBSERVED.
2. FILL SHALL BE PLACED IN MAXIMUM 8" LOOSE LIFTS AND COMPACTED TO 95% OF OPTIMUM DENSITY AS DETERMINED USING TESTING METHOD ASTM D698.
3. CONTRACTOR RESPONSIBLE FOR MAINTAINING BARRICADES TO PREVENT TRAFFIC FROM USING NEW PAVEMENT UNTIL PROJECT IS COMPLETED AND ACCEPTED BY PROPER AUTHORITY OR AS AUTHORIZED BY ENGINEER.
4. B-B INDICATES ROAD WIDTH TO BACK OF CURB. CURB RADI ARE TO FACE OF CURB. T.C. INDICATES TOP OF CURB ELEVATIONS (BASED ON 4" CURB UNLESS OTHERWISE NOTED) T.P. INDICATES TOP OF PAVEMENT ELEVATION.
5. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT MAXIMUM SPACING OF 40-FOOT INTERVALS (SAWCUTS @ 20"(2 1/2"DEEP), LONGITUDINAL JOINTS SHALL BE AT MAXIMUM OF 14-FOOT SPACING. WOOD JOINT SHALL BE SOUND HEART REDWOOD.
6. 6-INCH CONCRETE PAVEMENT TO BE 5.5 SACK MIX MIN. (3,500 PSI) REINFORCING STEEL TO CONFORM TO ASTM A-615, GRADE 60. PROVIDE MINIMUM 18-INCH LAPS. (36 BAR DIA)
7. SAW CUT TO EXPOSE EXISTING LONGITUDINAL STEEL REQUIRED TO CREATE A MINIMUM TWELVE-INCH (12") OVERLAP OF PROPOSED AND EXISTING LONGITUDINAL REINFORCING STEEL WHEN MAKING A CONNECTION TO EXISTING CONCRETE PAVEMENT. WHERE SPACING OF EXISTING LONGITUDINAL STEEL DIFFERS FROM PROPOSED STEEL SPACING, NOTIFY THE ENGINEER.
8. USE PLASTIC CHAIRS TO SUPPORT REINFORCEMENT AT 24-INCH SPACING EACH WAY.
9. SUBGRADE TO BE STABILIZED 1-FOOT BACK OF PROPOSED CURB OR EDGE OF PAVEMENT. EXCESS LIME STABILIZED SOIL SHALL BE UTILIZED IN THE PREPARATION OF SUBGRADE FOR DRIVEWAYS. THERE WILL BE NO PAYMENT FOR PREPARING SUBGRADE FOR DRIVEWAYS AND SIDEWALKS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE ASSOCIATED CONCRETE PAY ITEMS. SUBGRADE PREPARATION FOR DRIVEWAYS AND PAVING SHALL INCLUDE PROOF ROLLING. SOFT AREAS TO BE EXCAVATED AND RECOMPACTED TO ADJACENT SOIL DENSITY.
10. USE CONTINUOUS LONGITUDINAL REINFORCING BAR IN CURB.
11. BACK FILL AND BEDDING FOR HEADWALL STRUCTURES, TYPE "C" INLETS, R.C.P. LEADS AND STORM SEWERS SHALL BE WITH 1.5 SACK CEMENT. STABILIZED SAND SHALL BE COMPACTED TO A DENSITY OF AT LEAST 90% OF DENSITY DETERMINED BY STANDARD MOISTURE-DENSITY RELATION (ASTM D-698) AT OPTIMUM MOISTURE AND SHALL BE PLACED AND FINISHED WITHIN 3 HRS. OF MIXING. TEMPORARY TRAVEL WAY SURFACE SHALL BE WITH CEMENT STABILIZED LIMESTONE. PAYMENT FOR THESE ITEMS SHALL BE SUBSIDIARY TO THE VARIOUS STRUCTURAL BID ITEMS. VERIFICATION OF CEMENT STABILIZED SAND MIXTURE SHALL BE FURNISHED UPON REQUEST OF ENGINEER.
12. THE SUBGRADE SHALL BE BROUGHT TO THE REQUIRED GRADE BY THE USE OF GRADE STAKES (BLUE TOPS) AND APPROVED BY THE ENGINEER BEFORE LIME IS APPLIED.

- 13. RATE OF APPLICATION FOR LIME SHALL BE SEVEN PERCENT (7%) OF THE DRY WEIGHT OF SOIL (QUALITY BASE ON 100 # C.F.) OF THIRTY ONE AND ONE (31.5) POUNDS PER SQUARE YARD FOR SIX (6) INCH STABILIZED SUBGRADE. LIME STABILIZED SUBGRADE SHALL NOT BE MIXED MORE THAN ONE INCH IN EXCESS OF THE REQUIRED DEPTH. LIME STABILIZED SUBGRADE SHALL BE BROUGHT TO THE OPTIMUM MOISTURE CONTENT DURING THE FIRST MIXING OPERATIONS THEN LEFT TO CURE FOR TWO CURING DAYS BEFORE FINAL MIXING CAN BEGIN. AFTER FINAL MIXING IS COMPLETED AND BEFORE SOIL DENSITY TESTS ARE TAKEN, LIME STABILIZED SUBGRADE SHALL BE BROUGHT TO THE REQUIRED GRADE BY THE USE OF GRADE STAKES (BLUE TOPS) AND APPROVED BY THE ENGINEER. DENSITY SHALL BE NINETY-FIVE PERCENT (95%) OF THE STANDARD PROCTOR DENSITY AT OPTIMUM MOISTURE. TESTED AND COMPLETED SECTIONS SHALL BE KEPT MOIST CURED ON A DAILY BASIS WITH WATER TRUCKS OR SUBSTANTIAL SUPPLY HOSES FOR THE ENTIRE PERIOD THE SURFACE REMAINS UNCOVERED WITH ADDITIONAL COURSES. AFTER FINAL TESTING AND APPROVAL IS COMPLETE, TRACK EQUIPMENT, SCRAPERS AND OTHER HEAVY EQUIPMENT WILL NOT BE PERMITTED ON THE COMPLETED LIME STABILIZED AREA. LIGHT MOTOR GRADERS, RUBBER Tired TRACTORS, WATER TRUCKS AND ROLLERS USED IN FINISHING OPERATIONS WILL BE PERMITTED WITH THE APPROVAL OF THE ENGINEER. CONCRETE AND LOADED HAUL TRUCKS ARE STRICTLY PROHIBITED ON COMPLETED AREAS UNLESS THE TRAVELED AREA REGARDLESS OF CONDITION IS REMIXED COMPACTED AND TESTED FOR APPROVAL A SECOND TIME.
14. FORMS SHALL BE EITHER WOOD OR STEEL, OF GOOD QUALITY, FREE OF WARP AND SUFFICIENTLY STAKED TO AVOID SHIFTING WHEN LOAD IS APPLIED. ALL REDWOOD EXPANSION BOARDS SHALL BE STAKED WITH 1X2 REDWOOD STAKES AND ALLOWED TO REMAIN WITHIN THE POUR. METAL STAKES ARE APPROVED FOR USE TO STAKE METAL KEYS.
15. REINFORCING SHALL BE SECURELY TIED AT ALL INTERSECTIONS AND SPLICES. ALL DOWELS SHALL BE SECURELY TIED. REINFORCEMENT SHALL BE CLEAN AND FREE OF RUST AT TIME OF USE. PLASTIC CHAIR OF THE CORRECT HEIGHT SHALL BE USED. SPACING SHALL BE SUFFICIENT TO SUPPORT REINFORCEMENT.
16. PRIOR TO CONCRETE PLACEMENT, CONTRACTOR SHALL PRESENT A CERTIFIED COPY OF TOP OF FORM GRADES TO THE ENGINEER FOR REVIEW AND APPROVAL. ELEVATIONS OF FORMS SHALL BE RECORDED AT 10' INTERVALS. ADJUSTMENTS TO FORMS SHALL BE COMPLETE 4 HRS. PRIOR TO CONCRETE PLACEMENT.

- 17. CONCRETE FOR STREET PAVEMENTS SHALL BE "CLASS A" CONCRETE, SHALL NOT HAVE LESS THAN FIVE AND ONE HALF (5 1/2) SACKS OF CEMENT PER CUBIC YARD, AND SHALL NOT HAVE MORE THAN SIX AND ONE HALF (6 1/2) GALLONS OF WATER PER SACK OF CEMENT. SLUMP SHALL NOT EXCEED FIVE (5) INCHES AND SHALL DEVELOP A MODULUS OF RUPTURE STRENGTH OF THIRY THOUSAND FIVE HUNDRED (2500) P.S.I. AT TWENTY EIGHT (28) DAYS. CONCRETE SHALL BE PLACED IN SUCH A MANNER AS TO REQUIRE AS LITTLE HANDLING POSSIBLE. USE OF AN APPROVED VIBRATING SCREED WILL BE REQUIRED. AT INTERSECTIONS AND SMALL AREAS WHERE A VIBRATORY SCREED CAN NOT BE USED, A HAND VIBRATOR OR "JITTERBUG" SHALL BE USED. USE OF A TEN FOOT (10') CONCRETE PAVEMENT STRAIGHT EDGE WILL ALSO BE REQUIRED. ALL EXPOSED JOINTS SHALL BE EDGED AS NOTED ON DETAILS. SURFACE SHALL BE TYPICALLY A BELT FINISH OR BROOM FINISH (COARSE, MEDIUM OR LIGHT) AS REQUIRED BY THE APPLICATION AND DIRECTED BY THE ENGINEER.
18. FLY ASH SHALL MAKE UP FROM 20-25% BY VOLUME OF THE SPECIFIED CEMENT VOLUME AND SHALL CONFORM TO ASTM C 618, CLASS F.
19. CURING COMPOUND SHALL BE TYPE II WITH WHITE PIGMENT. APPLIED AT THE UNDILUTED RATE OF ONE GALLON PER TWO HUNDRED (200) SQUARE FEET.
20. EXPANSION JOINTS SHALL BE CLEANED, WIRE BRUSHED, BLOWN OR FLAME DRIED SEALED WITH AN APPROVED LIST RUBBERIZED HOT LAID ASPHALT JOINT AND CRACK SEALANT OR A TWO (2) COMPONENT POLYMERIC SELF LEVELING COLD APPLIED SEALANT.
21. CONTRACTOR WILL NOT PERMIT TRAFFIC ON NEW CONCRETE PAVEMENT UNTIL BOTH A MINIMUM OF SEVEN (7) CURING DAYS AND MODULUS OF RUPTURE STRENGTH OF THIRTY THOUSAND FIVE HUNDRED (3500) P.S.I. TAKES PLACE OR AS APPROVED BY THE ENGINEER/PUBLIC WORKS DEPARTMENT.
22. CONCRETE FOR CURB SHALL BE A 3000 P.S.I. PERFORMANCE STRENGTH CONCRETE WITH A MINIMUM FIVE (5) SACK CEMENT PER CUBIC YARD CONTENT. CURB CONCRETE MIX MAY BE A SMALL AGGREGATE BATCH DESIGN.
23. A CONCRETE MIX DESIGN OF CONCRETE PLUS FLY ASH MAY BE SUBSTITUTED IN LIEU OF THE STANDARD CONCRETE BATCH DESIGN. THE FLY ASH SHALL CONFORM TO THE REQUIREMENTS OF TXDOT MATERIAL SPECIFICATION D-9-8900, AND SHALL NOT EXCEED 25% BY ABSOLUTE VOLUME OF THE SPECIFIED CEMENT CONTENT. THE MODULUS OF RUPTURE STRENGTHS MINIMUMS AND DEVELOPMENT PERIOD OF THE STANDARD CONCRETE MIX DESIGN SHALL REMAIN IN EFFECT AND SHALL BE VERIFIED BY A CONCRETE BATCH MIX DESIGN PREPARED AND TESTED BY A GEOTECHNICAL LAB AND SUBMITTED FOR REVIEW AND APPROVAL BY THE CITY ENGINEERING/PUBLIC WORKS DEPARTMENT PRIOR TO PAVING OPERATIONS.

- 24. ALL PAVEMENT SAW CUT REQUIRED IN THE PLANS SHALL BE CONSIDERED SUBSIDIARY TO THE PAVING REMOVAL PAY ITEM REQUIRING IT.
25. BLOCK SOD SHALL BE PLACED 16" (ONE BLOCK WIDTH) WIDE ALONG THE EDGE OF ALL NEWLY CONSTRUCTED CURBS AND TO DRIVEWAY REPLACEMENT LIMITS.
26. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANALYZING WEATHER CONDITIONS AND TO SUSPEND OPERATIONS DURING PERIODS WHEN ADVERSE WEATHER CONDITIONS APPEAR LIKELY. NO CONCRETE SHALL BE PLACED WHEN THE TEMPERATURE IS 35°F AND RISING. HOWEVER, NO CONCRETE SHALL BE PLACED WHEN THE CONCRETE TEMPERATURE IS ABOVE 100°F. THE CONTRACTOR SHALL KEEP SUFFICIENT LENGTH OF COVERING MATERIAL ON THE JOB SITE TO PLACE OVER AND PROTECT THE SURFACE OF "FRESH" CONCRETE DURING PERIODS OF UNPREDICTED RAINS.
27. CUL-DE-SACS TO BE PAVED COMPLETELY WITH NO ISLANDS

WASTEWATER CONSTRUCTION NOTES

- 1. CONTRACTOR SHALL PROVIDE RECORD OF LOCATION OF ALL STACKS, STUBS, LEADS, ETC. TO CITY OF ANGLETON.
2. SEPARATION DISTANCES FOR ALL SANITARY SEWER AND WATER MAIN CONSTRUCTION SHALL BE GOVERNED BY THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION RULES AND REGULATIONS FOR DESIGN CONSERVATION COMMISSION RULES AND REGULATIONS FOR DESIGN CRITERIA FOR SEWAGE SYSTEMS "SECTION 317.20," LATEST PRINTING.
3. MAINTAIN 12-INCH MINIMUM VERTICAL CLEARANCE AT CROSSINGS BETWEEN SANITARY SEWERS AND CULVERTS, UNLESS OTHERWISE NOTED.
4. WHERE SANITARY SEWER LINE CROSSES A WATER LINE WITH LESS THAN 9- FEET BUT MORE THAN 6-INCHES VERTICAL SEPARATION, PROVIDE ONE MINIMUM 18-FOOT JOINT OF PRESSURE RATED P.V.C. SANITARY SEWER (ASTM D2241, CLASS 150, SDR 26) CENTERED ON WATER LINE. INCLUDE COST OF WATER LINE CROSSING IN UNIT PRICE BID PER LINEAR FOOT FOR SANITARY SEWER IN APPROPRIATE SIZES.
5. CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY UNSUITABLE TRENCH CONDITIONS.
6. SANITARY SEWER LEADS UNDER OR WITHIN 1' OF EXISTING OR FUTURE PAVEMENT SHALL BE BACK FILLED WITH CEMENT STABILIZED SAND UP TO WITHIN 1' OF TOP OF PAVING SUBGRADE. CEMENT STABILIZED SAND BACK FILL FOR LEADS SHALL BE INCLUDED IN THE BID UNIT PRICE FOR LEADS.
7. LOW PRESSURE AIR TEST SHALL BE CONDUCTED PER TNRC TAC 317.2. HOLDING TIMES SHALL BE AS ESTABLISHED BY TNRC. CONTRACTOR TO PROVIDE TEST PLUGS AND RISERS. NO SEPARATE PAY.

- 8. CONTRACTOR TO OPEN CUT ALL SANITARY SEWER CONSTRUCTION UNLESS NOTE OTHER WISE, SEWER SERVICES TO BE INSTALLED FULL WIDTH OF ROADWAY--NO HALF STREET INSTALLATIONS.
9. CONTRACTOR SHALL AT ALL TIMES PROVIDE MAXIMUM UNINTERRUPTED SERVICE AND SHALL AVOID OF ANY ROUTING METHOD AND EQUIPMENT TO ACCOMPLISH THIS.
10. ALL SINGLE AND DOUBLE SERVICE LEAD SHALL BE A MINIMUM SIX INCH (6") UNLESS OTHERWISE DIRECTED BY THE ENGINEER/PUBLIC WORKS AND/OR FIELD ADJUSTED BY THE UTILITY DEPARTMENT IN THE FUTURE.

WATER CONSTRUCTION NOTES

- 1. CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND TEST PRESSURE AS SPECIFIED IN CONTRACT DOCUMENTS. THRUST BLOCKING SHALL BE CLASS "B" CONCRETE 2500 P.S.I. AND SHALL BE SUBSIDIARY TO THE BID ITEM PERTINENT TO ITS USE. ALL CEMENT STABILIZED SAND BACKFILL SHALL BE 1.5 SK/ CY CEMENT CONTENT. ALL M.J. D.I. FITTINGS WILL HAVE M.J. RESTRAINTS (STARGRIP OR EQUAL) WRAP FITTINGS & RESTRAINTS WITH 10 MIL POLY.
2. SEPARATION DISTANCES OF ALL WATER MAIN AND SANITARY SEWER MAIN CONSTRUCTION SHALL BE GOVERNED BY THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION RULES AND REGULATIONS FOR DESIGN CRITERIA FOR SEWAGE SYSTEMS," SECTION 317.20, LATEST PRINTING.
3. ALL 4" THROUGH 12" WATER MAINS TO BE P.V.C. PIPE, AWWA C-900, CLASS 150, SDR 18, MEETING THE REQUIREMENTS OF ANSI/NSF 61 UNLESS OTHERWISE NOTED.
4. WATER LINES UNDER OR WITHIN 1 FEET OF NEW OR EXISTING PAVEMENTS (STREETS AND DRIVEWAYS) SHALL BE BACK FILLED WITH CEMENT STABILIZED SAND AS SPECIFIED IN THE CONSTRUCTION DETAIL.
5. PROVIDE A MINIMUM SIX-INCHES (6") OF CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS.
6. 4-INCH THROUGH 12-INCH LINES TO HAVE A MINIMUM OF 4'-0" COVER BELOW TOP OF CURB. UNLESS OTHERWISE NOTED, VARY FLOW LINE UNIFORMLY FROM DEPTH SHOWN ON PLANS.
7. CENTERLINE OF FIRE HYDRANT TO BE LOCATED AT 3' FROM BACK OF CURB WITH CENTERLINE OF STEAMER NOZZLE 22 INCHES ABOVE FINISHED GRADE. TURN STEAMER OUTLET TO FACE STREET.
8. WHERE WATER LINE CROSSES SANITARY SEWER LINE OR LEAD WITH LESS THAN NINE FEET (9') VERTICAL SEPARATION, PROVIDE ONE MINIMUM 18-FOOT JOINT OF WATER LINE CENTERED ON LEAD. INCLUDE COST OF LEAD CROSSING IN UNIT PRICE BID PER LINEAR FOOT FOR WATER LINE IN APPROPRIATE SIZES.
9. THE CONTRACTOR AT ALL TIMES PROVIDE MAXIMUM UNINTERRUPTED FLOW TO ALL SERVICES AND MAINS AND SHALL AVOID OF ANY ROUTING METHOD AND EQUIPMENT TO ACCOMPLISH THIS.

CENTERPOINT ENERGY / ENTEX NOTES

CAUTION: UNDERGROUND GAS FACILITIES

LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC, WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE NOT USUALLY SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (979) 849-4364 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

\* WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (800) 752-8036 OR (713) 659-2111 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

\* WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.

\* WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

\* FOR EMERGENCIES REGARDING GAS LINES CALL (800) 659-2111 OR (713) 659-2111.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

ACTIVITIES ON OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY NO APPROVAL TO USE, CROSS OR OCCUPY CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-9769.

WARNING: OVERHEAD ELECTRICAL FACILITIES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT 713-207-2222.

SBC NOTES

THE LOCATIONS OF SOUTHWESTERN BELL TELEPHONE CO. UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.

TEXAS NEW MEXICO POWER NOTES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL TEXAS NEW MEXICO POWER AT (979) 829-5776.

GENERAL CONSTRUCTION NOTES

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ANGLETON CONSTRUCTION MANUAL (ACM) AND LAND DEVELOPMENT CODE, HEREAFTER REFERRED TO THE ACM AND THE LDC.
2. APPROVAL OF THESE CONSTRUCTION PLANS DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, ADEQUACY, AND COMPLIANCE OF THE SUBMITTED PLANS.
3. ALL RESPONSIBILITY FOR RESTS ON DESIGN ENGINEER WHO PREPARED THEM, IN APPROVING THESE PLANS, THE CITY MUST RELY ON THE ADEQUACY AND ACCURACY OF THE DESIGN ENGINEER.
4. DESIGNS SHALL BE IN COMPLETE COMPLIANCE WITH THE LDC AND THE ACM. ANY WAIVER, DEVIATION, VARIANCE, OR EXCEPTION FROM ANY SPECIFIC REQUIREMENT(S) OF THE LDC OR ACM THAT WERE NOT EXPRESSLY REQUESTED WHEN PLANS ARE SUBMITTED, SHALL NOT BE CONSTRUED TO HAVE BEEN GRANTED IF PLANS ARE APPROVED. IT IS THE RESPONSIBILITY OF THE ENGINEER TO MAKE SUCH A WAIVER PROACTIVELY WHEN PLANS ARE SUBMITTED.
5. A MINIMUM OF TWO EXISTING BENCHMARKS SHOULD BE SHOWN ON THE PLANS. IN ADDITION, TWO PERMANENT BENCHMARKS PER SUBDIVISION SHALL BE INSTALLED IN EACH NEW SUBDIVISION TO INCLUDE DESCRIPTION, LOCATION, AND ELEVATION AND TIE TO CITY STANDARDS.
6. CAST BRONZE SURVEY MARKERS SHALL BE PLACED IN CONCRETE IN PERMANENT, ACCESSIBLE LOCATIONS AT THE TIME OF CONSTRUCTION. THE LOCATIONS OF THE MARKERS SHALL BE INDICATED ON THE CONSTRUCTION PLANS. A MINIMUM OF ONE MARKER SHALL BE PLACED FOR EACH 20 ACRES OF THE PROJECT.
7. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE WITH THE CITY, THE DEVELOPER'S CONSULTING ENGINEER, CONTRACTOR, AND ANY OTHER AFFECTED PARTIES. THE CITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE TIME OF THE CONFERENCE AND 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
8. THE CONTRACTOR SHALL PROVIDE THE CITY A MINIMUM OF 48 HOURS' NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
9. BARRICADES, BUILT TO CITY SPECIFICATIONS, SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB SAFETY.
10. IF BLASTING IS PLANNED, A BLASTING PERMIT MUST BE SECURED PRIOR TO COMMENCEMENT OF ANY BLASTING.
11. ANY EXISTING PAVEMENT, CURBS, AND/OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE BEFORE ACCEPTANCE OF THE SUBDIVISION.
12. THE LOCATION OF ANY WATER OR WASTEWATER LINES SHOWN ON THE PLANS MUST BE VERIFIED BY THE PUBLIC WORKS DEPARTMENT.
13. USE ONE CALL UTILITY SYSTEM: DIAL 1-800-344-8377, 48 HOURS BEFORE YOU DIG.
14. ALL STORM SEWER PIPES TO BE CLASS III RCP UNLESS NOTED OTHERWISE. SPECIAL NOTES FOR PLANS, WHEN APPLICABLE.
15. THE SUBGRADE MATERIAL IN RIVERWOOD RANCH SUBDIVISION WAS TESTED BY INTERTEK PSI ON DECEMBER 6, 2019 AND THE STREET SECTION DESIGNED ACCORDING TO THE LDC AND ACM.
16. CONSTRUCTED STREET SECTIONS SHALL SHOW THE FOLLOWING:
a. PROVIDE STREET NAMES, WIDTH OF R.O.W., OR OTHER METHODS TO IDENTIFY PROPOSED DESIGN OF DIFFERENT PAVEMENT THICKNESS. IN WRITING OR GRAPHICALLY, DESCRIBE THE STREET SECTION(S) TO BE CONSTRUCTED.
b. MANHOLE FRAMES, COVERS, AND WATER VALVE COVERS WILL BE RAISED TO FINISHED PAVEMENT GRADE AT THE OWNER'S EXPENSE BY A QUALIFIED CONTRACTOR WITH CITY INSPECTION. ALL UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL PAVING CONSTRUCTION.
c. CROWNS OF INTERSECTING STREETS WILL CULMINATE IN A DISTANCE OF 40 FEET FROM THE INTERSECTING CURB LINE UNLESS OTHERWISE NOTED. INLETS ON THE INTERSECTING STREET SHALL NOT BE CONSTRUCTED WITHIN 40 FEET OF THE VALLEY GUTTER, UNLESS OTHERWISE NOTED.
d. PRIOR TO FINAL ACCEPTANCE OF A STREET OUTSIDE THE CITY LIMITS, STREET NAME SIGNS CONFORMING TO COUNTY STANDARDS SHALL BE INSTALLED BY DEVELOPER.
e. SIDEWALK REQUIREMENTS (GIVE STREET NAME AND LOCATION OF REQUIRED SIDEWALK, I.E., NORTH, SOUTH, EAST, OR WEST SIDE).
f. A CURB LAY DOWN WHERE REQUIRED WHEN ALL POINTS OF SIDEWALKS INTERSECTS CURBS.
g. INSIDE THE CITY LIMITS, SIDEWALKS SHALL BE COMPLETED PRIOR TO ACCEPTANCE OF ANY DRIVEWAY APPROACHES AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY. WHEN OUTSIDE THE CITY LIMITS, A LETTER OF CREDIT MAY BE POSTED OR OTHER SUITABLE FINANCIAL ARRANGEMENTS MAY BE MADE TO ENSURE CONSTRUCTION OF THE SIDEWALKS. IN EITHER CASE, SIDEWALKS ADJACENT TO "COMMON AREAS", PARKWAYS, OR OTHER LOCATIONS ON WHICH NO BUILDING CONSTRUCTION WILL TAKE PLACE, MUST BE CONSTRUCTED PRIOR TO FINAL ACCEPTANCE OF THE SUBDIVISION.
h. A LICENSE AGREEMENT FOR LANDSCAPING MAINTENANCE AND IRRIGATION IN STREET R.O.W. SHALL BE EXECUTED BY THE DEVELOPER IN PARTY WITH THE CITY PRIOR TO FINAL ACCEPTANCE.
17. CALL THE CITY 48 HOURS PRIOR TO BEGINNING ANY WORK AND SCHEDULE A PRECONSTRUCTION MEETING WITH THE CITY AND ALL AFFECTED UTILITY PROVIDERS, THE GENERAL CONTRACTOR, THE DEVELOPER AND THE DEVELOPER'S ENGINEER.

CONSTRUCTION SEQUENCING

CALL THE CITY 48 HOURS PRIOR TO BEGINNING ANY WORK AND SCHEDULE A PRECONSTRUCTION MEETING WITH THE CITY AND ALL AFFECTED UTILITY PROVIDERS, THE DEVELOPER AND THE DEVELOPER'S ENGINEER.

OBTAIN A DEVELOPMENT PERMIT FROM THE CITY.

PROVIDE THE CITY WITH EVIDENCE ALL TCEQ LICENSES AND REQUIREMENTS ARE UP TO DATE.

INSTALL TEMPORARY EROSION CONTROLS AND TREE PROTECTION FENCING PRIOR TO ANY CLEARING AND GRUBBING. NOTIFY THE CITY WHEN INSTALLED.

ROUGH-CUT ALL REQUIRED OR NECESSARY PONDS. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUCH BE CONSTRUCTED PRIOR TO DEVELOPMENT OF ANY AMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A LOW-LEVEL OUTLET AND AN EMERGENCY OVERFLOW MEETING THE REQUIREMENTS OF THE LDC. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL FINAL RESTORATION IS ACHIEVED.

DELIVER APPROVED ROUGH-CUT SHEETS TO THE CITY ENGINEER PRIOR TO CLEARING AND GRUBBING.

ROUGH GRADE STREETS. NO DEVELOPMENT OF EMBANKMENT WILL BE PERMITTED AT THIS TIME.

INSTALL ALL UTILITIES TO BE LOCATED UNDER THE PROPOSED PAVEMENT OR WITHIN THE ROAD RIGHT-OF-WAY.

DELIVER STORM SEWER CUR SHEETS TO THE CITY ENGINEER.

BEGIN INSTALLATION OF STORM SEWER LINES. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREAS AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS.

DELIVER FINAL GRADE CUT SHEETS TO THE CITY ENGINEER.

RE-GRADE STREETS TO SUB-GRADE.

ENSURE THAT UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY 1ST/ COURSE BASE MATERIAL ON STREETS.

INSTALL CURB AND GUTTER

LAY FINAL BASE COURSE ON ALL STREETS.

PLACE CONCRETE.

COMPLETE FINAL GRADING AND RESTORATION OF DETENTION, SEDIMENTATION/FILTRATION PONDS.

COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.

REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS.

COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED.

Table with columns: NO., DATE, DESCRIPTION, APPROVED, and a section for REVISIONS.

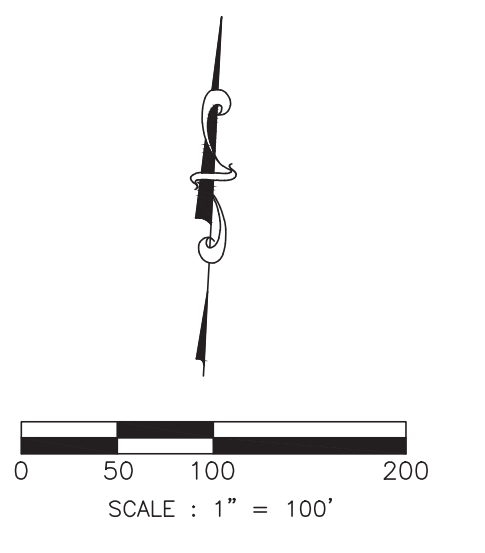
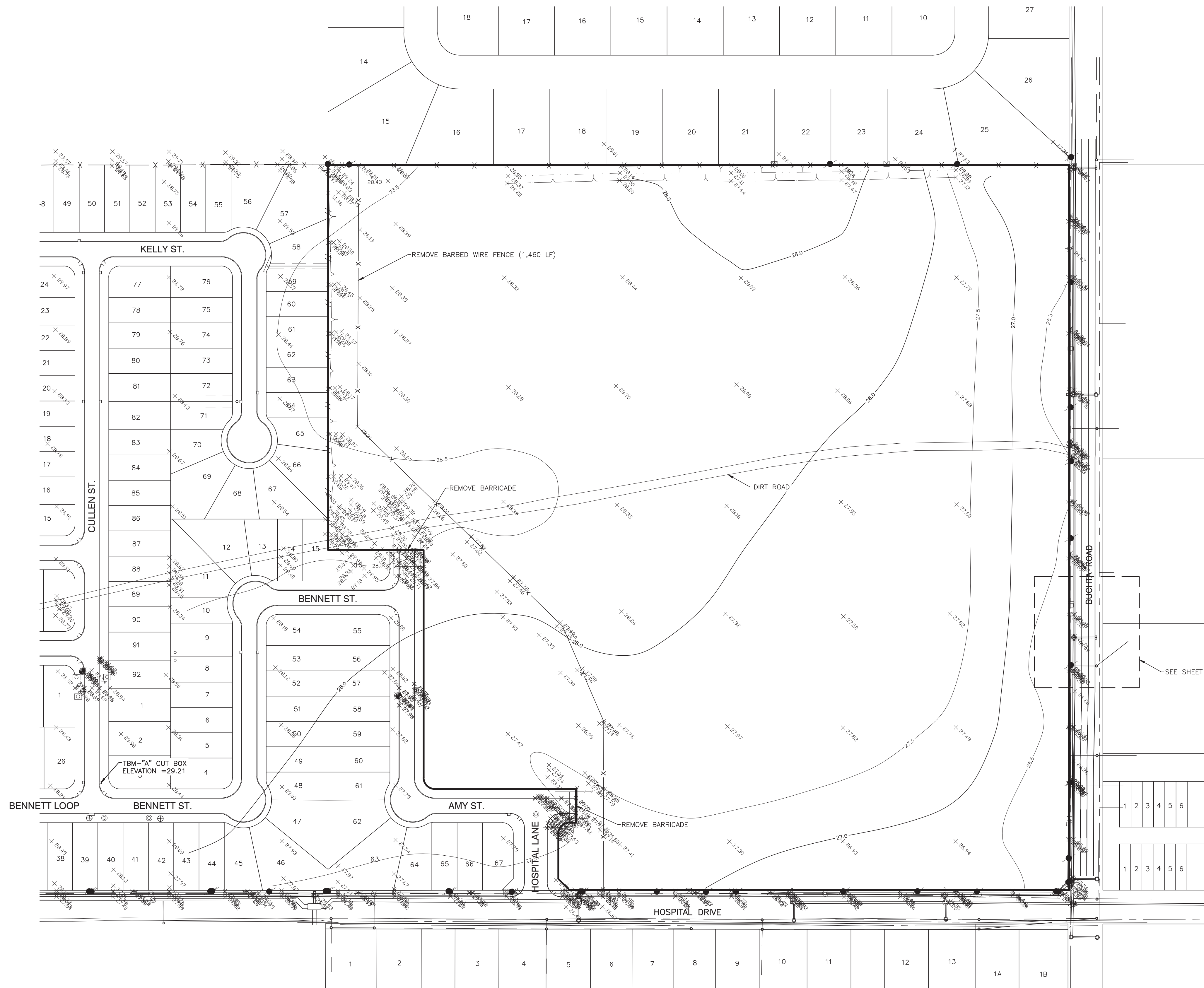
Professional seal for Douglas B. Roessler, Engineer, State of Texas, License No. 56739, dated 03-03-2023.

OWNER: RIVERWAY PROPERTIES 6115 SKYLINE DR. STE A. HOUSTON, TEXAS 77057

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

RIVERWOOD RANCH SUBDIVISION SECTIONS 3 & 4 A 35.620 AC, 145-LOT SUBDIVISION ANGLETON, TEXAS 77515

CONSTRUCTION NOTES PROJECT NO. 14396



**SYMBOLS LEGEND**

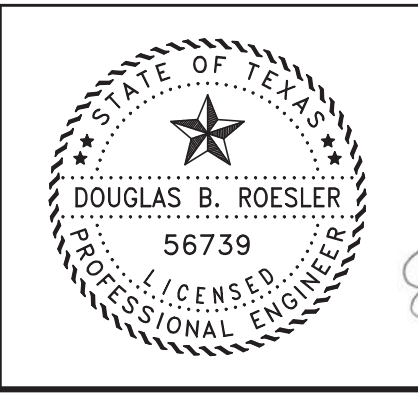
- ⊙ = FND IMPLEMENT AS NOTED
- = SET 5/8" IRON ROD
- = BENCHMARK
- ⊕ = GAS VALVE
- ⊕ = GAS METER
- ⊕ = IRRIGATION CONTROL
- ⊕ = WATER VALVE
- ⊕ = FIRE HYDRANT
- ⊕ = GUY WIRE
- ⊕ = POWER POLE
- ⊕ = SIGNAL POLE
- ⊕ = LIGHT POLE
- ⊕ = LIGHT BOLLARD
- ⊕ = BOLLARD
- ⊕ = MONITOR WELL
- ⊕ = CLEANOUT
- ⊕ = SIGN
- ⊕ = TELE PEDESTAL
- ⊕ = TREE
- ⊕ = MANHOLE
- ⊕ = INLET

1. REFERENCE BENCHMARK:  
 NGS MONUMENT R1182 (PID AW1171)  
 A BRASS DISK STAMPED R1182, ON THE NORTH LINE OF CR 171, ON THE CURB OF A BRIDGE, APPROXIMATELY 275' SOUTHWEST OF INTERSECTION WITH CR 428. ELEVATION = 26.31 FEET NGVD29.
2. SITE BENCHMARK:  
 TBM "A":  
 A CUT BOX ON AN INLET ON THE EAST SIDE OF CULLEN STREET APPROXIMATELY 41' NORTH FROM THE INTERSECTION WITH BENNETT STREET. ELEVATION = 29.21'

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4905 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



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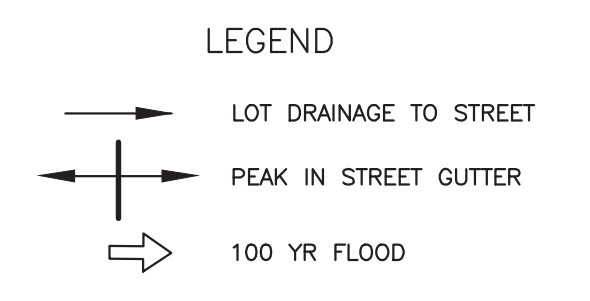
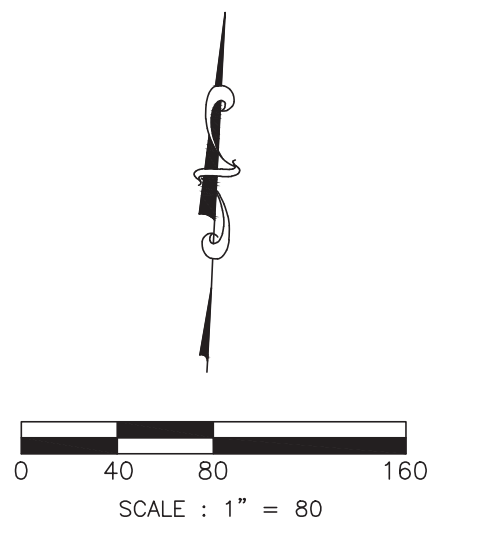
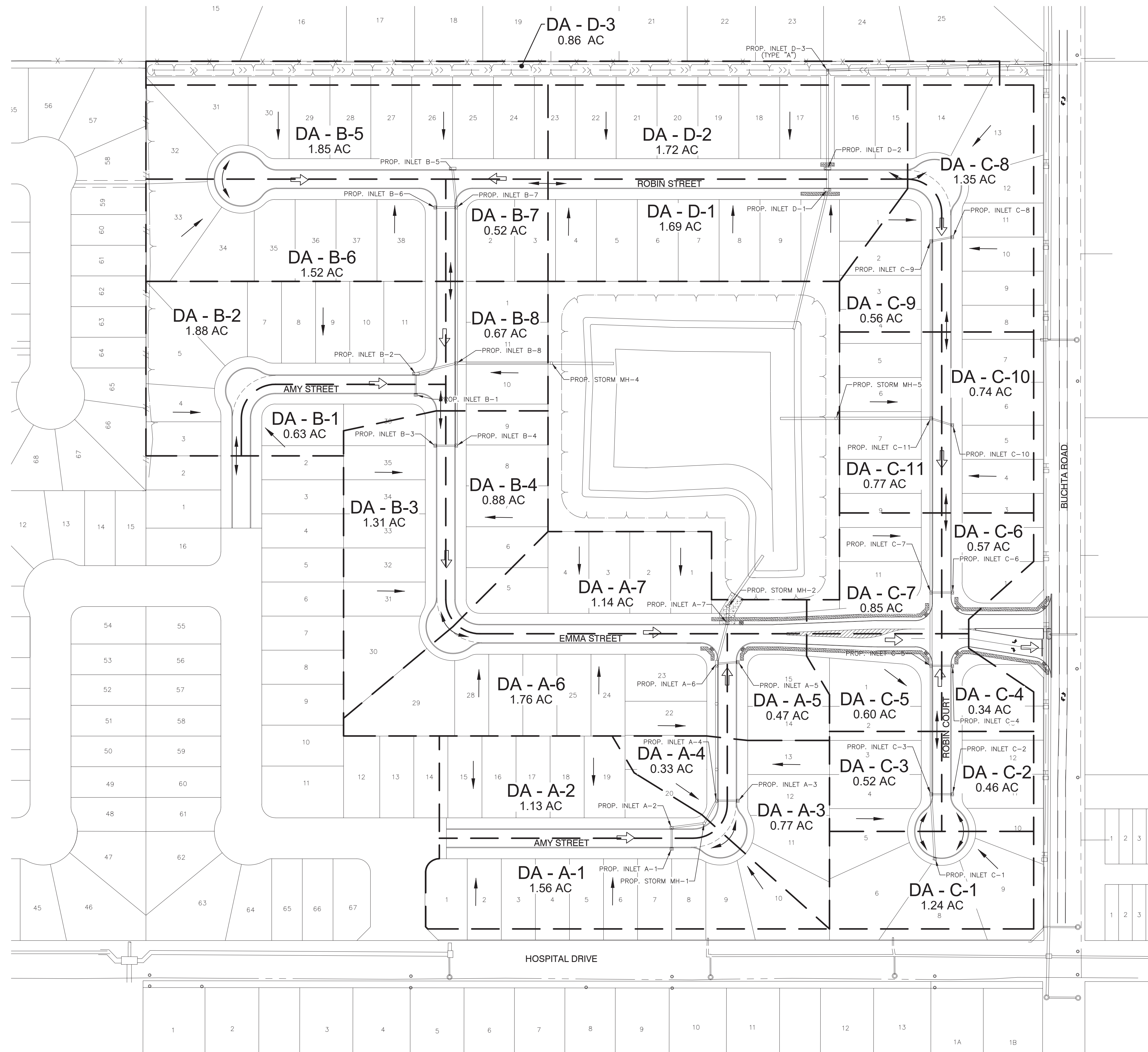
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 100'  
 PROFILE:  
 HORIZONTAL:  
 VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

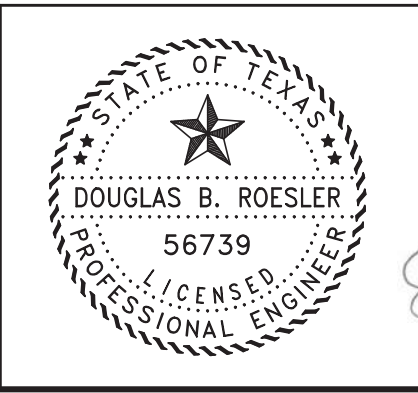
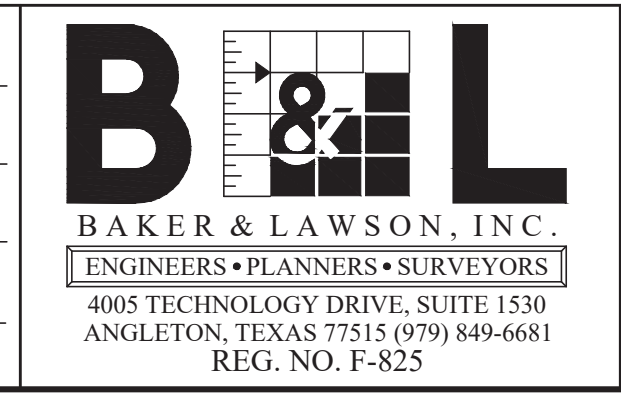
EXISTING CONDITION  
 & DEMOLITION

PROJECT NO. 14396



NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
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 CHECKED  
 DATE



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 03-03-2023

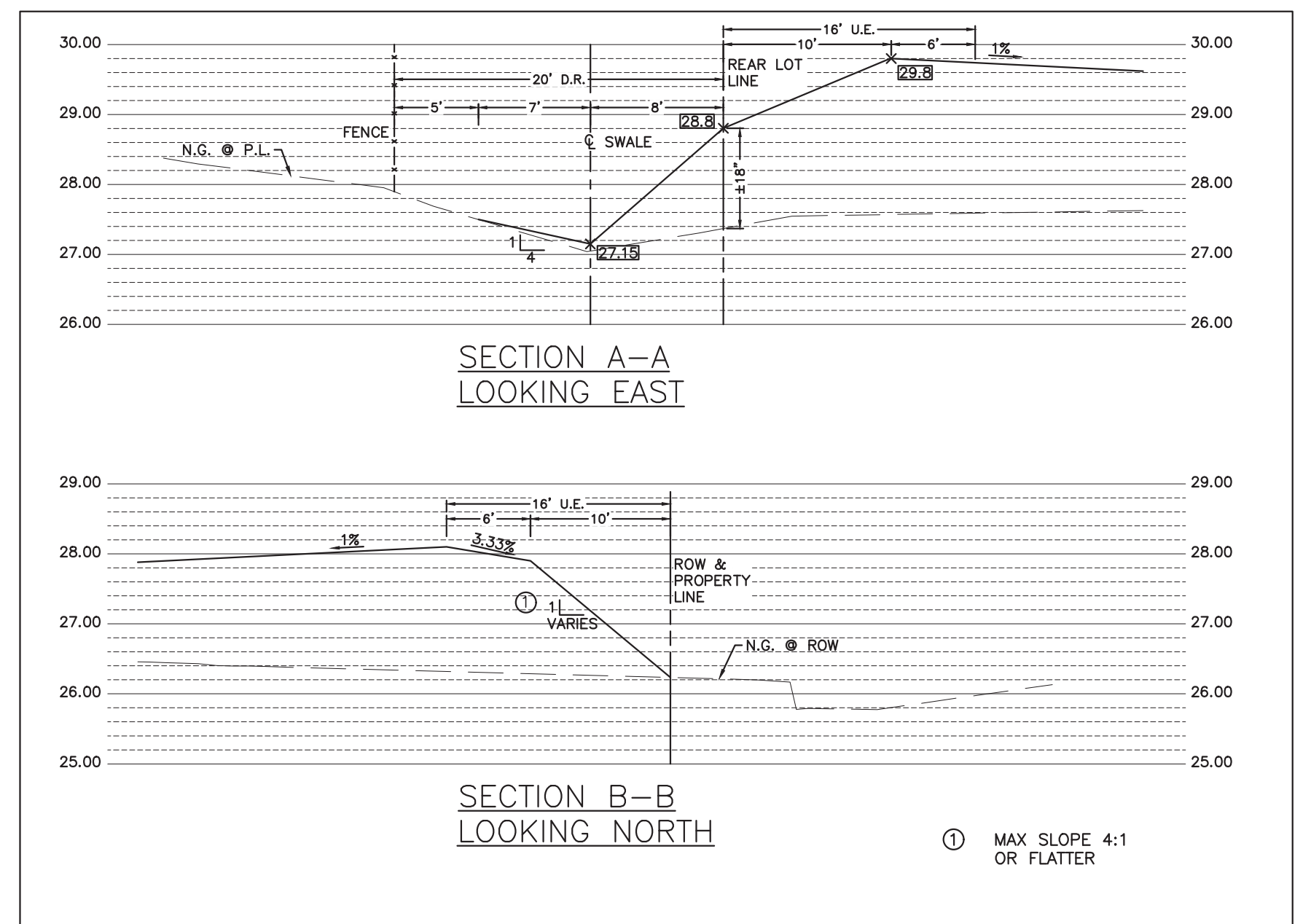
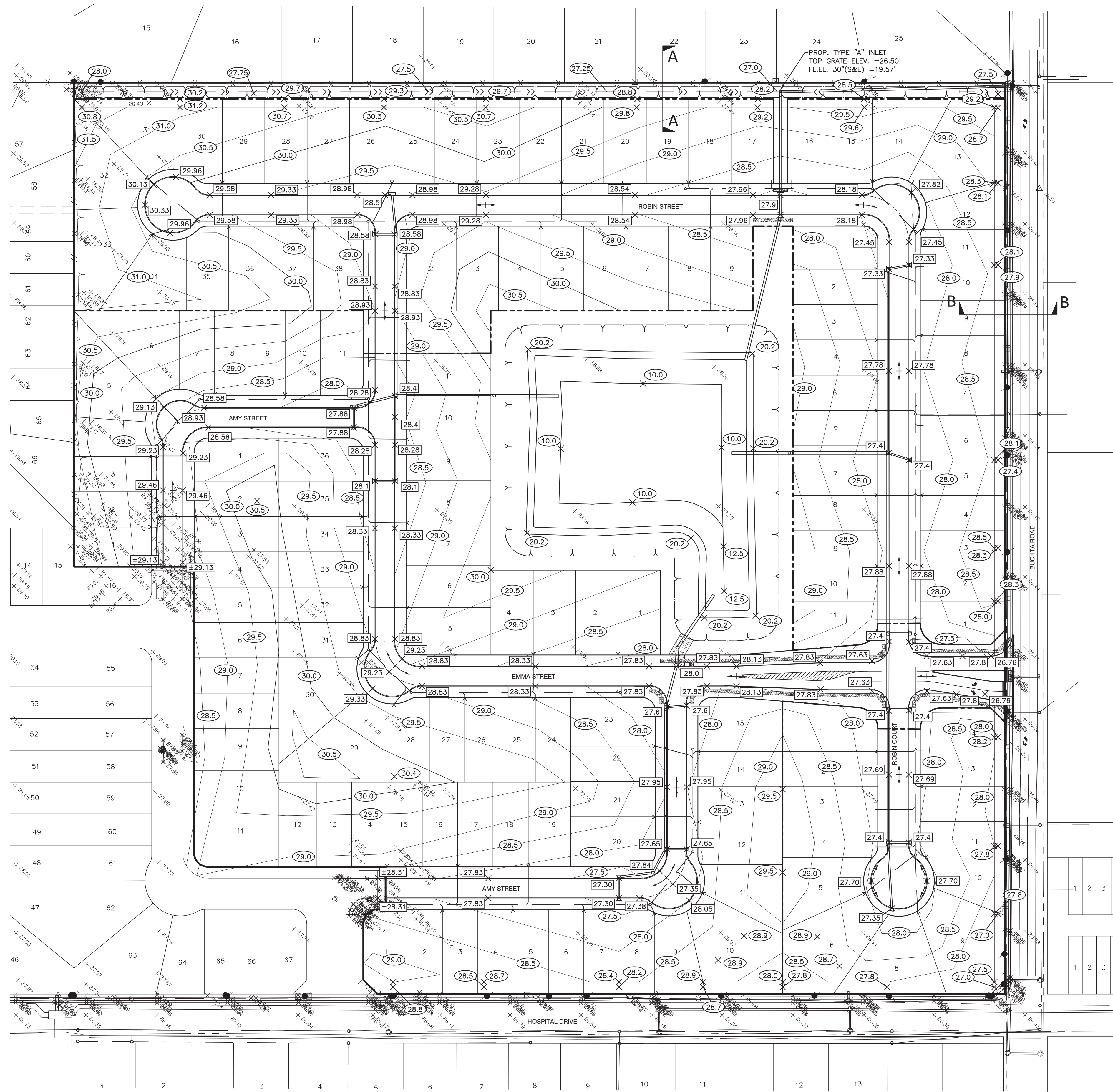
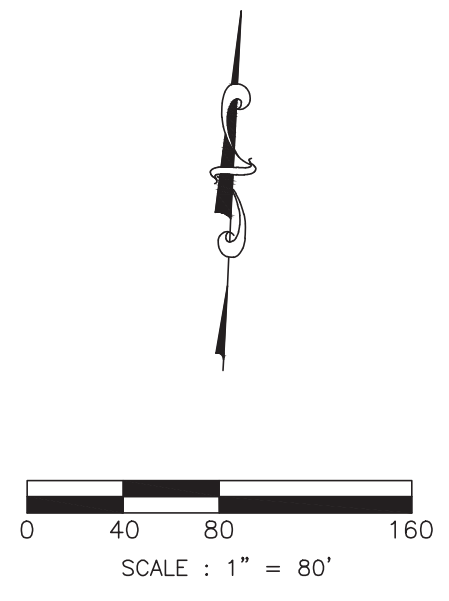
OWNER:  
**RIVERWAY PROPERTIES**  
 6115 SKYLINE DR. STE A.  
 HOUSTON, TEXAS 77057

PLAN: 1" = 80'  
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 HORIZONTAL:  
 VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
 SECTIONS 3 & 4  
 A 35.620 AC, 145-LOT SUBDIVISION  
 ANGLETON, TEXAS 77515

DRAINAGE AREA MAP  
 PROJECT NO. 14396



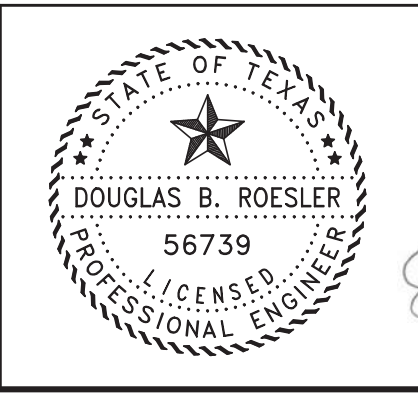


	Pavement area	Curb length
Section 3	86,130	5,466
Section 4	65,647	4,224

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

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 DATE

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 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1330  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



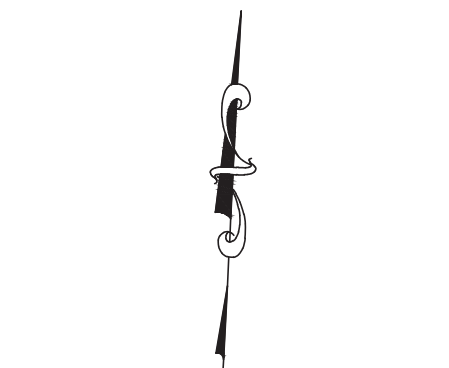
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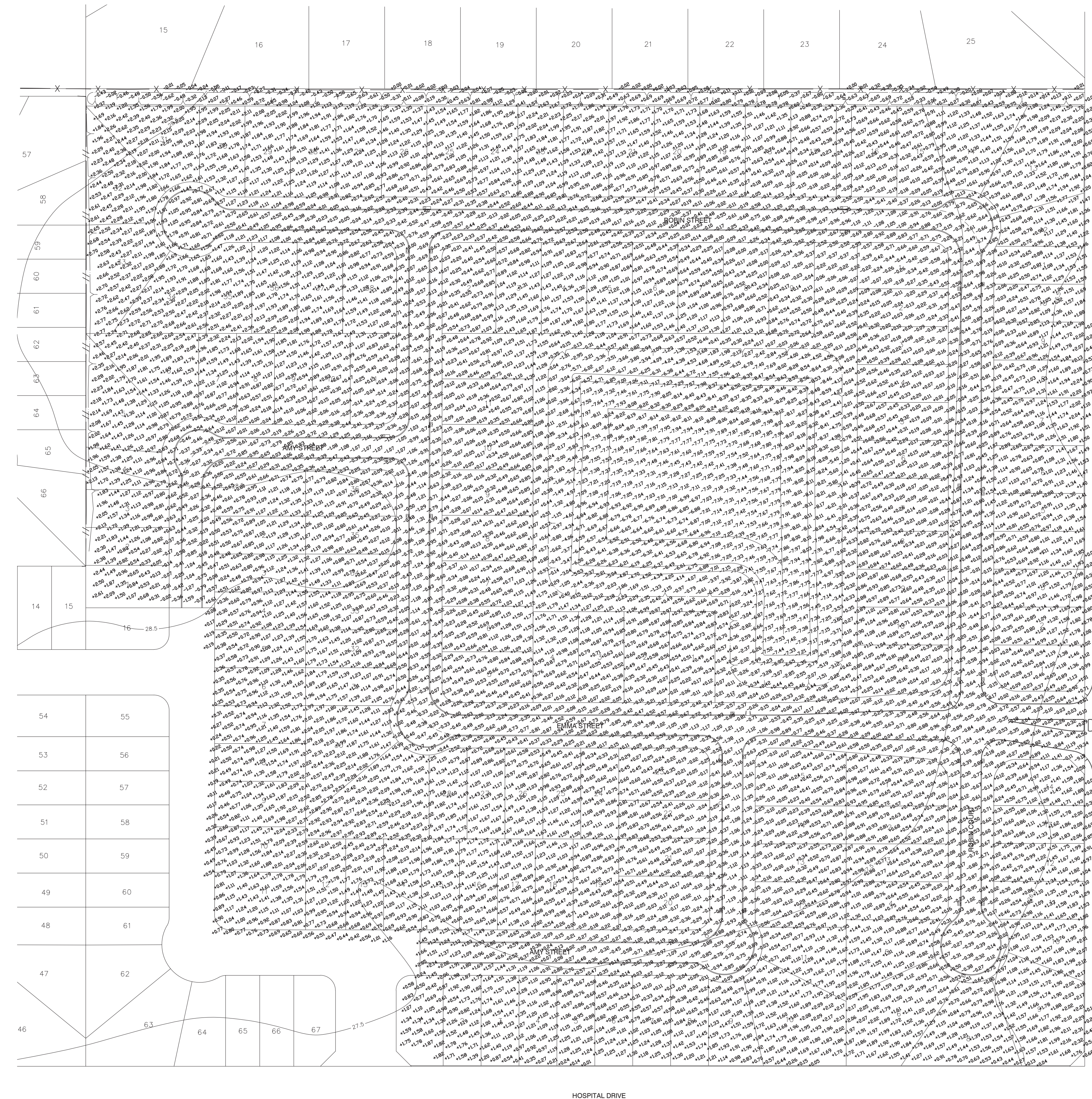
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 PROFILE:  
 HORIZONTAL:  
 VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
 SECTIONS 3 & 4  
 A 35.620 AC, 145-LOT SUBDIVISION  
 ANGLETON, TEXAS 77515

LOT GRADING PLAN  
 PROJECT NO. 14396



0 40 80 160  
SCALE : 1" = 80'



EARTHWORK QUANTITY	
CUT VOLUME	: 38140 CUYD
FILL VOLUME	: 43230 CUYD
NET FILL	: 5090 CUYD

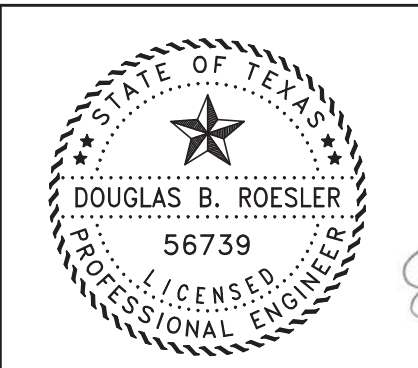
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1	2	3

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NO.	DATE	DESCRIPTION	APPROVED

DESIGNED DR  
DRAWN BT  
CHECKED  
DATE

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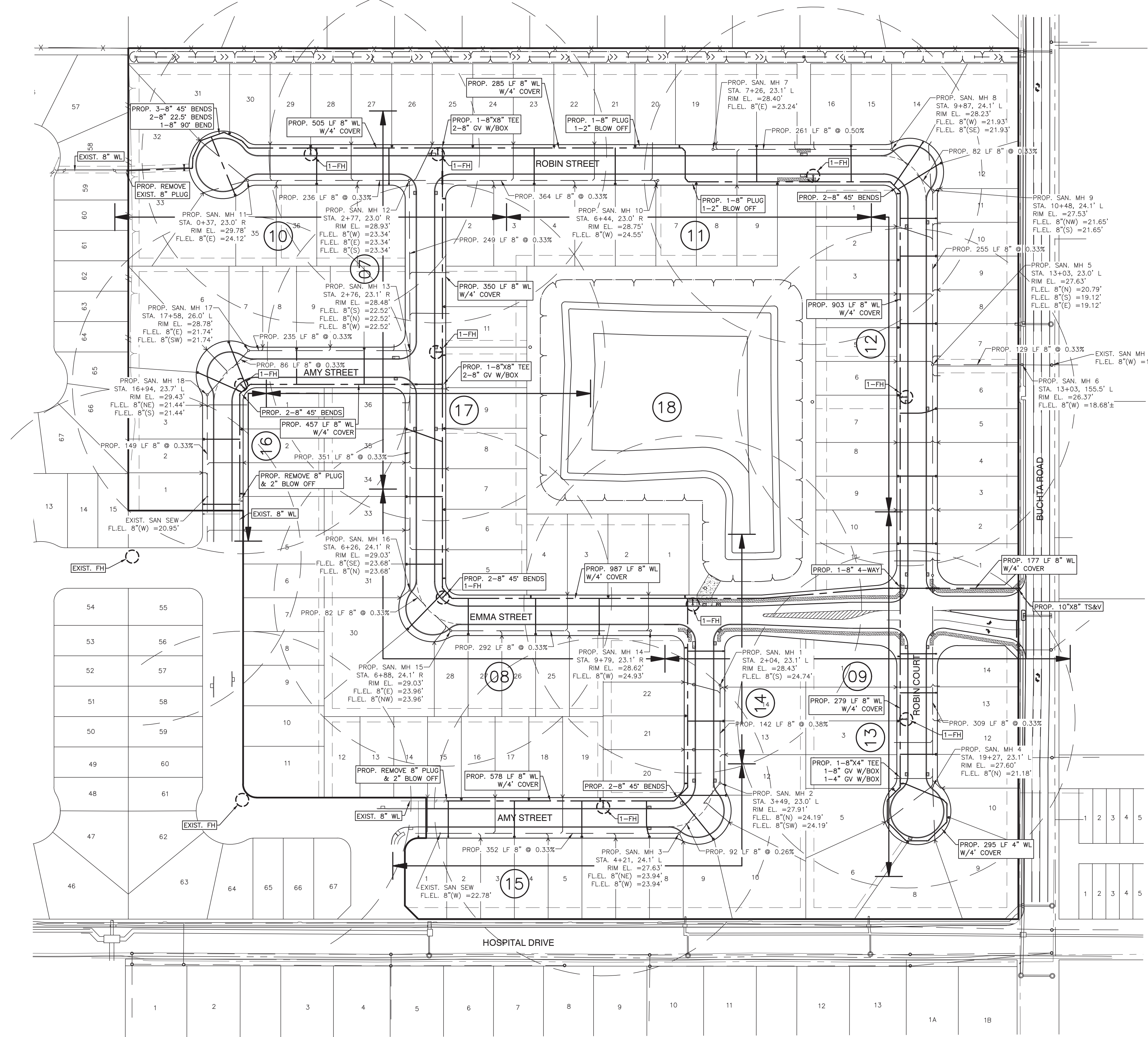
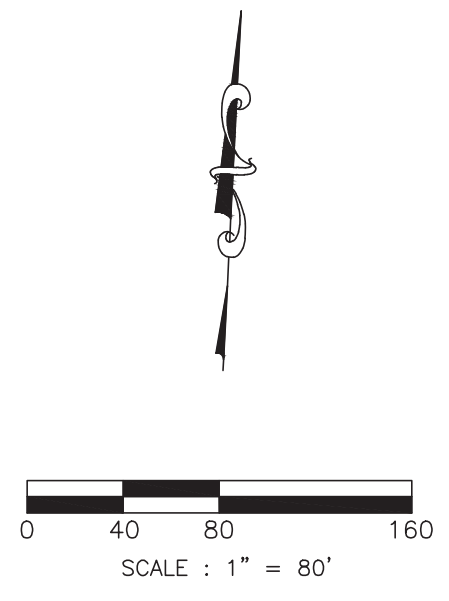
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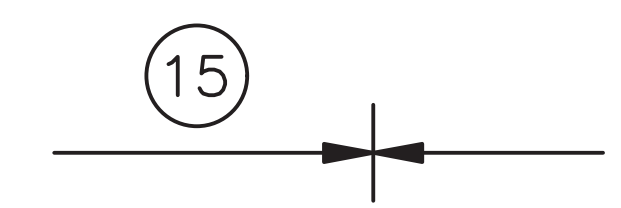
PLAN: 1" = 80'  
PROFILE:  
HORIZONTAL:  
VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

CUT & FILL  
CALCULATION  
PROJECT NO. 14396  
**5A**



LEGEND:



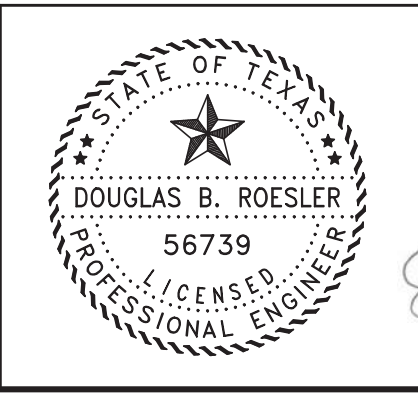
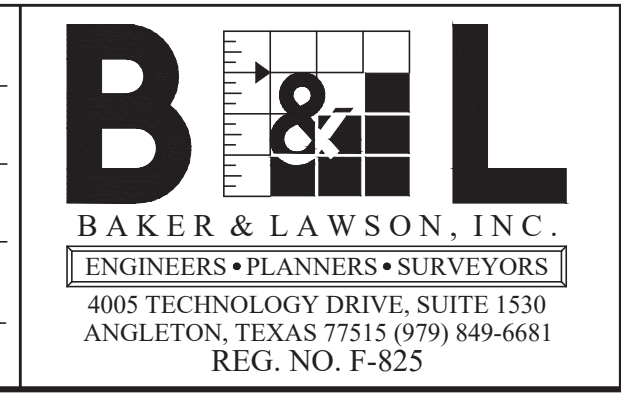
SHEET NUMBER



250' F.H. RADIUS & F.H. LOCATION

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE



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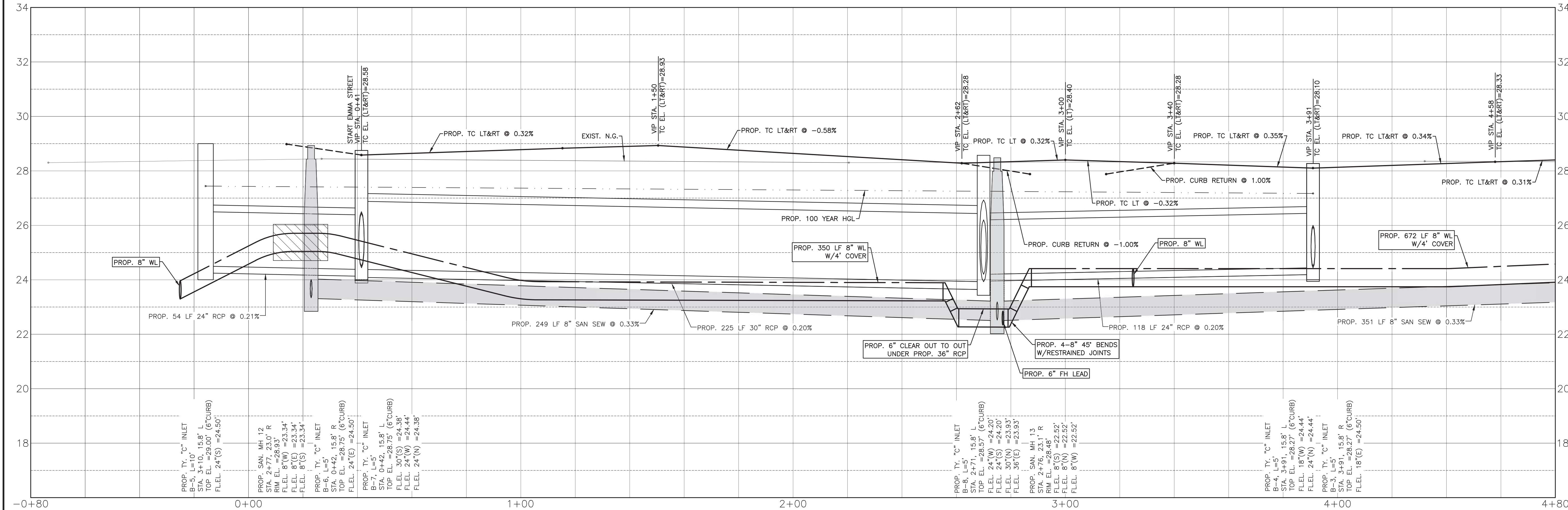
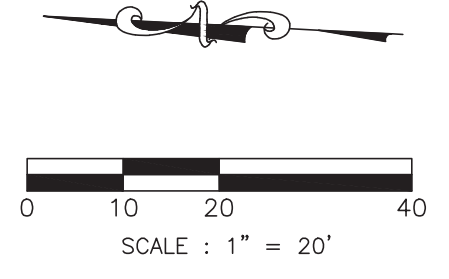
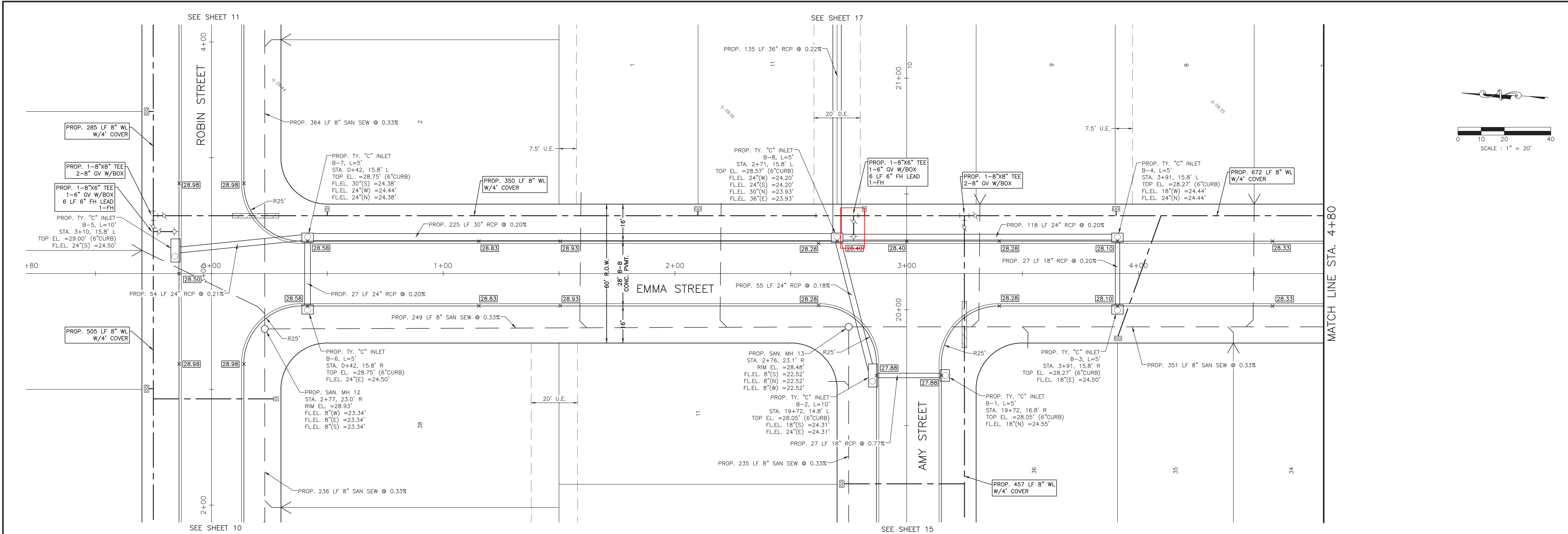
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 80'  
 PROFILE:  
 HORIZONTAL:  
 VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

UTILITY PLAN & SHEET LAYOUT

PROJECT NO. 14396

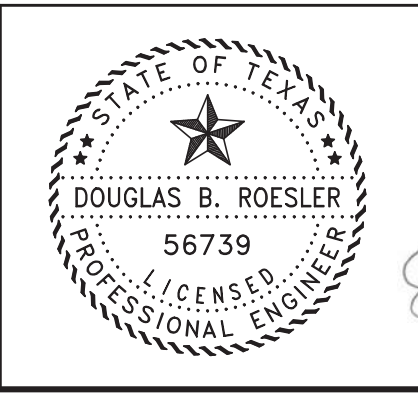


- SYMBOLS LEGEND**
- EXIST. GRADE ELEVATION
  - PROP. GRADE ELEVATION
  - PROP. TOP OF 4" CURB ELEVATION
  - PROP. GUTTER ELEVATION
  - PROP. TOP OF CONCRETE PAVEMENT
  - PROP. TOP OF GRATE INLET
  - DOUBLE WATER METER
  - SINGLE WATER METER
  - FIRE HYDRANT
  - WATER VALVE
  - TAPPING SLEEVE AND VALVE
  - STORM SEWER MANHOLE (STM. MH-1)
  - SANITARY SEWER MANHOLE (SAN. MH-1)
  - TOP BANK
  - STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
  - SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
  - WATERLINE (AWMA C900, CLASS 150, DR18)
  - PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
  - SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
 BAKER & LAWSON, INC.  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



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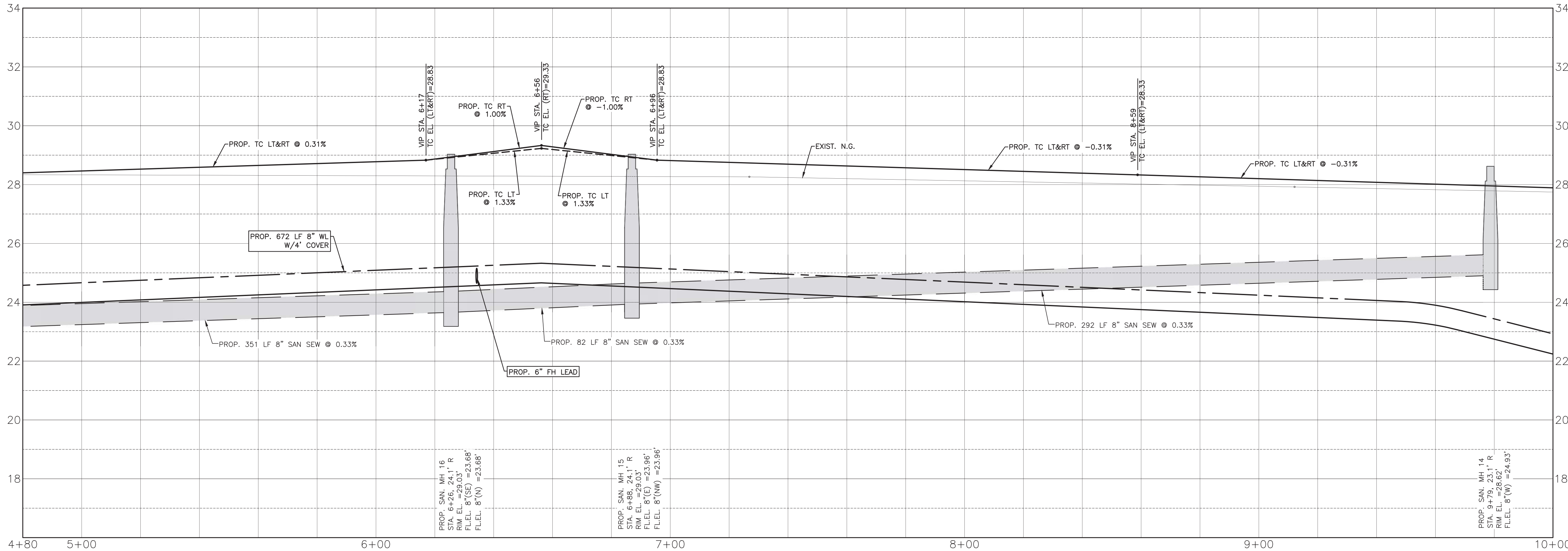
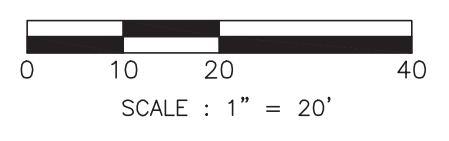
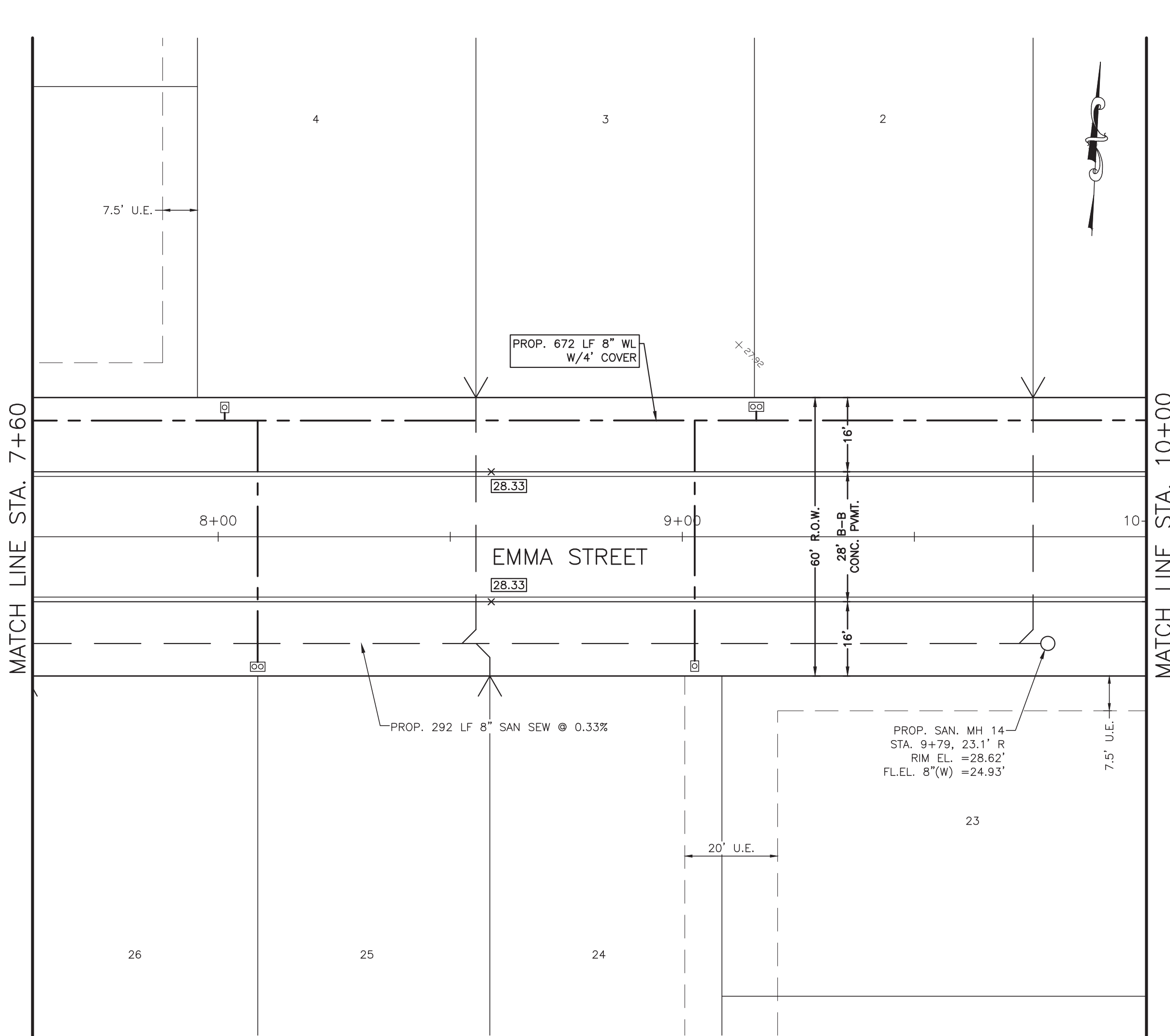
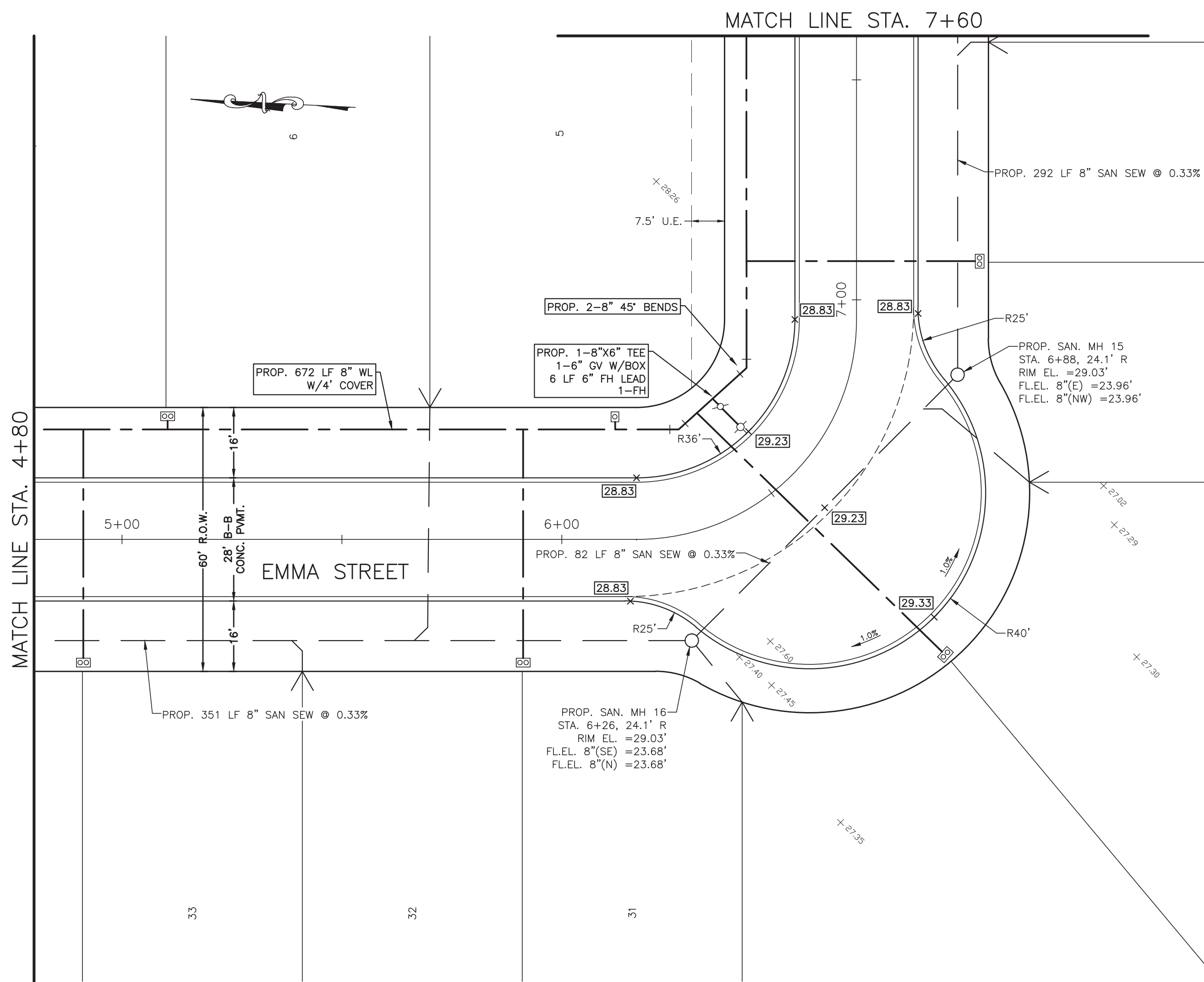
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
 PROFILE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 2'

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 EMMA STREET  
 STA. -0+80 TO 4+80

PROJECT NO. 14396

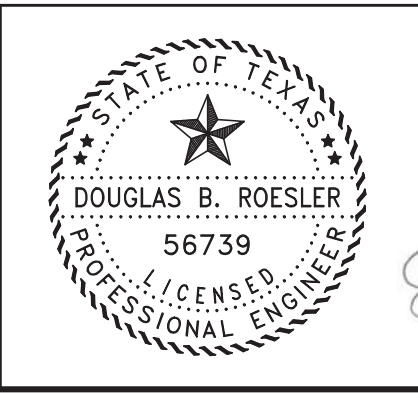


- SYMBOLS LEGEND**
- EXIST. GRADE ELEVATION
  - PROP. GRADE ELEVATION
  - PROP. TOP OF 4" CURB ELEVATION
  - PROP. GUTTER ELEVATION
  - PROP. TOP OF CONCRETE PAVEMENT
  - PROP. TOP OF GRATE INLET
  - DOUBLE WATER METER
  - SINGLE WATER METER
  - FIRE HYDRANT
  - WATER VALVE
  - TAPPING SLEEVE AND VALVE
  - STORM SEWER MANHOLE (STM. MH-1)
  - SANITARY SEWER MANHOLE (SAN. MH-1)
  - TOP BANK
  - STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
  - SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
  - WATERLINE (AWWA C900, CLASS 150, DR18)
  - PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
  - SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



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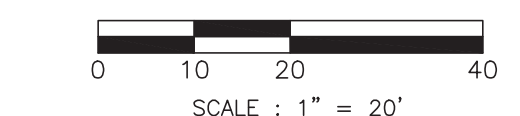
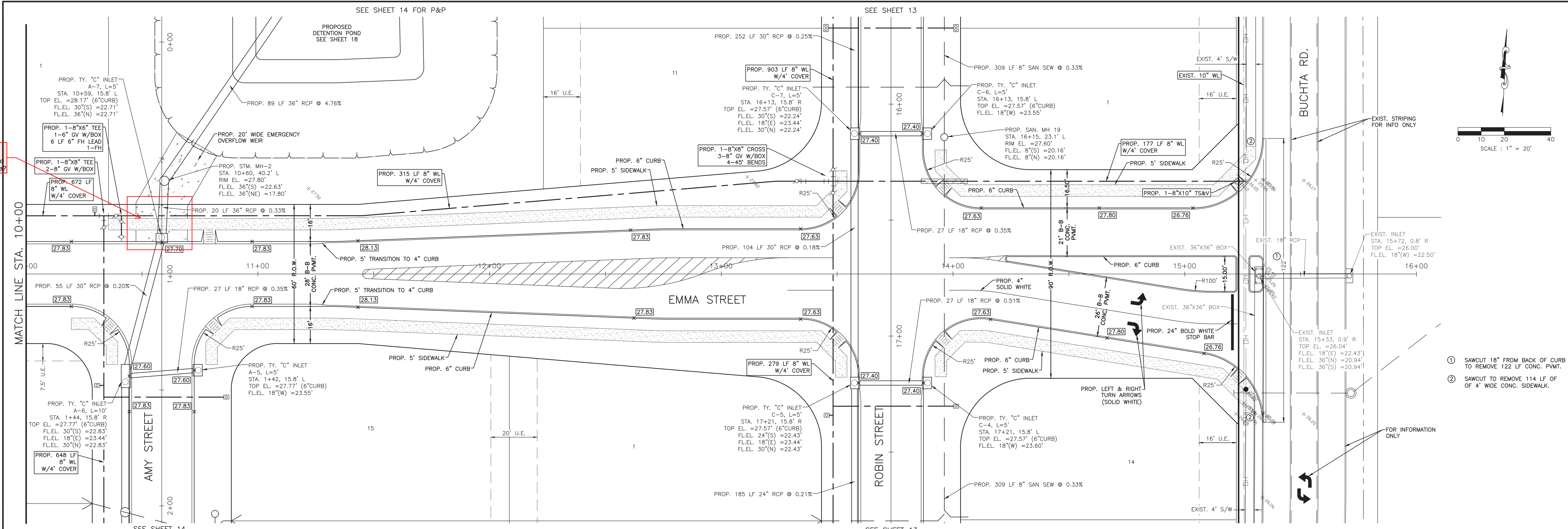
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
 PROFILE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 2'

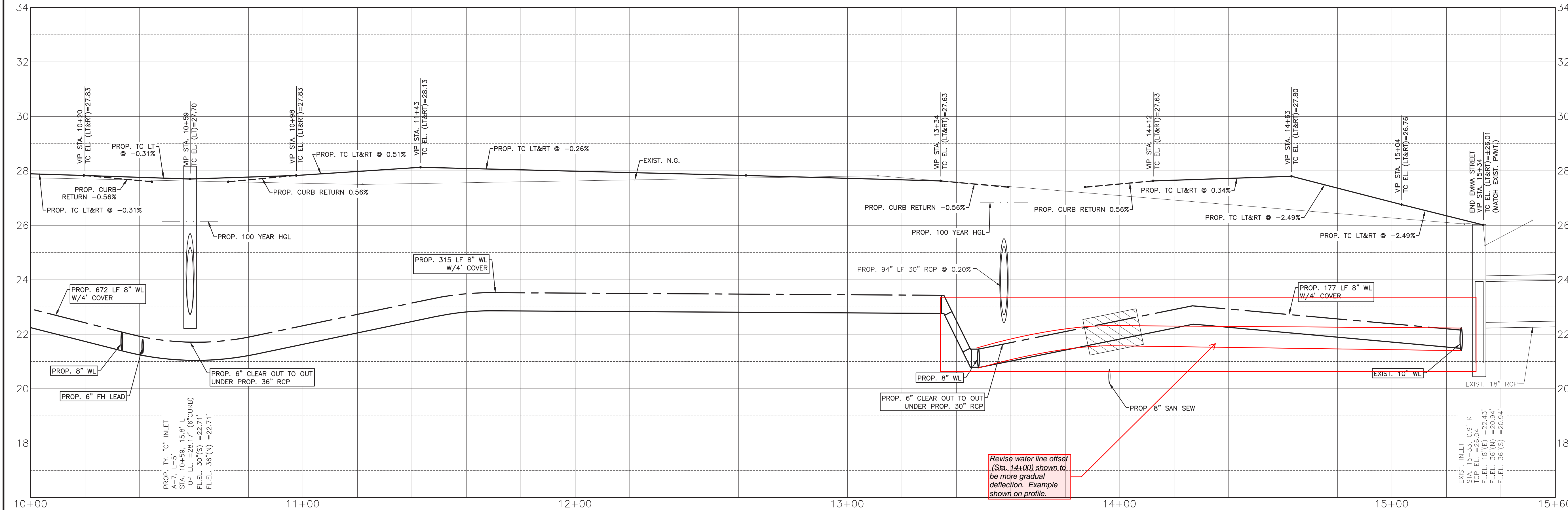
**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 EMMA STREET  
 STA. 4+80 TO 10+00

PROJECT NO. 14396



- ① SAWCUT 18" FROM BACK OF CURB TO REMOVE 122 LF CONC. PVMT.
- ② SAWCUT TO REMOVE 114 LF OF 4' WIDE CONC. SIDEWALK.

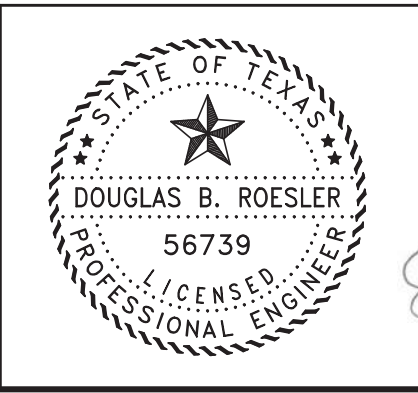


- ### SYMBOLS LEGEND
- EXIST. GRADE ELEVATION
  - PROP. GRADE ELEVATION
  - PROP. TOP OF 4" CURB ELEVATION
  - PROP. GUTTER ELEVATION
  - PROP. TOP OF CONCRETE PAVEMENT
  - PROP. TOP OF GRATE INLET
  - DOUBLE WATER METER
  - SINGLE WATER METER
  - FIRE HYDRANT
  - WATER VALVE
  - TAPPING SLEEVE AND VALVE
  - STORM SEWER MANHOLE (STM. MH-1)
  - SANITARY SEWER MANHOLE (SAN. MH-1)
  - TOP BANK
  - STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
  - SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
  - WATERLINE (AWMA C900, CLASS 150, DR18)
  - PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
  - SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	DR
DRAWN	BT
CHECKED	
DATE	

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



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 03-03-2023

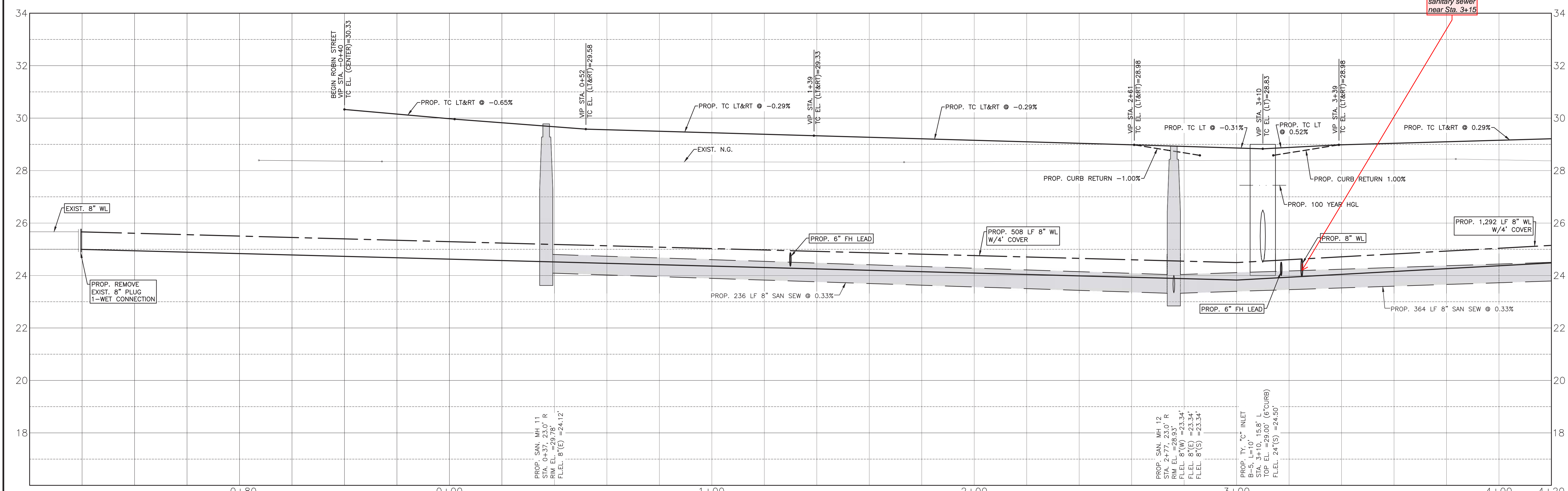
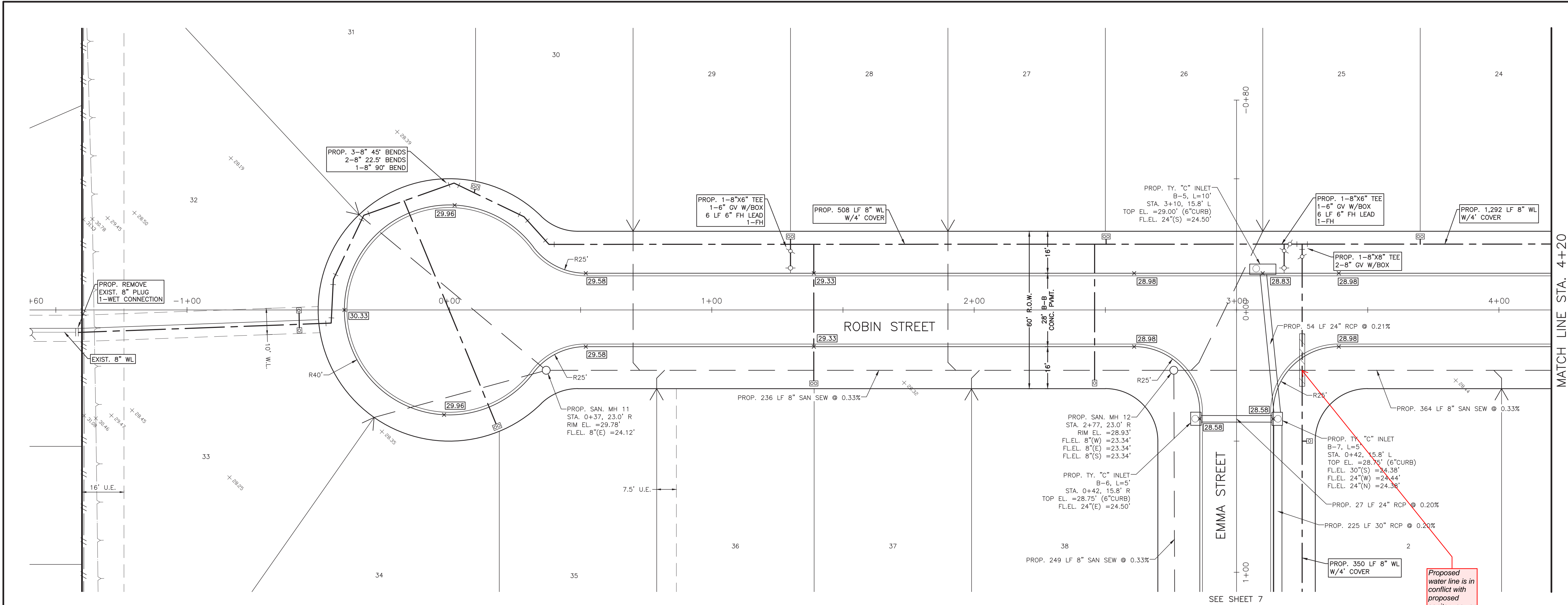
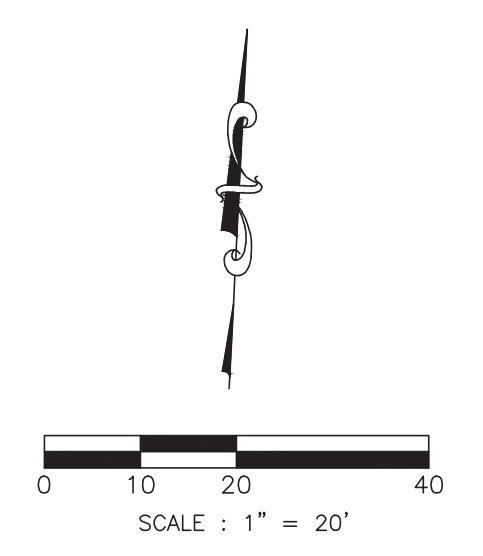
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
 PROFILE: 1" = 20'  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 2'

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 EMMA STREET  
 STA. 10+00 TO 15+60

PROJECT NO. 14396

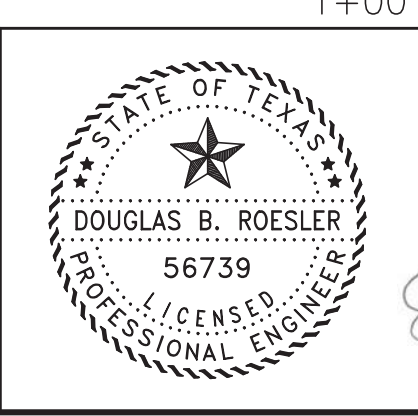


- SYMBOLS LEGEND**
- + 80.00 EXIST GRADE ELEVATION
  - 82.50 PROP. GRADE ELEVATION
  - 81.35 PROP. TOP OF 4" CURB ELEVATION
  - GUT=81.50 PROP. GUTTER ELEVATION
  - CONC=81.50 PROP. TOP OF CONCRETE PAVEMENT
  - TG=81.50 PROP. TOP OF GRATE INLET
  - ⊗ DOUBLE WATER METER
  - ⊠ SINGLE WATER METER
  - ⊕ FIRE HYDRANT
  - ⊙ WATER VALVE
  - ⊙ TAPPING SLLEEVE AND VALVE
  - ⊙ STORM SEWER MANHOLE (STM. MH-1)
  - ⊙ SANITARY SEWER MANHOLE (SAN. MH-1)
  - TOP BANK
  - STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
  - SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
  - WATERLINE (AWWA C900, CLASS 150, DR18)
  - ▨ PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
  - SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



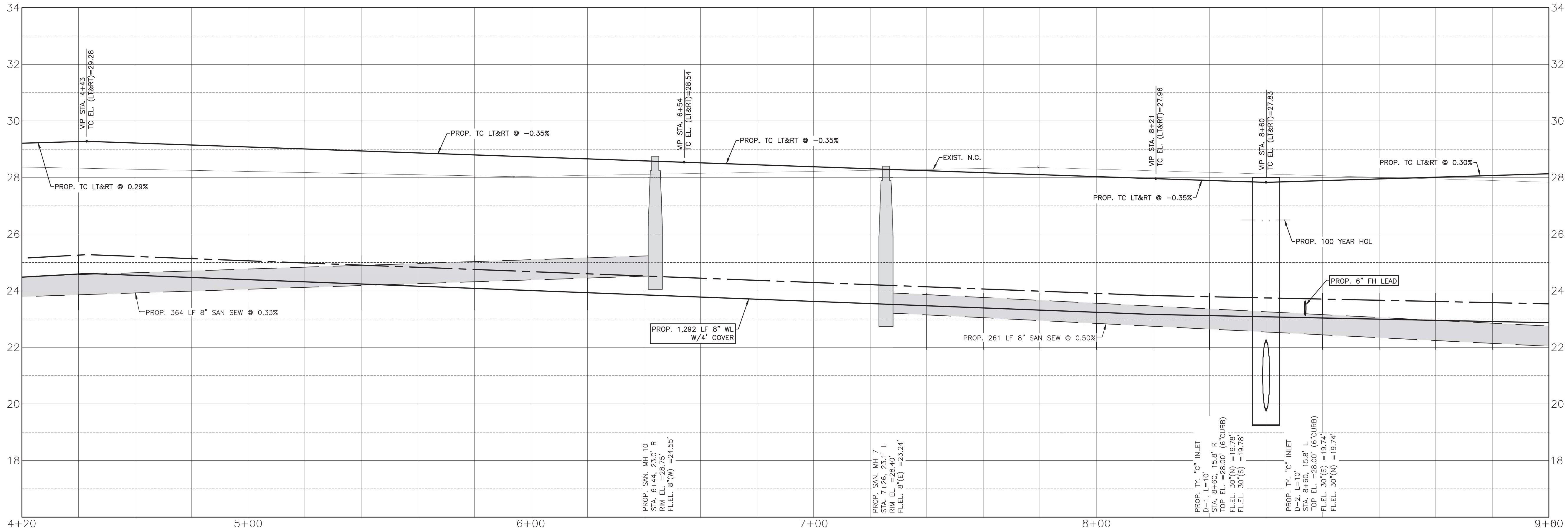
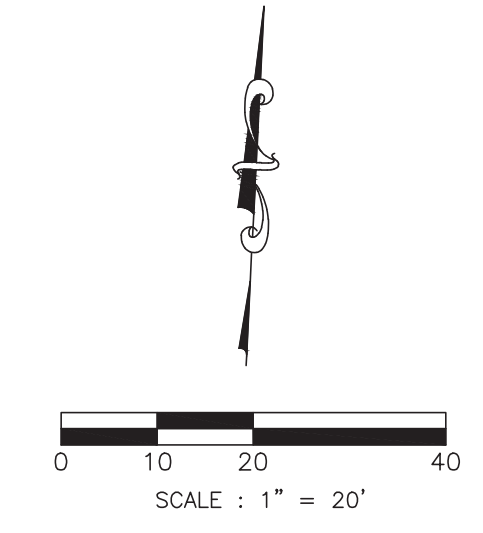
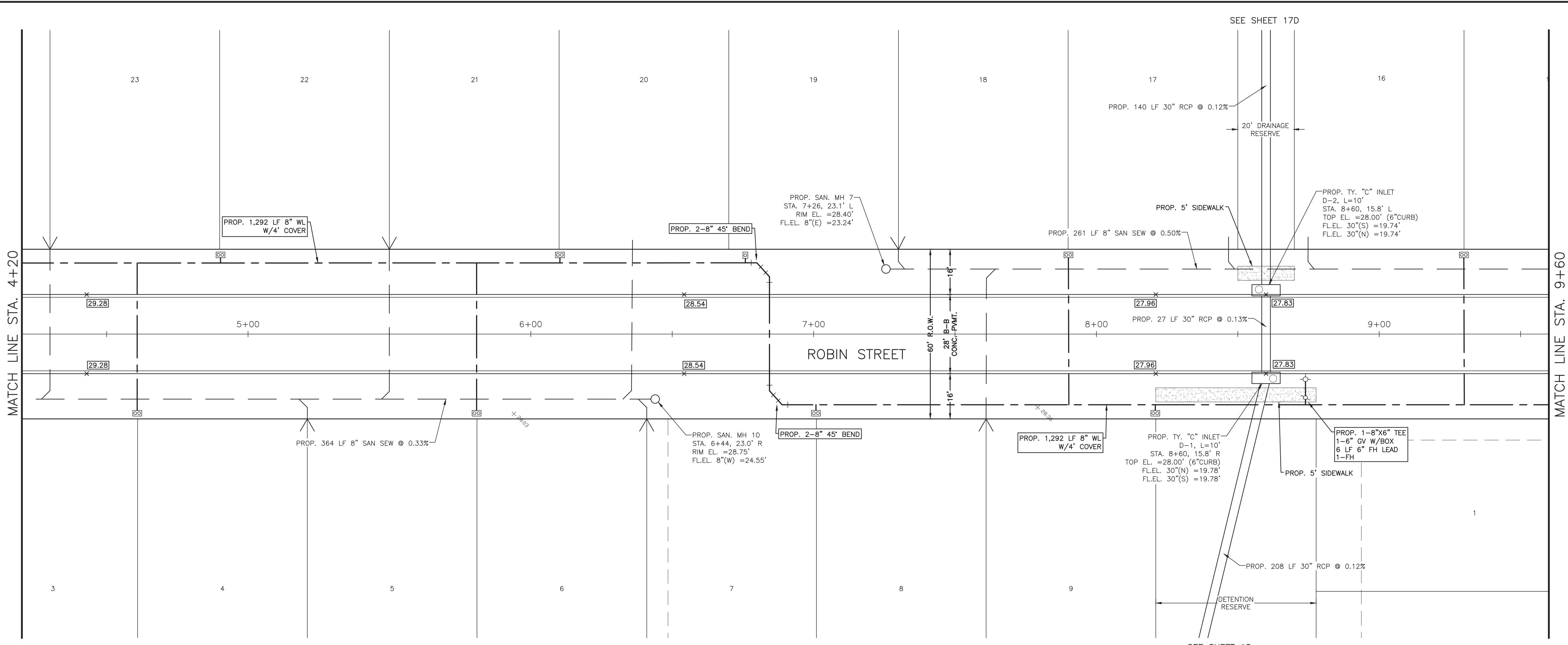
The seal appearing on this document was authorized by Douglas B. Roesler P.E. 56739  
 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
 PROFILE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 2'

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 ROBIN STREET  
 STA. -1+60 TO 4+20  
 PROJECT NO. 14396



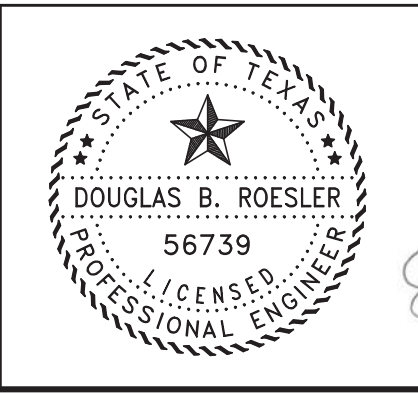
**SYMBOLS LEGEND**

- EXIST GRADE ELEVATION
- PROP. GRADE ELEVATION
- PROP. TOP OF 4" CURB ELEVATION
- PROP. GUTTER ELEVATION
- PROP. TOP OF CONCRETE PAVEMENT
- PROP. TOP OF GRATE INLET
- DOUBLE WATER METER
- SINGLE WATER METER
- FIRE HYDRANT
- WATER VALVE
- TAPPING SLEEVE AND VALVE
- STORM SEWER MANHOLE (STM. MH-1)
- SANITARY SEWER MANHOLE (SAN. MH-1)
- TOP BANK
- STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
- SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
- WATERLINE (AWWA C900, CLASS 150, DR18)
- PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
- SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4905 TECHNOLOGY DRIVE, SUITE 1330  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



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 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

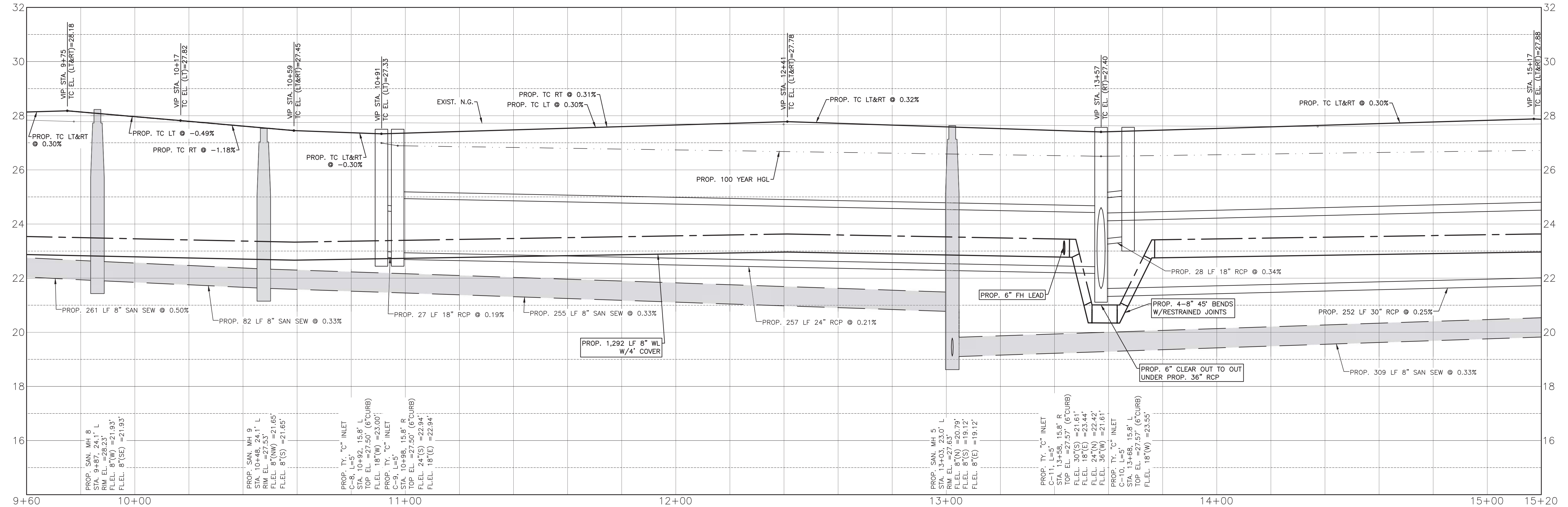
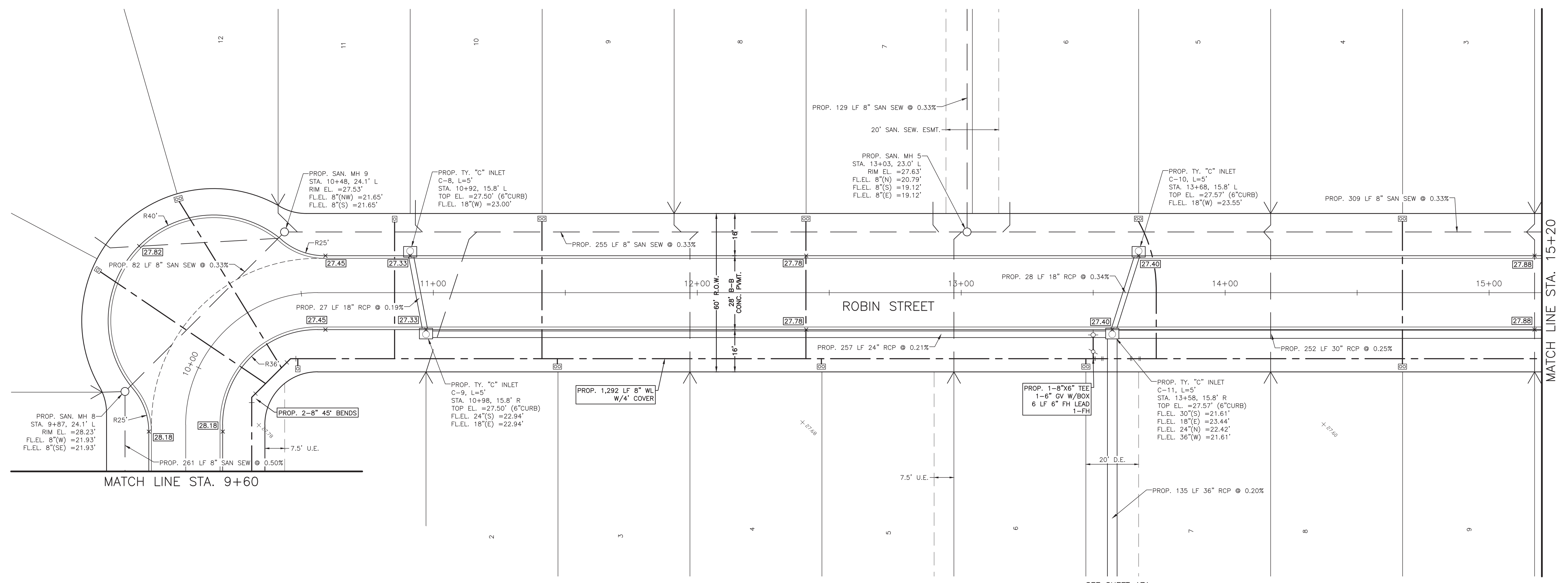
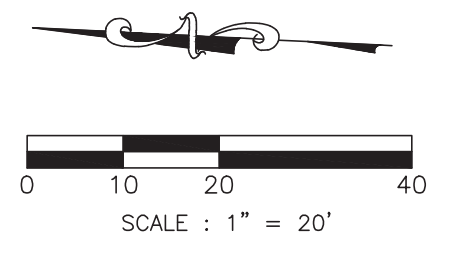
PLAN: 1" = 20'  
 PROFILE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 2'

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 ROBIN STREET  
 STA. 4+20 TO 9+60

PROJECT NO. 14396



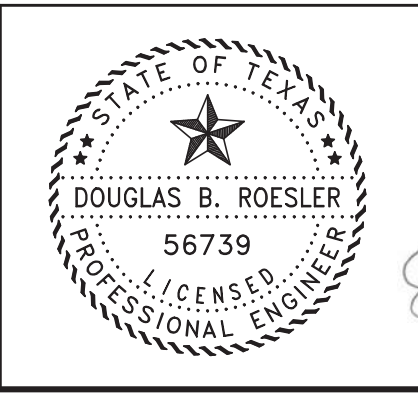


- SYMBOLS LEGEND**
- EXIST. GRADE ELEVATION
  - PROP. GRADE ELEVATION
  - PROP. TOP OF 4" CURB ELEVATION
  - PROP. GUTTER ELEVATION
  - PROP. TOP OF CONCRETE PAVEMENT
  - PROP. TOP OF GRATE INLET
  - DOUBLE WATER METER
  - SINGLE WATER METER
  - FIRE HYDRANT
  - WATER VALVE
  - TAPPING SLEEVE AND VALVE
  - STORM SEWER MANHOLE (STM. MH-1)
  - SANITARY SEWER MANHOLE (SAN. MH-1)
  - TOP BANK
  - STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
  - SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
  - WATERLINE (AWWA C900, CLASS 150, DR18)
  - PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
  - SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1330  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



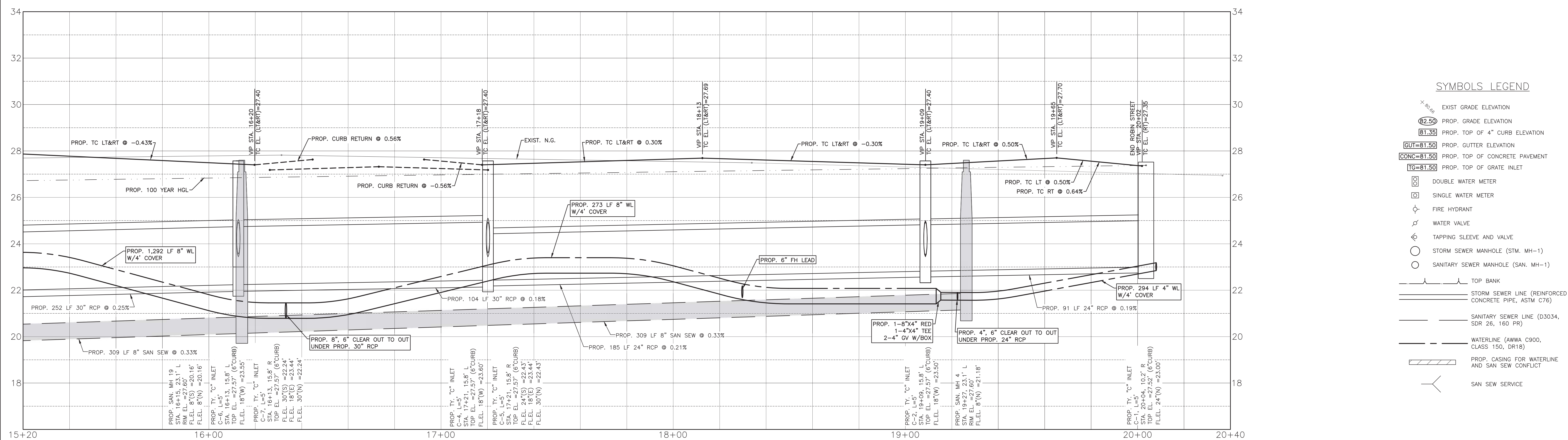
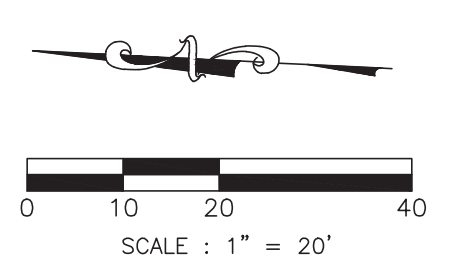
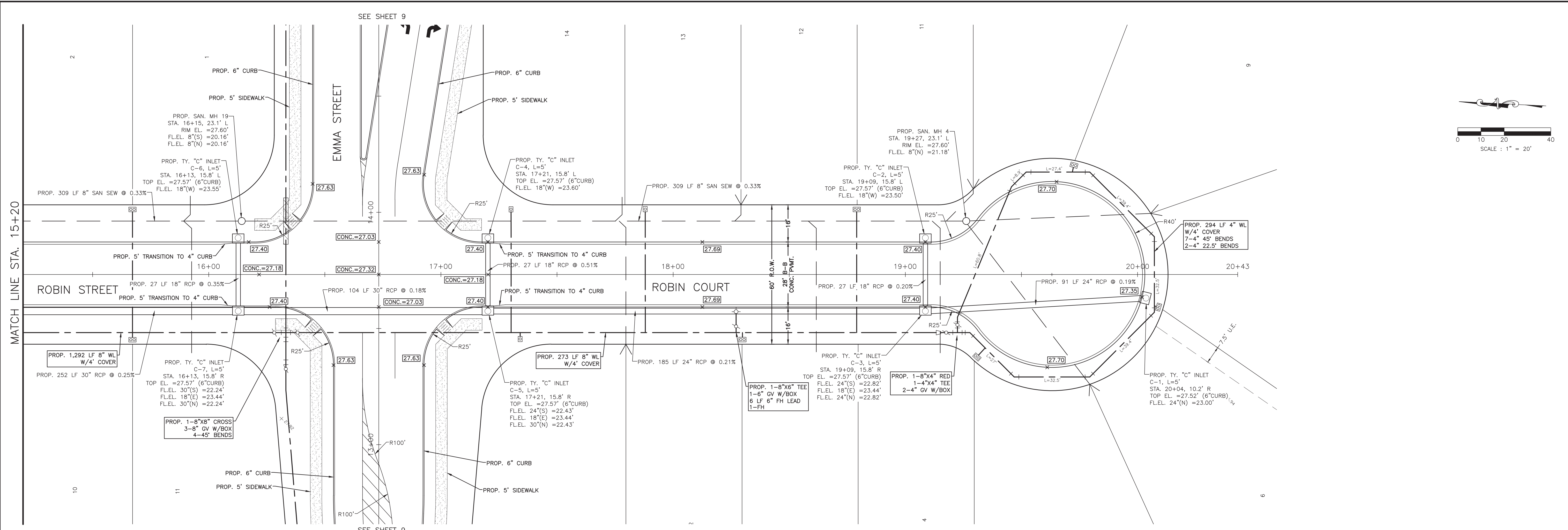
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OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
 PROFILE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 2'

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 ROBIN STREET  
 STA. 9+60 TO 15+20  
 PROJECT NO. 14396



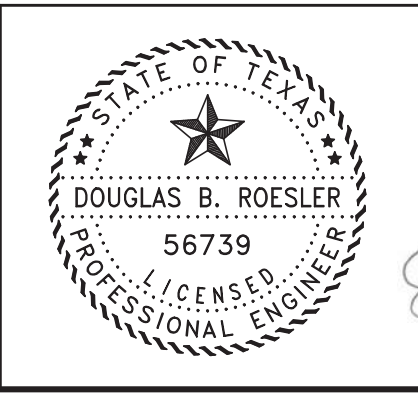
**SYMBOLS LEGEND**

- EXIST. GRADE ELEVATION
- PROP. GRADE ELEVATION
- PROP. TOP OF 4" CURB ELEVATION
- PROP. GUTTER ELEVATION
- PROP. TOP OF CONCRETE PAVEMENT
- PROP. TOP OF GRATE INLET
- DOUBLE WATER METER
- SINGLE WATER METER
- FIRE HYDRANT
- WATER VALVE
- TAPPING SLEEVE AND VALVE
- STORM SEWER MANHOLE (STM, MH-1)
- SANITARY SEWER MANHOLE (SAN, MH-1)
- TOP BANK
- STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
- SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
- WATERLINE (AWWA C900, CLASS 150, DR18)
- PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
- SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	DR
DRAWN	BT
CHECKED	
DATE	

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1330  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



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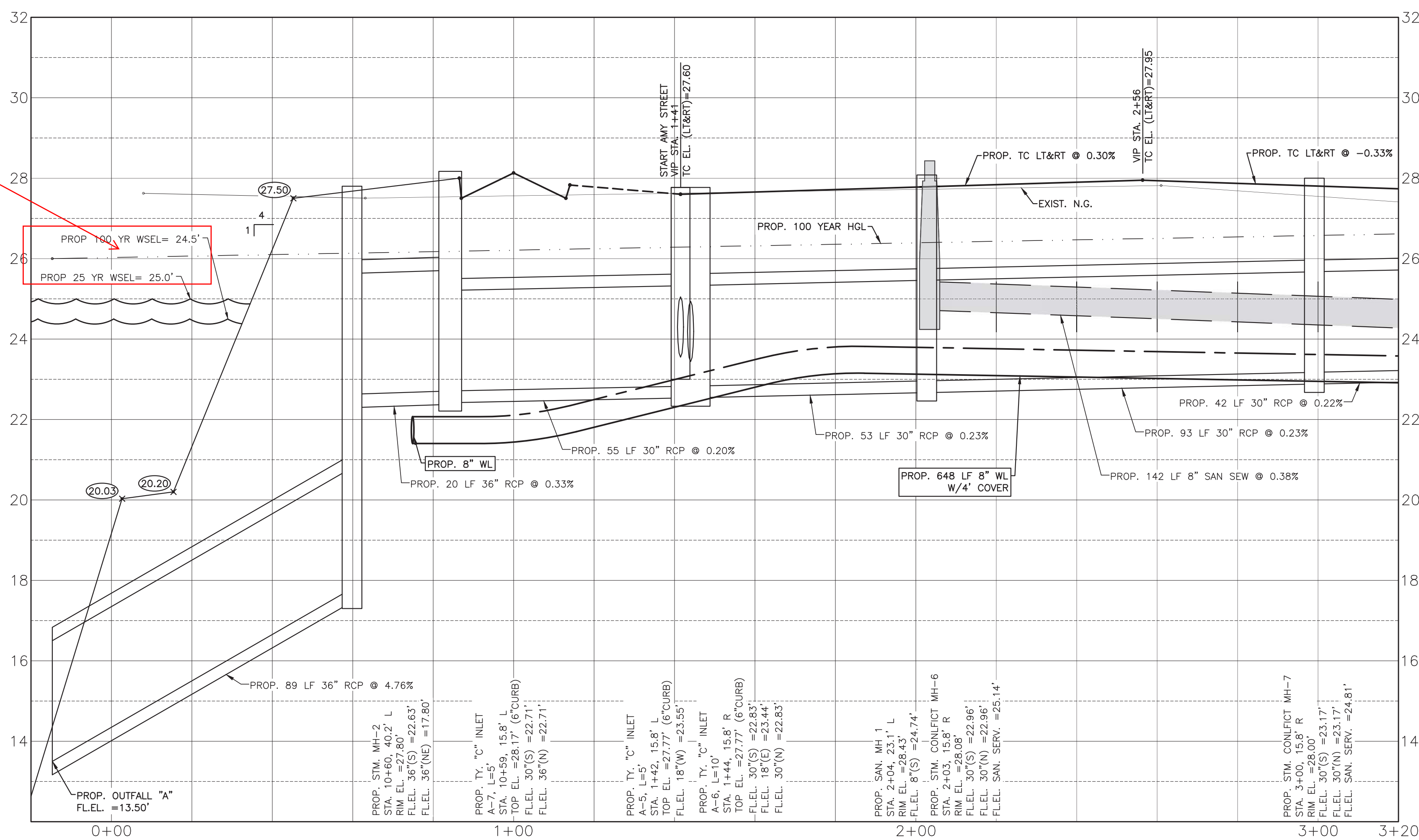
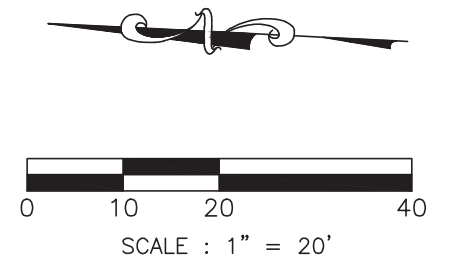
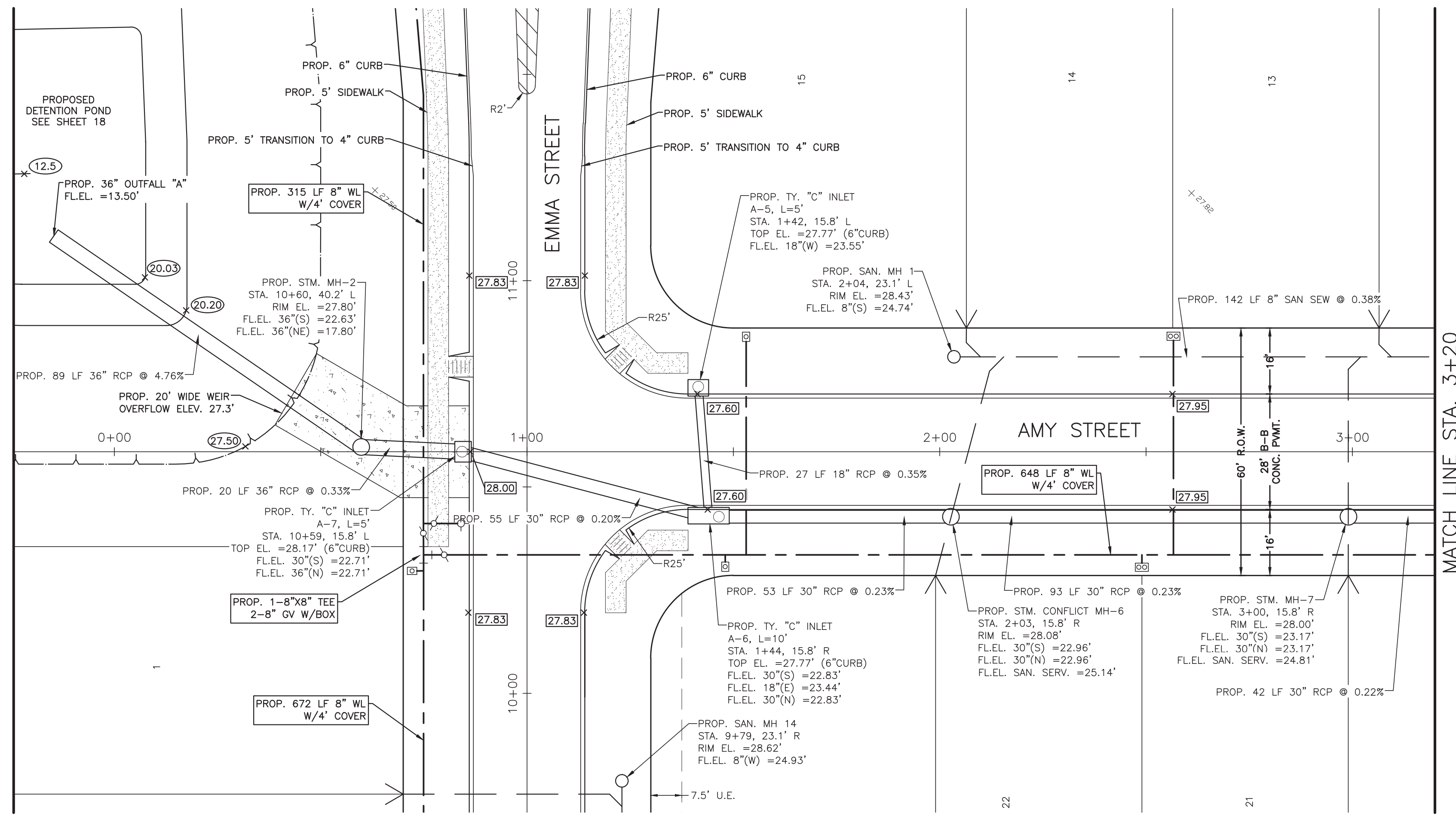
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
 PROFILE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 2'

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 ROBIN STREET  
 STA. 15+20 TO 20+40

PROJECT NO. 14396



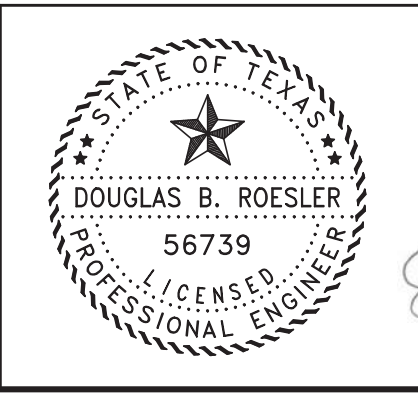
Verify and update water surface elevations shown for 25yr and 100yr

- SYMBOLS LEGEND**
- EXIST. GRADE ELEVATION
  - PROP. GRADE ELEVATION
  - PROP. TOP OF 4" CURB ELEVATION
  - PROP. GUTTER ELEVATION
  - PROP. TOP OF CONCRETE PAVEMENT
  - PROP. TOP OF GRATE INLET
  - DOUBLE WATER METER
  - SINGLE WATER METER
  - FIRE HYDRANT
  - WATER VALVE
  - TAPPING SLEEVE AND VALVE
  - STORM SEWER MANHOLE (STM. MH-1)
  - SANITARY SEWER MANHOLE (SAN. MH-1)
  - TOP BANK
  - STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
  - SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
  - WATERLINE (AWWA C900, CLASS 150, DR18)
  - PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
  - SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



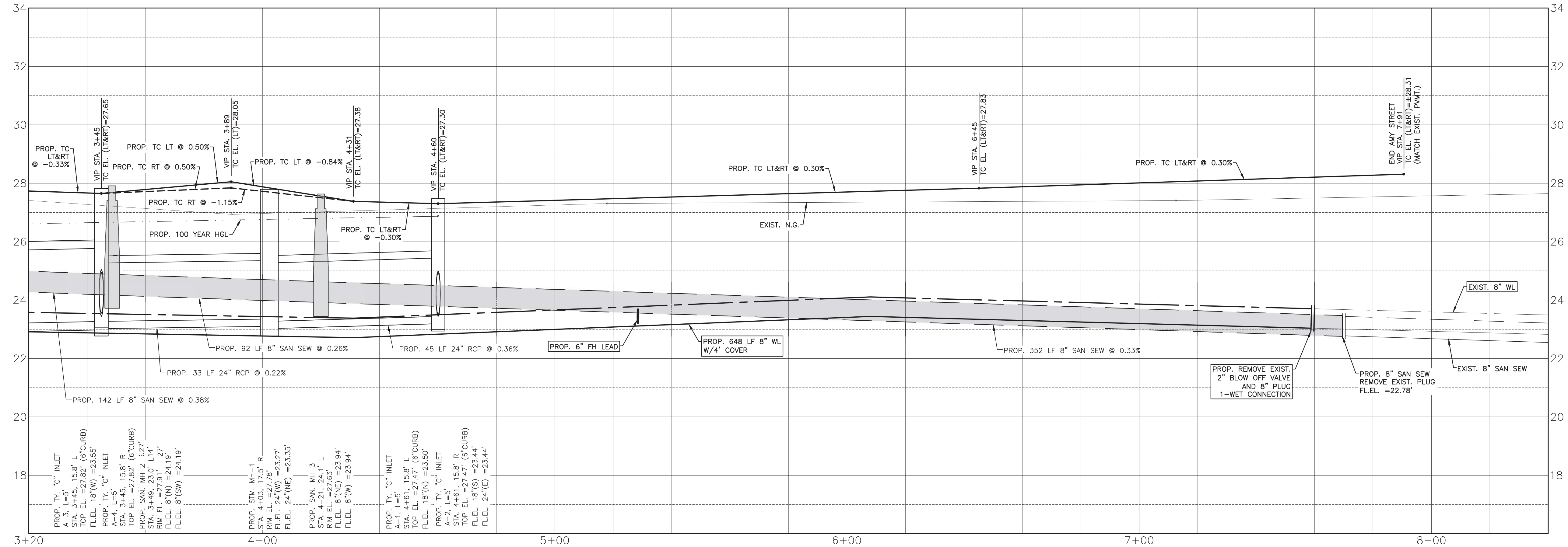
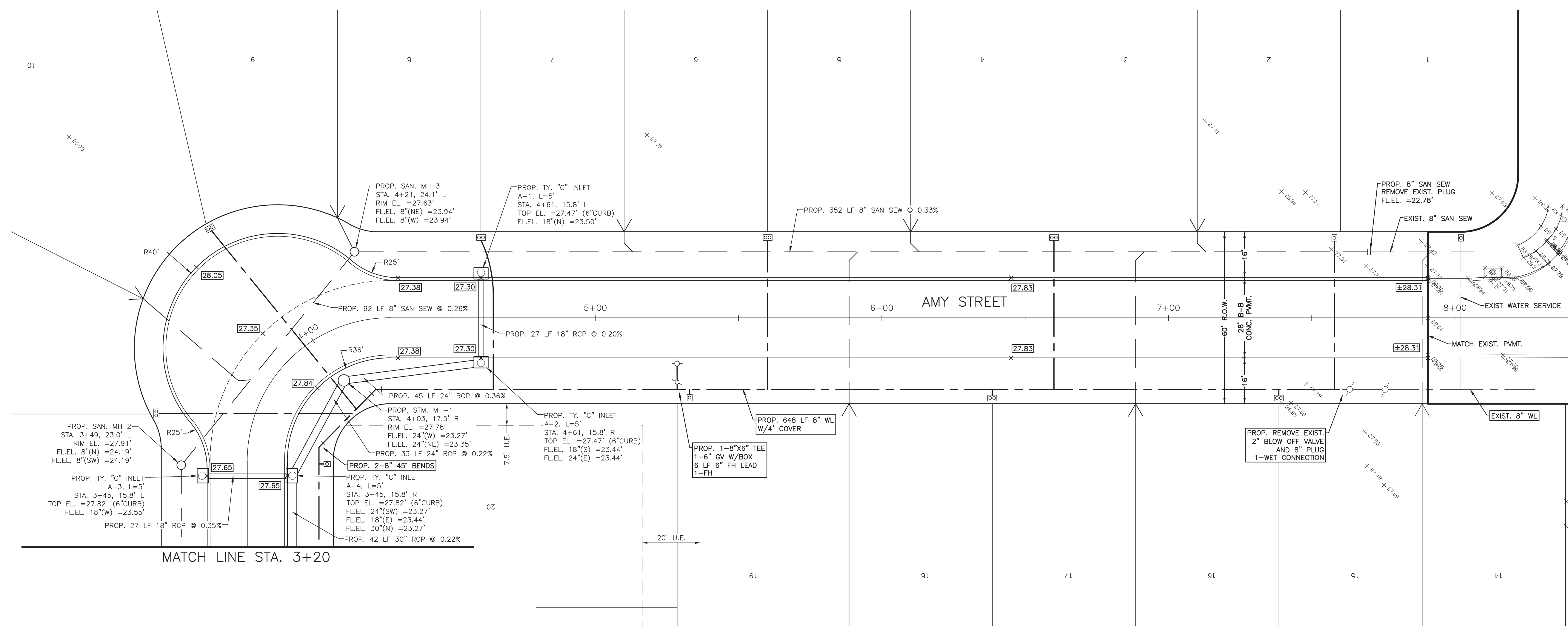
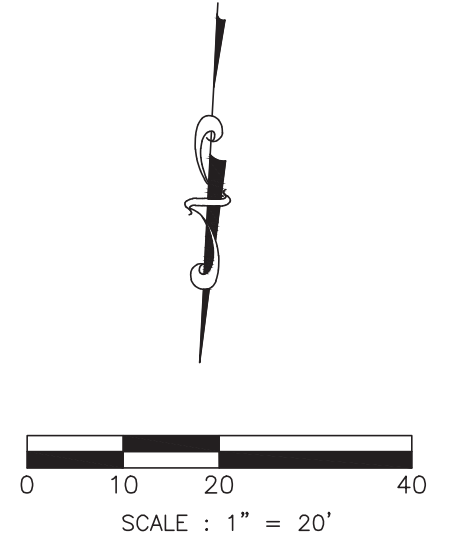
The seal appearing on this document was authorized by Douglas B. Roesler P.E. 56739

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
 PROFILE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 2'

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 AMY STREET  
 STA. 0+00 TO 3+20  
 PROJECT NO. 14396

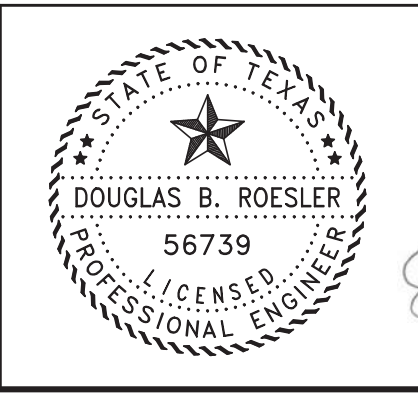


- SYMBOLS LEGEND**
- EXIST. GRADE ELEVATION
  - PROP. GRADE ELEVATION
  - PROP. TOP OF 4" CURB ELEVATION
  - PROP. GUTTER ELEVATION
  - PROP. TOP OF CONCRETE PAVEMENT
  - PROP. TOP OF GRATE INLET
  - DOUBLE WATER METER
  - SINGLE WATER METER
  - FIRE HYDRANT
  - WATER VALVE
  - TAPPING SLEEVE AND VALVE
  - STORM SEWER MANHOLE (STM, MH-1)
  - SANITARY SEWER MANHOLE (SAN, MH-1)
  - TOP BANK
  - STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
  - SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
  - WATERLINE (AWWA C900, CLASS 150, DR18)
  - PROP. CASING FOR WATERLINE AND SAN SEW CONFLICT
  - SAN SEW SERVICE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1330  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



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 03-03-2023

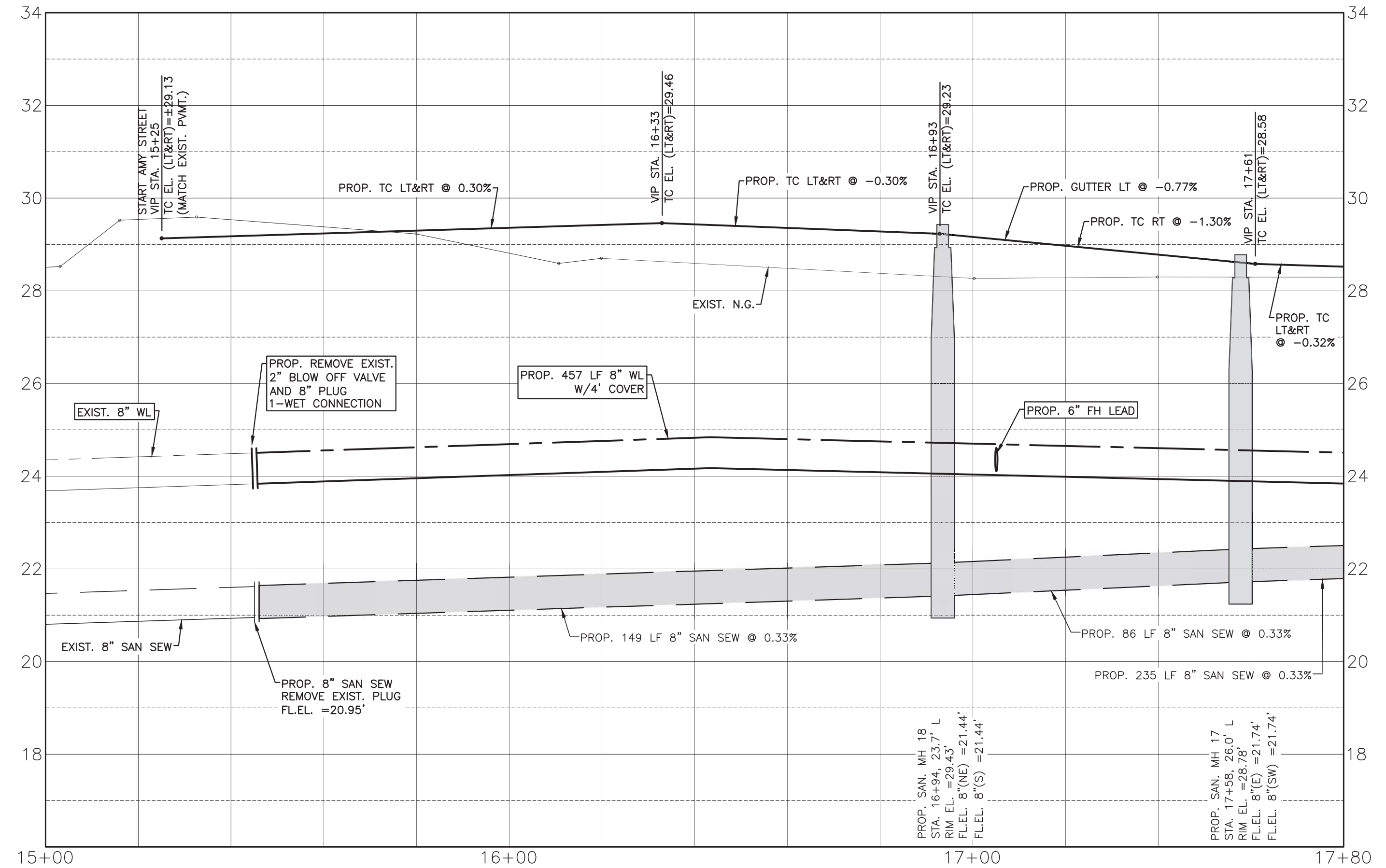
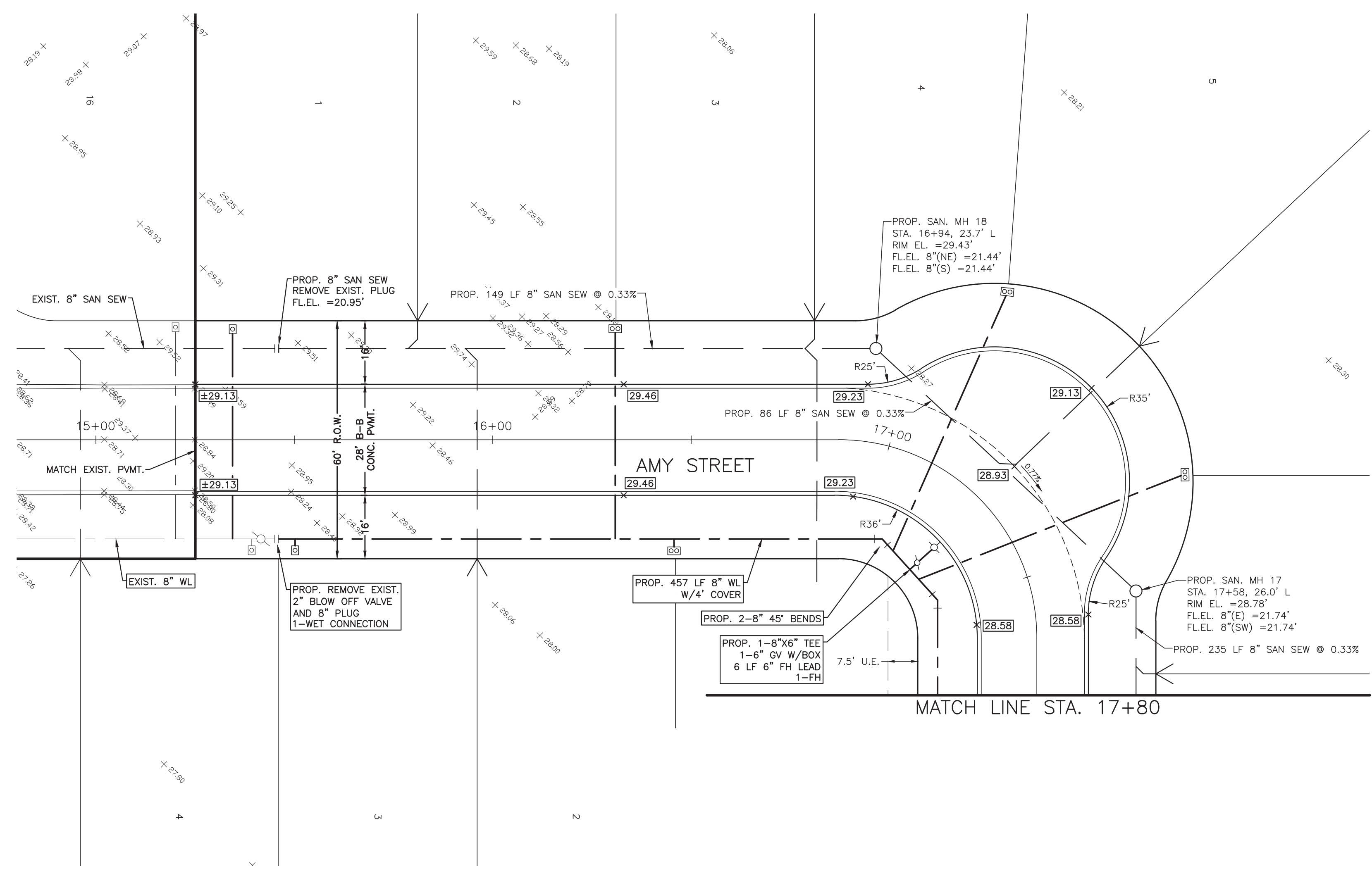
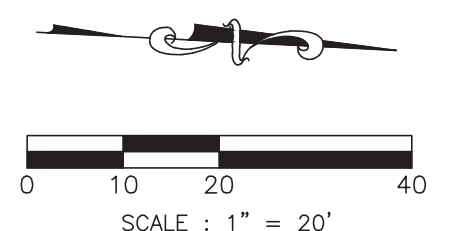
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
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**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 AMY STREET  
 STA. 3+20 TO 8+00

PROJECT NO. 14396

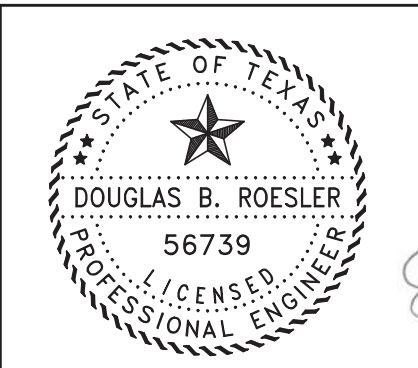


- SYMBOLS LEGEND**
- + 30.00 EXIST. GRADE ELEVATION
  - 82.50 PROP. GRADE ELEVATION
  - 81.35 PROP. TOP OF 4" CURB ELEVATION
  - GUT=81.50 PROP. GUTTER ELEVATION
  - CONC=81.50 PROP. TOP OF CONCRETE PAVEMENT
  - TG=81.50 PROP. TOP OF GRATE INLET
  - DOUBLE WATER METER
  - SINGLE WATER METER
  - FIRE HYDRANT
  - WATER VALVE
  - TAPPING SLEEVE AND VALVE
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  - SAN SEW SERVICE

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 DATE

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 ENGINEERS • PLANNERS • SURVEYORS  
 4905 TECHNOLOGY DRIVE, SUITE 1330  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



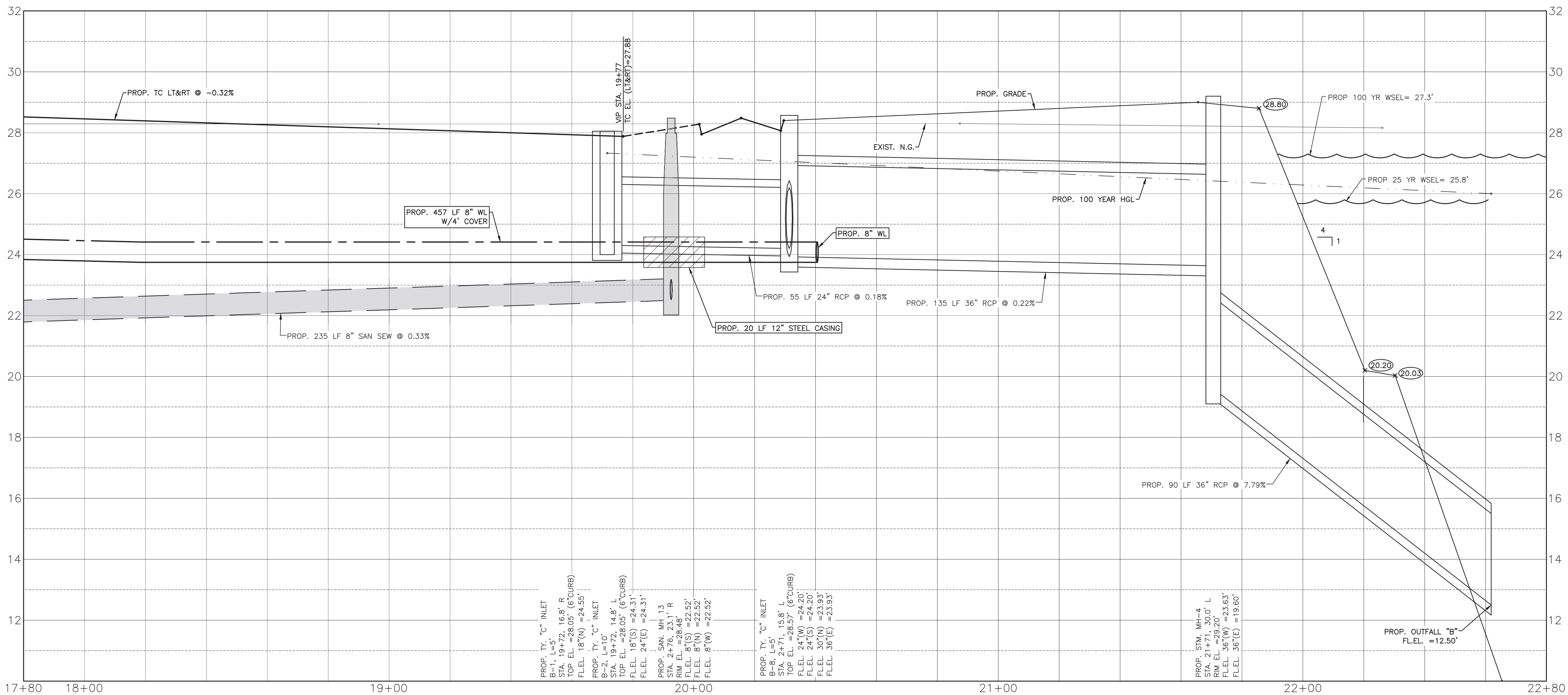
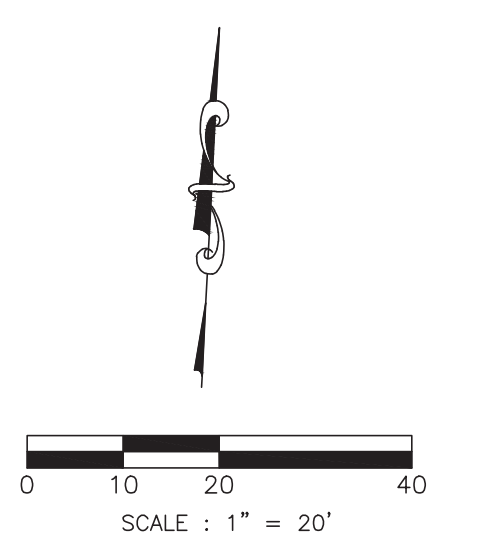
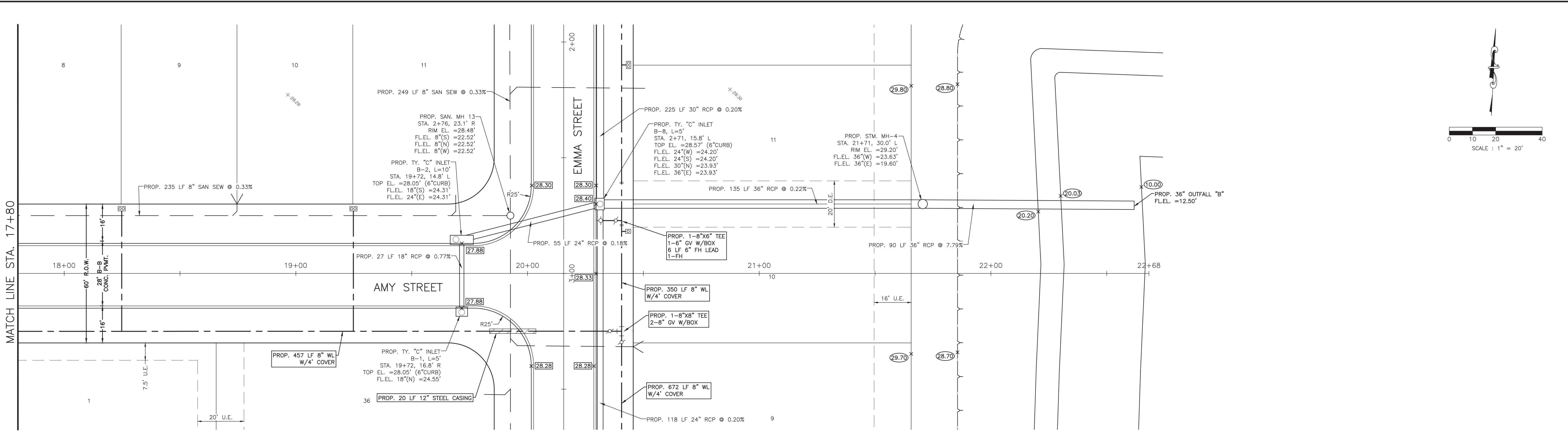
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OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
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 VERTICAL: 1" = 2'

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 AMY STREET  
 STA. 15+00 TO 17+80



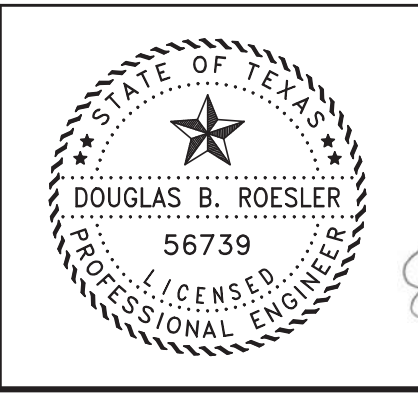
**SYMBOLS LEGEND**

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- PROP. GRADE ELEVATION
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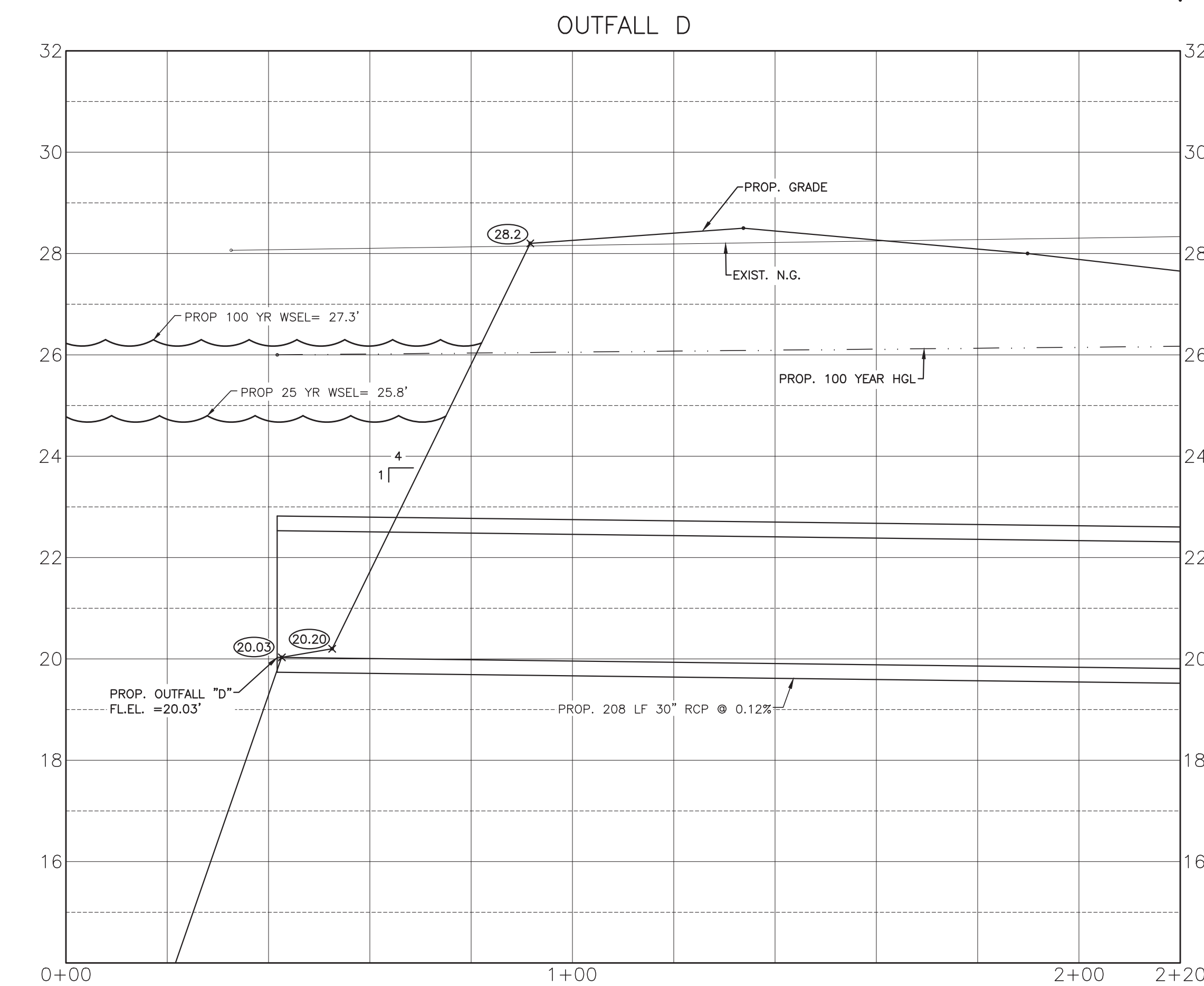
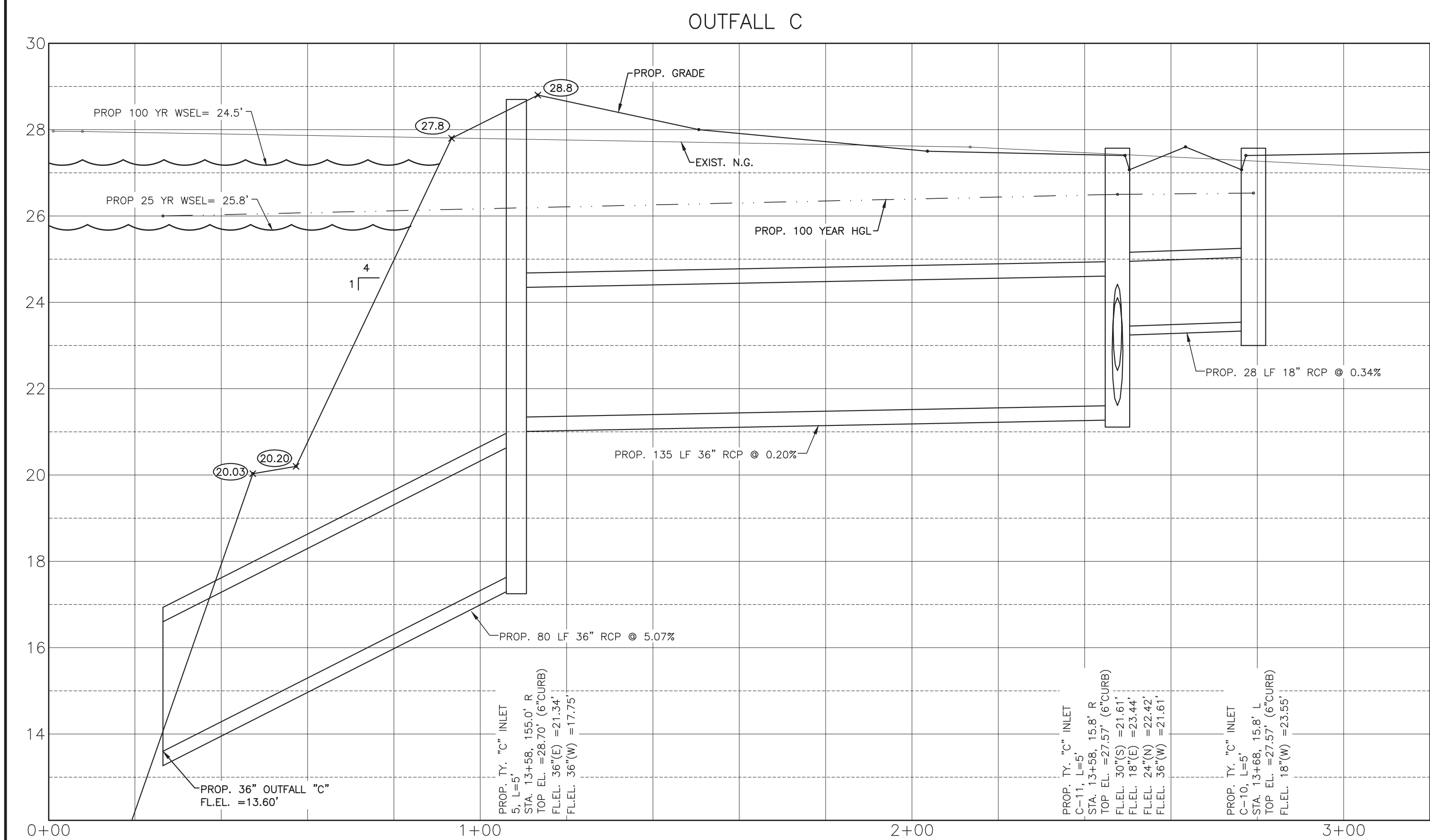
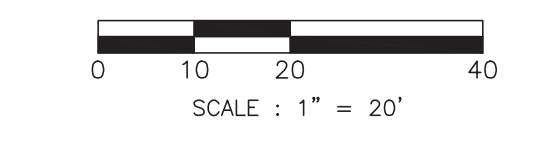
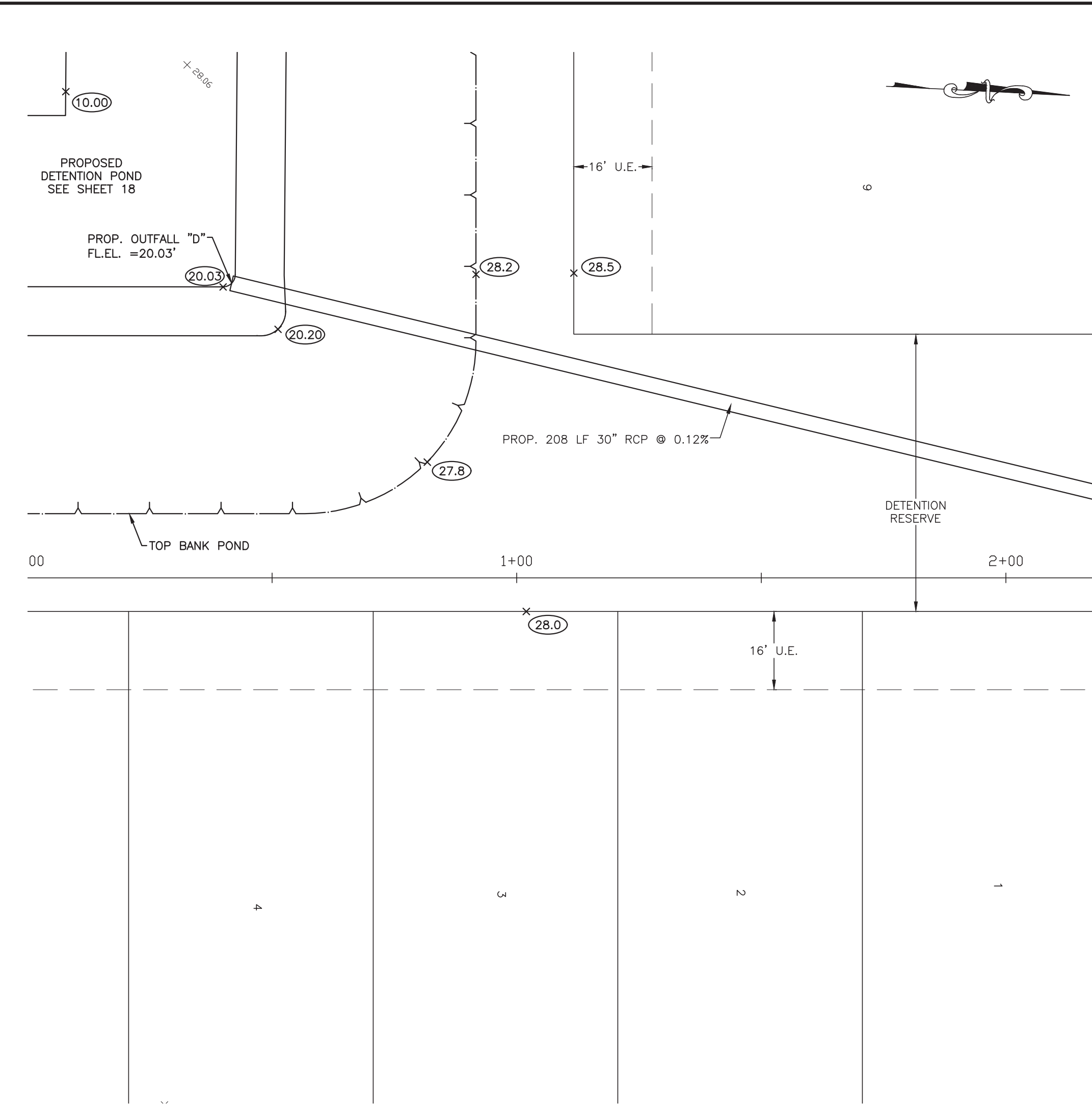
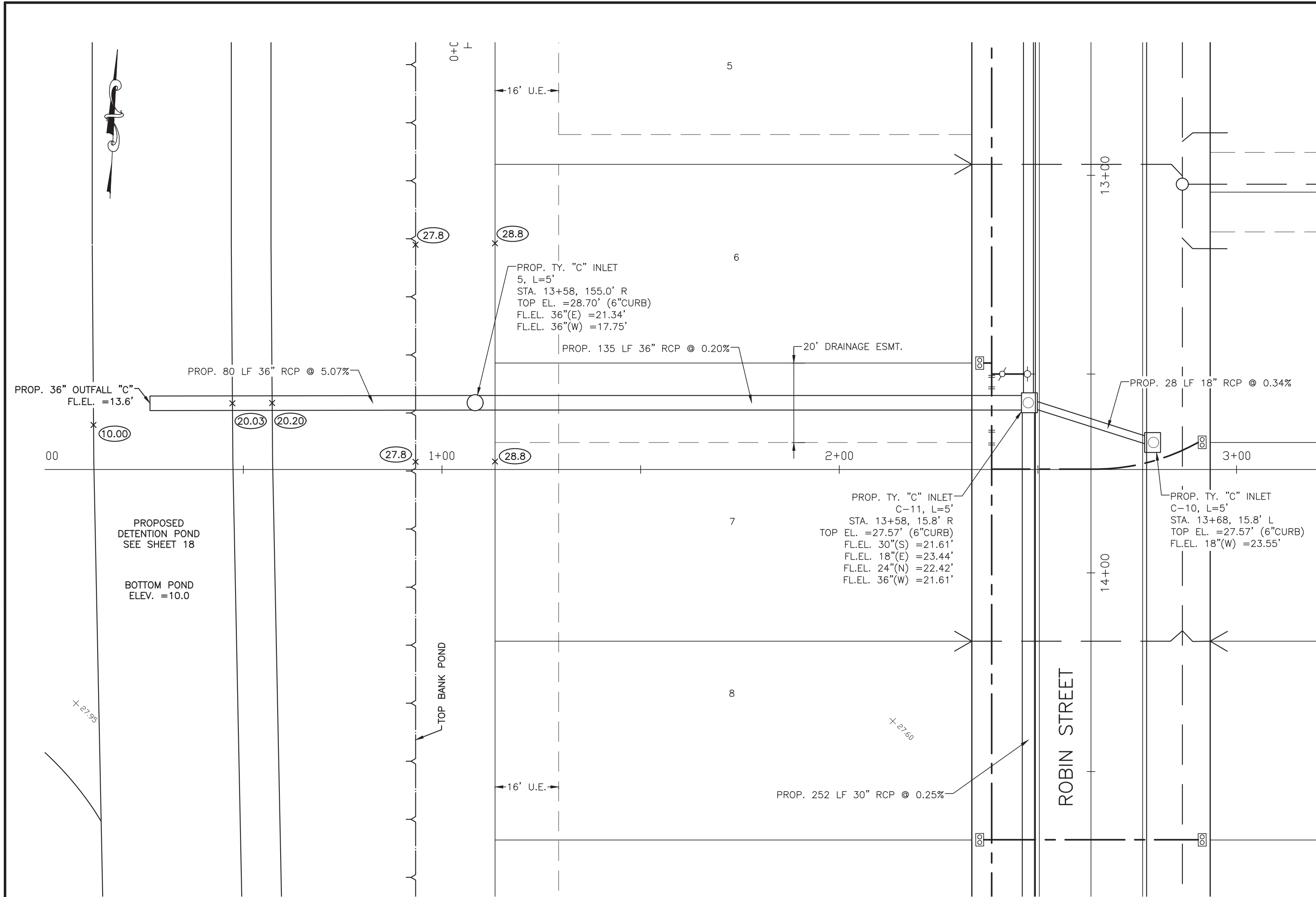
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OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 20'  
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**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 AMY STREET  
 STA. 17+80 TO 22+68  
 PROJECT NO. 14396

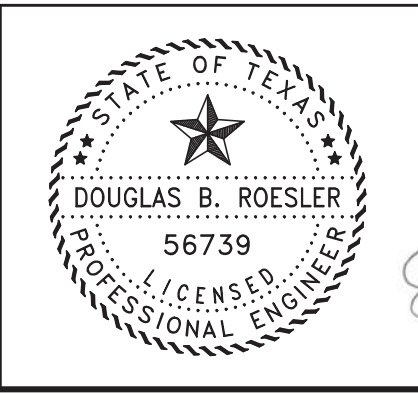


- SYMBOLS LEGEND**
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  - WATERLINE (AWWA C900, CLASS 150, DR18)

NO.	DATE	DESCRIPTION	APPROVED
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**B & L**  
 BAKER & LAWSON, INC.  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1330  
 ANGLETON, TEXAS 77515 (979) 849-6681  
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 03-03-2023

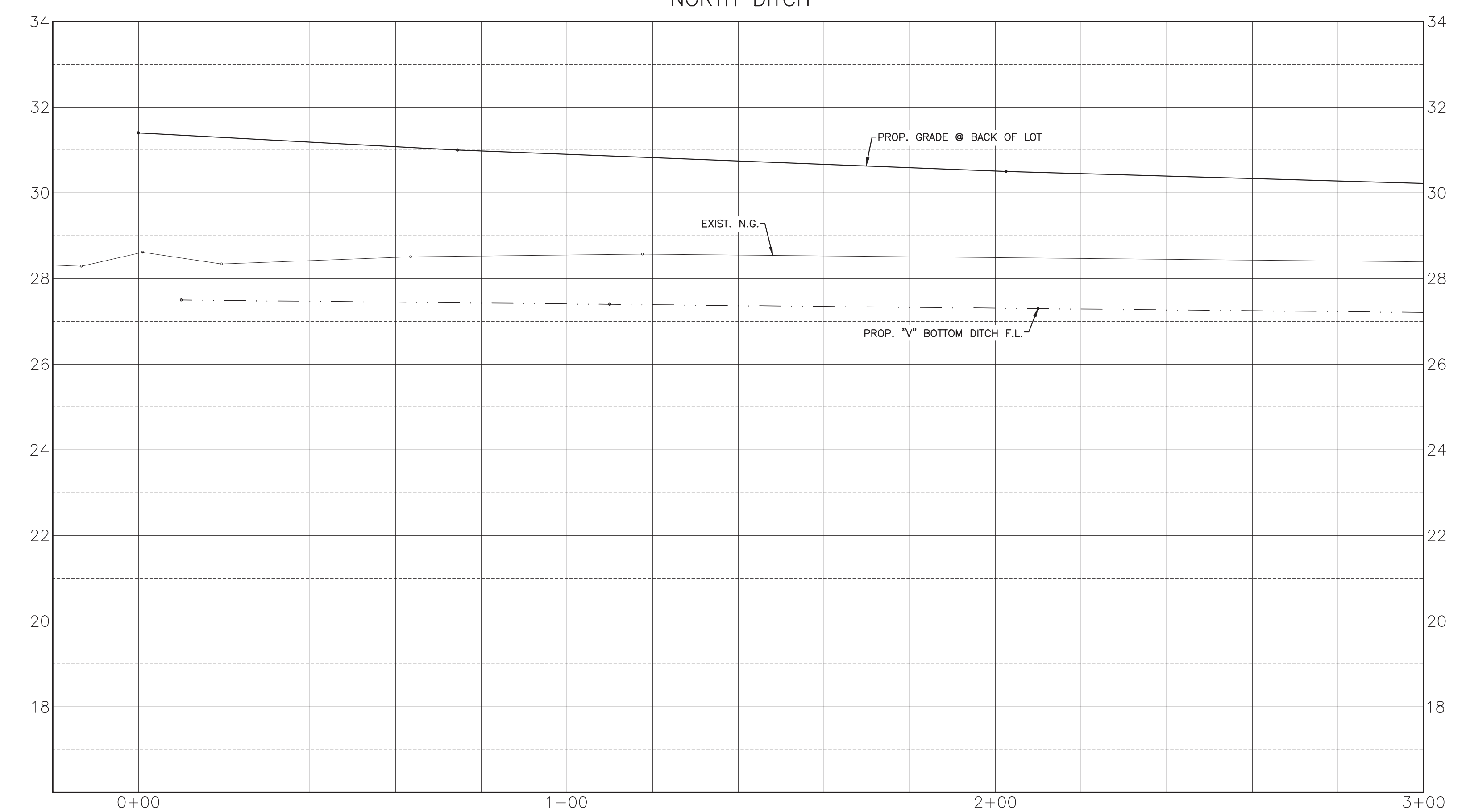
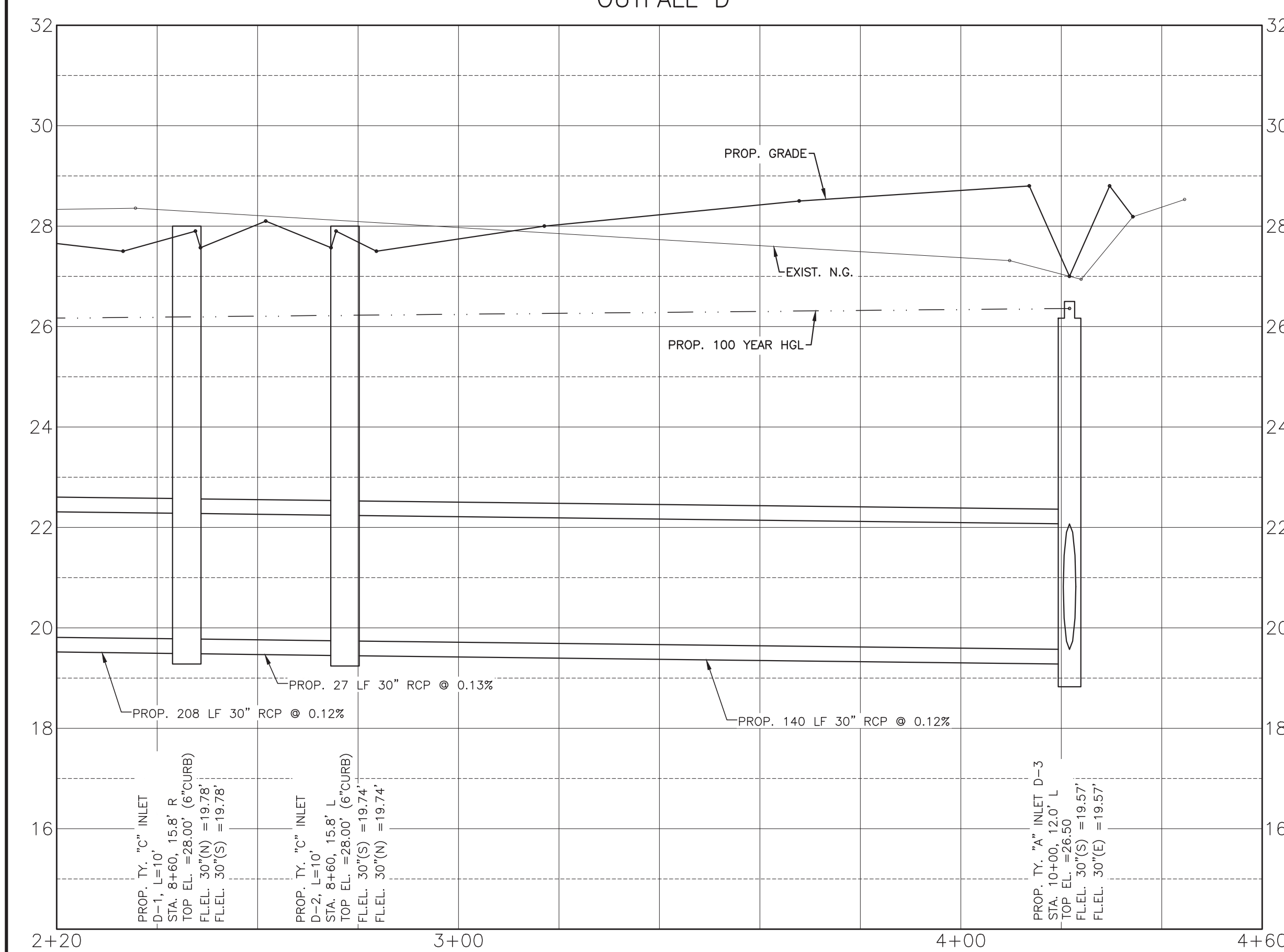
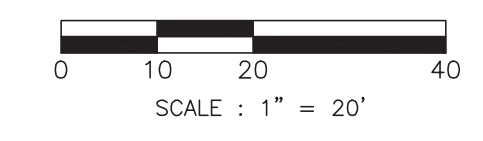
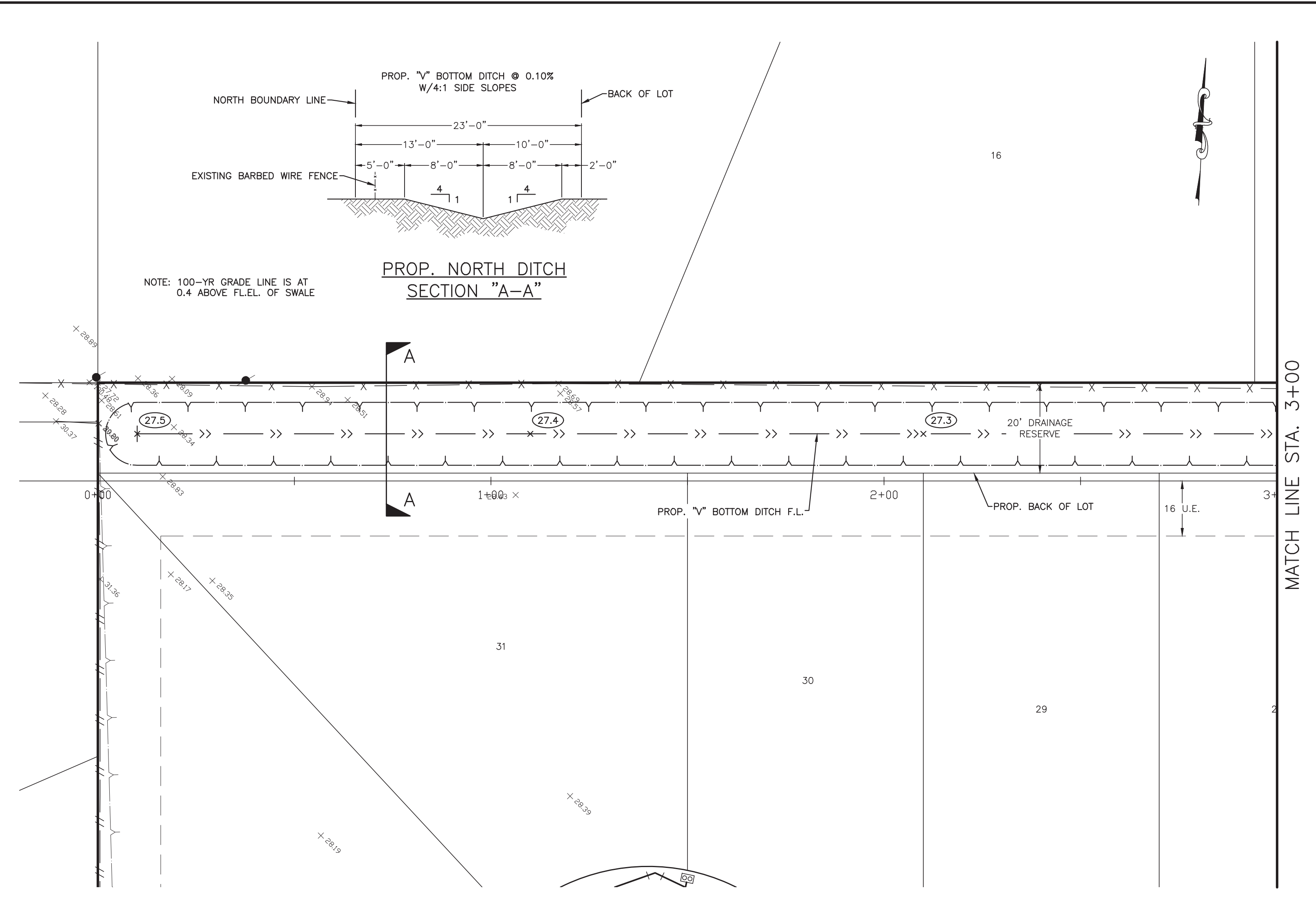
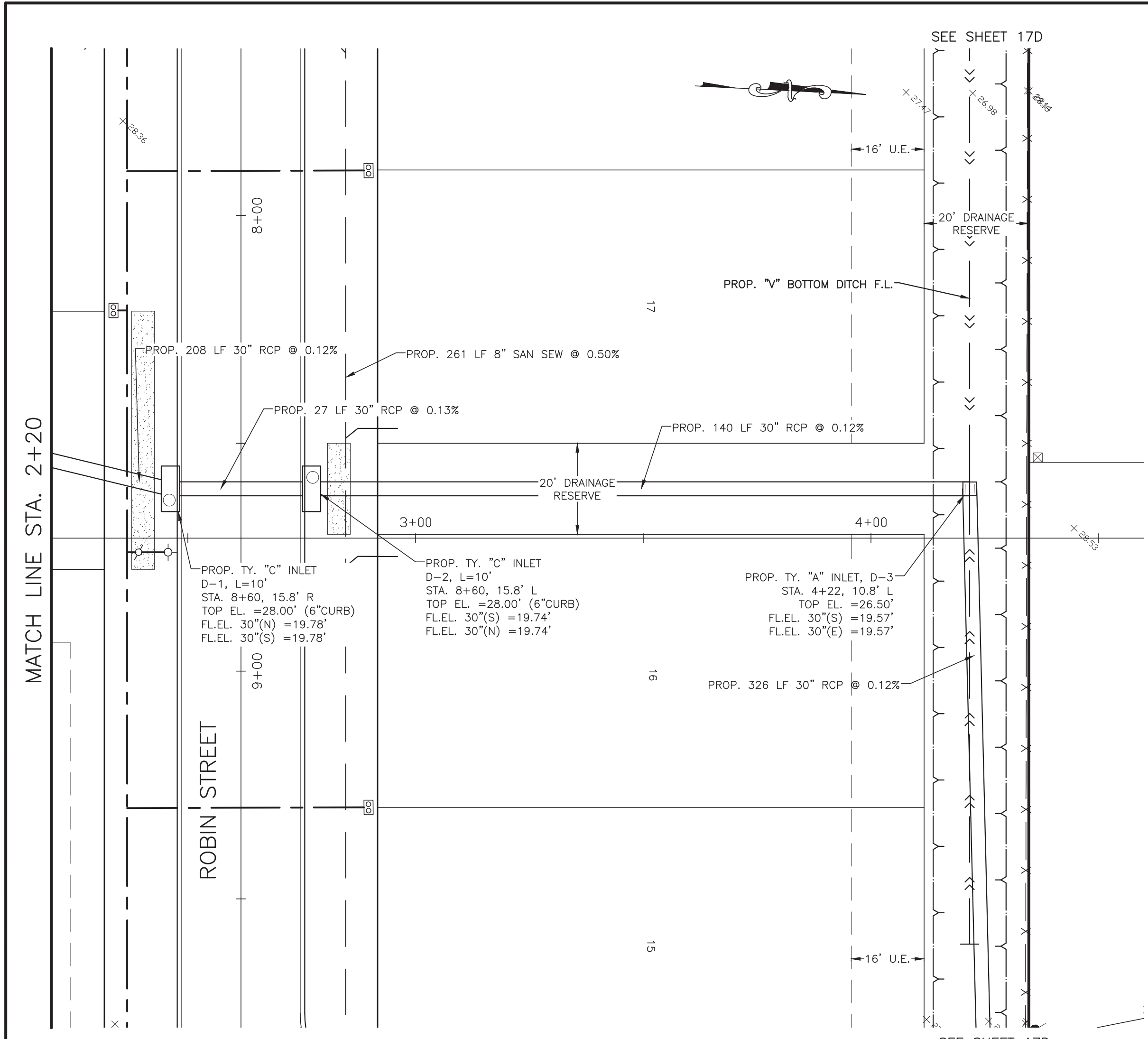
OWNER:  
**RIVERWAY PROPERTIES**  
 6115 SKYLINE DR. STE A.  
 HOUSTON, TEXAS 77057

PLAN: 1" = 20'  
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**RIVERWOOD RANCH SUBDIVISION**  
 SECTIONS 3 & 4  
 A 35.620 AC, 145-LOT SUBDIVISION  
 ANGLETON, TEXAS 77515

PLAN & PROFILE  
 OUTFALL C & D

PROJECT NO. 14396 **17A**



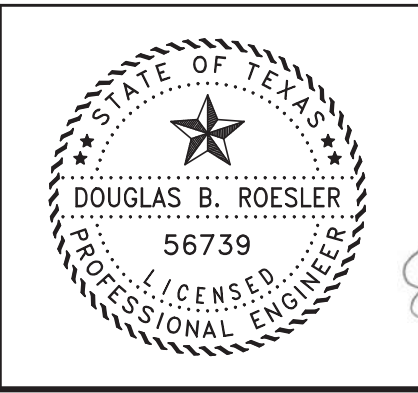
**SYMBOLS LEGEND**

- EXIST. GRADE ELEVATION
- PROP. GRADE ELEVATION
- PROP. TOP OF 4" CURB ELEVATION
- PROP. GUTTER ELEVATION
- PROP. TOP OF CONCRETE PAVEMENT
- PROP. TOP OF GRATE INLET
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- SANITARY SEWER MANHOLE (SAN. MH-1)
- TOP BANK
- STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
- SANITARY SEWER LINE (D3034, SDR 26, 160 FR)
- WATERLINE (AWMA C900, CLASS 150, DR18)

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

**B & L**  
 BAKER & LAWSON, INC.  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825



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 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
 6115 SKYLINE DR. STE A.  
 HOUSTON, TEXAS 77057

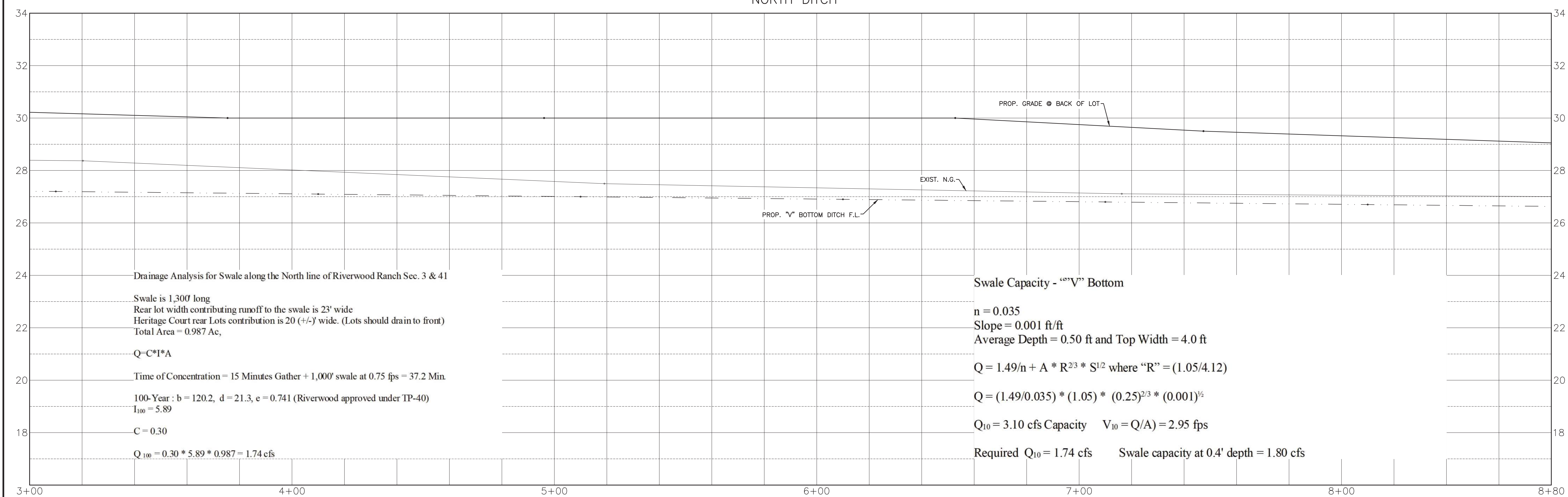
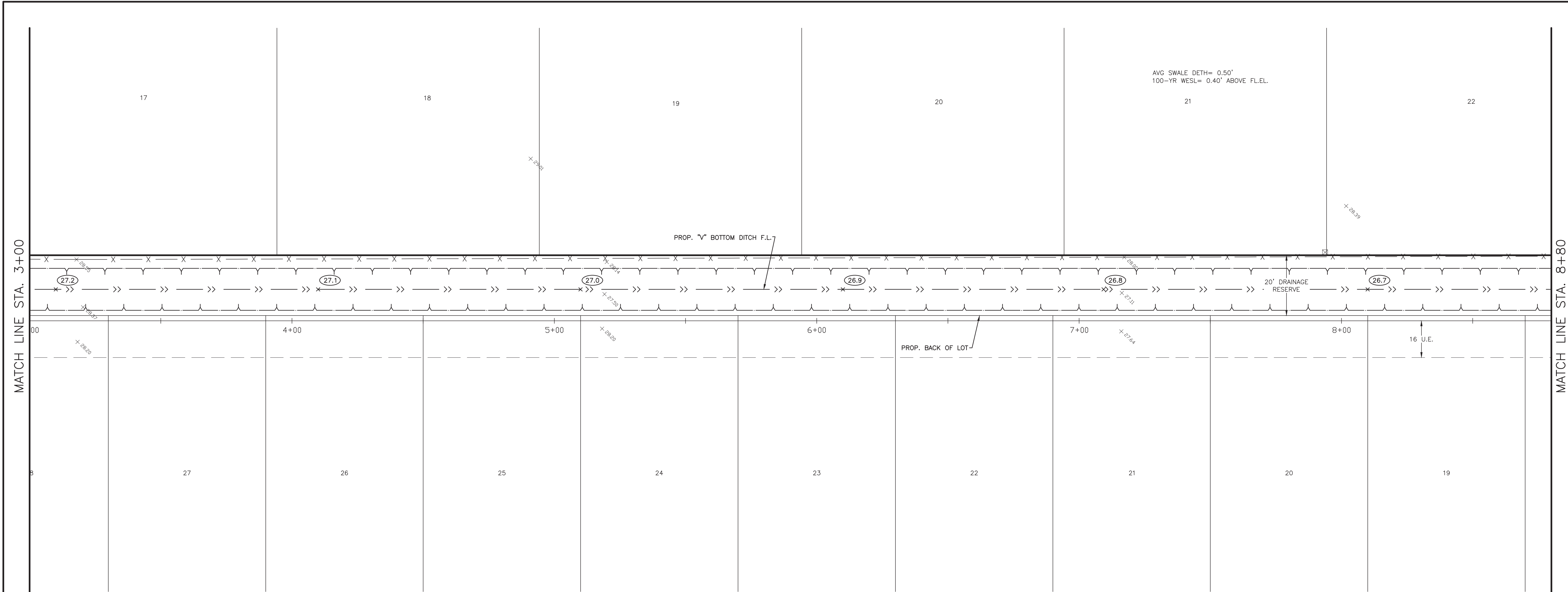
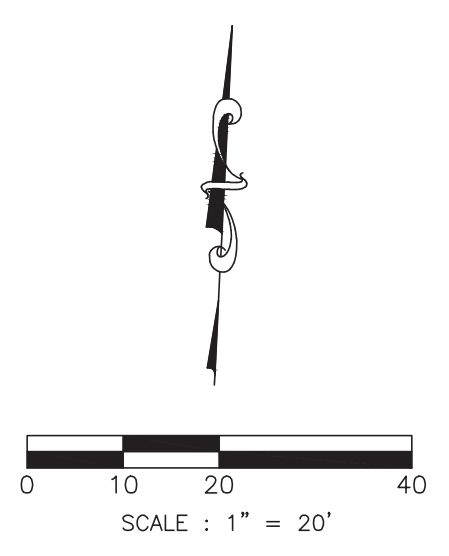
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**RIVERWOOD RANCH SUBDIVISION**  
 SECTIONS 3 & 4  
 A 35.620 AC, 145-LOT SUBDIVISION  
 ANGLETON, TEXAS 77515

PLAN & PROFILE  
 OUTFALL D  
 & NORTH DITCH

PROJECT NO. 14396





Drainage Analysis for Swale along the North line of Riverwood Ranch Sec. 3 & 41

Swale is 1,300' long  
 Rear lot width contributing runoff to the swale is 23' wide  
 Heritage Court rear Lots contribution is 20 (+/-) wide. (Lots should drain to front)  
 Total Area = 0.987 Ac,

$Q=C*I*A$

Time of Concentration = 15 Minutes Gather + 1,000' swale at 0.75 fps = 37.2 Min.

100-Year:  $b = 120.2$ ,  $d = 21.3$ ,  $e = 0.741$  (Riverwood approved under IP-40)  
 $I_{100} = 5.89$

$C = 0.30$

$Q_{100} = 0.30 * 5.89 * 0.987 = 1.74$  cfs

Swale Capacity - "V" Bottom

$n = 0.035$   
 Slope = 0.001 ft/ft  
 Average Depth = 0.50 ft and Top Width = 4.0 ft

$Q = 1.49/n + A * R^{2/3} * S^{1/2}$  where "R" = (1.05/4.12)

$Q = (1.49/0.035) * (1.05) * (0.25)^{2/3} * (0.001)^{1/2}$

$Q_{10} = 3.10$  cfs Capacity     $V_{10} = Q/A = 2.95$  fps

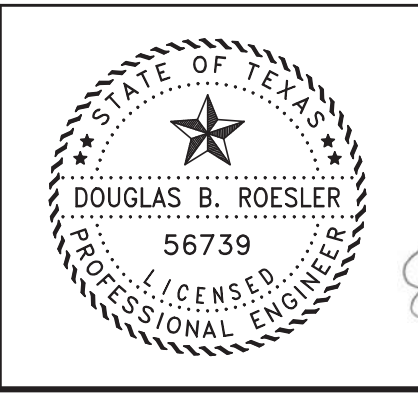
Required  $Q_{10} = 1.74$  cfs    Swale capacity at 0.4' depth = 1.80 cfs

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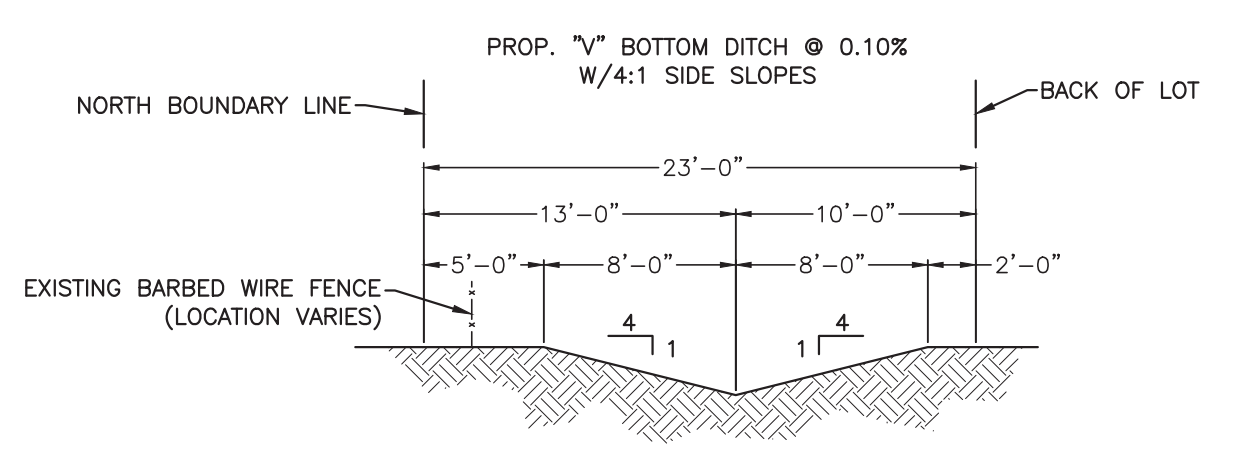
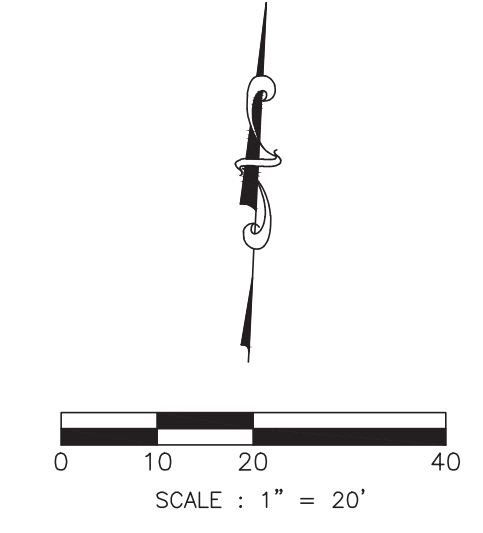
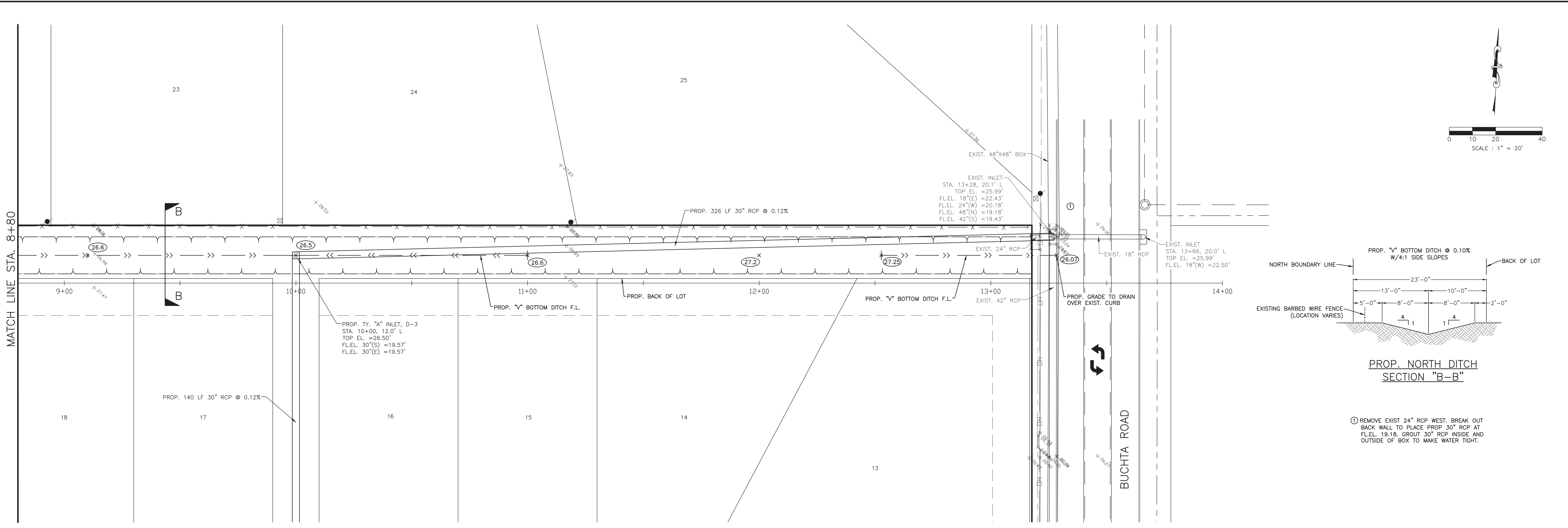
The seal appearing on this document was authorized by Douglas B. Roesler P.E. 56739  
 03-03-2023

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**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

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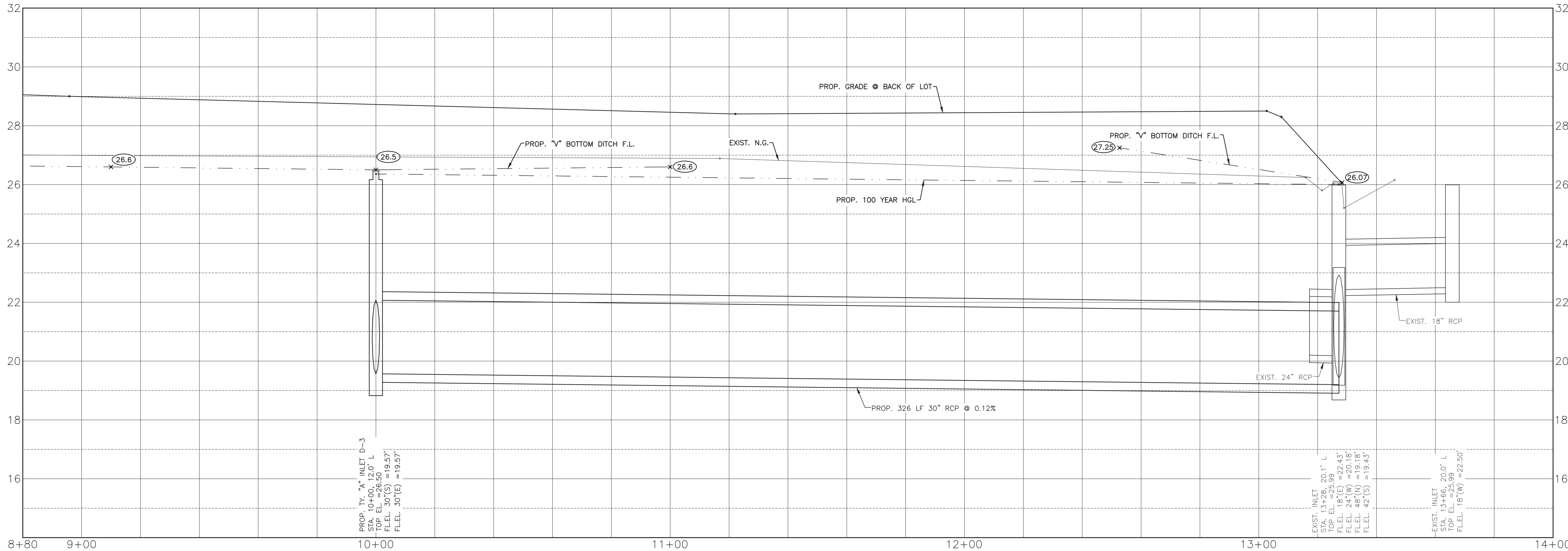
**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 NORTH DITCH  
 PROJECT NO. 14396  
**17C**



**PROP. NORTH DITCH SECTION "B-B"**

① REMOVE EXIST 24" RCP WEST. BREAK OUT BACK WALL TO PLACE PROP 30" RCP AT F.L.E.L. 19.18. GROUT 30" RCP INSIDE AND OUTSIDE OF BOX TO MAKE WATER TIGHT.



**SYMBOLS LEGEND**

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**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4905 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825

STATE OF TEXAS  
 DOUGLAS B. ROESLER  
 56739  
 LICENSED PROFESSIONAL ENGINEER

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*[Signature]* 03-03-2023

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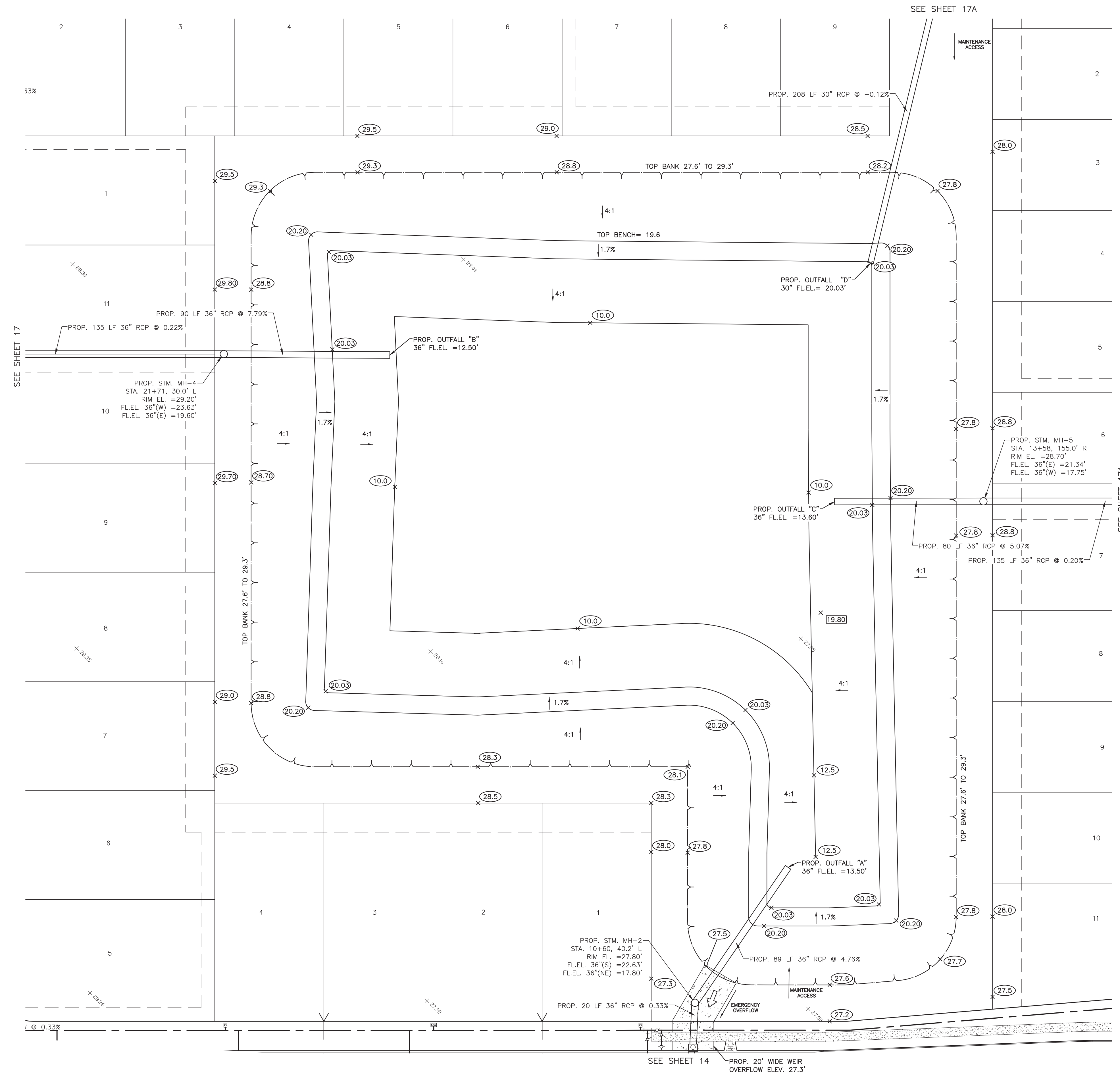
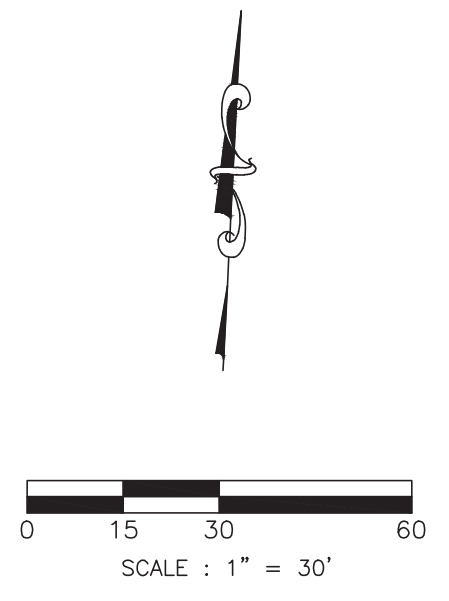
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**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

PLAN & PROFILE  
 NORTH DITCH

PROJECT NO. 14396

**17D**



Riverwood Sec. 3 & 4 Detention/Excavation Summary

Detention Volume Required	17,179	Ac-Ft
Detention Volume Provided	22,680	Ac-Ft
<b>Detention Pond Volume</b>		
Elev. (f.t.)		Area (s.f.)
28.50 (+/-)	Top bank	142,525
28.00	Nat. Gr.	140,945
27.30	12" Freeboard - 100 Yr WSEL	137,373
20.20	Top 10' Bench	117,382
20.00	Bottom 10' Bench*	105,726
10.00	Bottom Pond	63,440
* Static Water = Bottom Bench		
<b>Excavation Volume</b>		
Elev. (f.t.)		Area (s.f.)
27.30	12" Freeboard - 100 Yr	137,373
20.20	Top 10' Bench	117,382
20.00	Bottom 10' Bench*	105,726
<b>Area</b>		
(137,373 + 117,382)/2		127,377 s.f.
<b>Volume</b>		
(127,377*7.1' Depth)		904,377 c.f.
<b>Area</b>		
(117,382 + 105,726)/2		111,554 s.f.
<b>Volume</b>		
(111,554*0.20' Depth)		22,311 c.f.
<b>Total Volume</b>		
		926,688 c.f.
		21.27 ac-ft
<b>Excavation Volume</b>		
28.00	Nat. Gr.	140,945
20.20	Top 10' Bench	117,382
20.00	Bottom 10' Bench*	105,726
10.00	Bottom Pond	63,440
<b>Area</b>		
(140,945 + 117,382)/2		129,164 s.f.
<b>Volume</b>		
(129,164*7.8' Depth)		1,007,479 c.f.
<b>Area</b>		
(117,382 + 105,726)/2		111,554 s.f.
<b>Volume</b>		
(111,554*0.20' Depth)		22,311 c.f.
<b>Area</b>		
(105,726+63,440)/2		84,583 s.f.
<b>Volume</b>		
(84,583*10.00 Depth)		845,830 c.f.
<b>Total Volume</b>		
		1,875,286 c.f.
		69,467 c.y.

(File: 14396 / Det Vol Calcs 02-25-23)

100 YR WSEL = 27.0 PROVIDES 17.32 AC-FT  
ALL SIDE SLOPES AT 4' TO 1' OR FLATTER

DESIGNED	DR		
DRAWN	BT		
CHECKED			
DATE			
REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED

**BAKER & LAWSON, INC.**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1330  
 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825

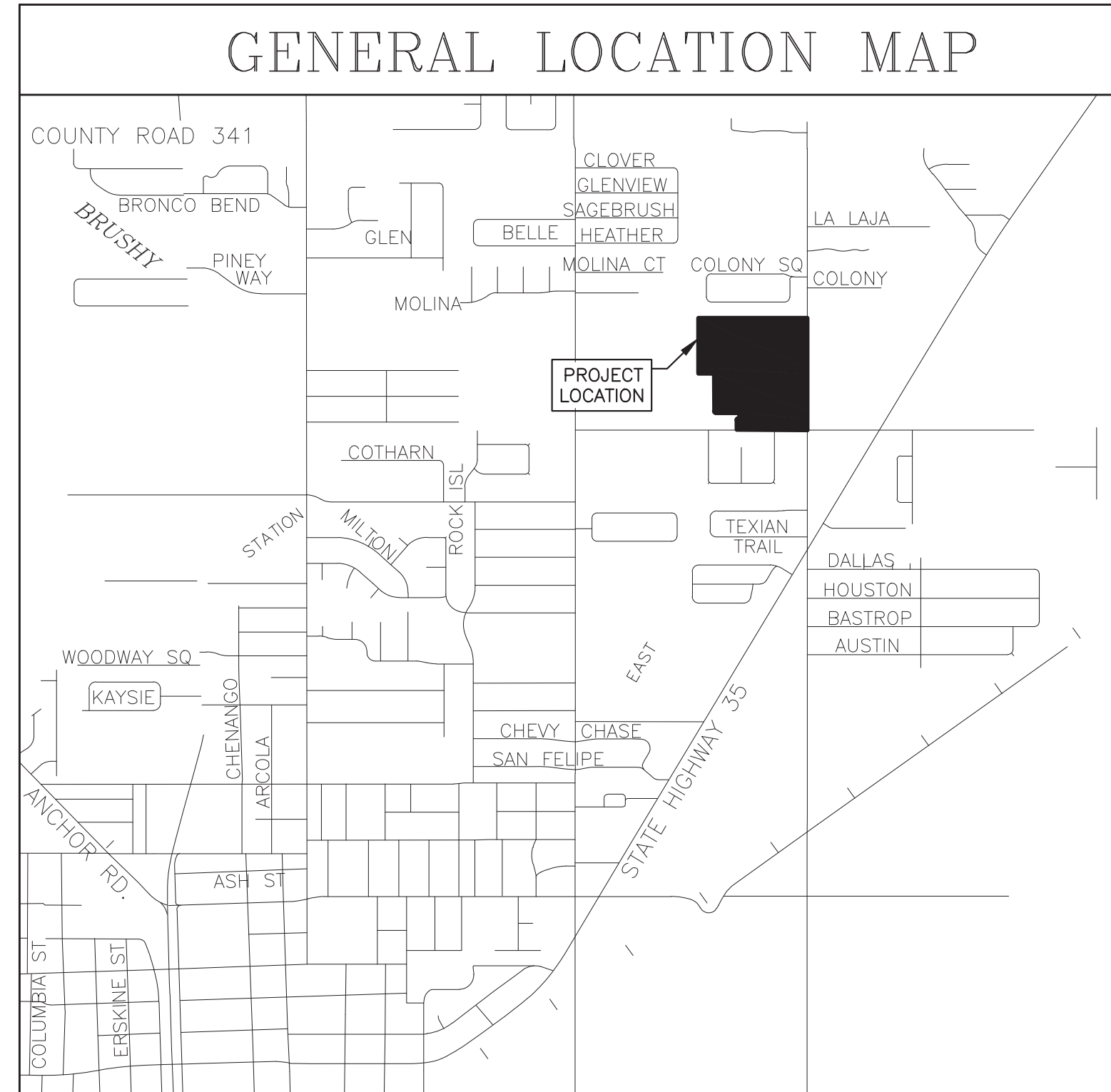
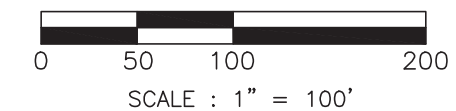
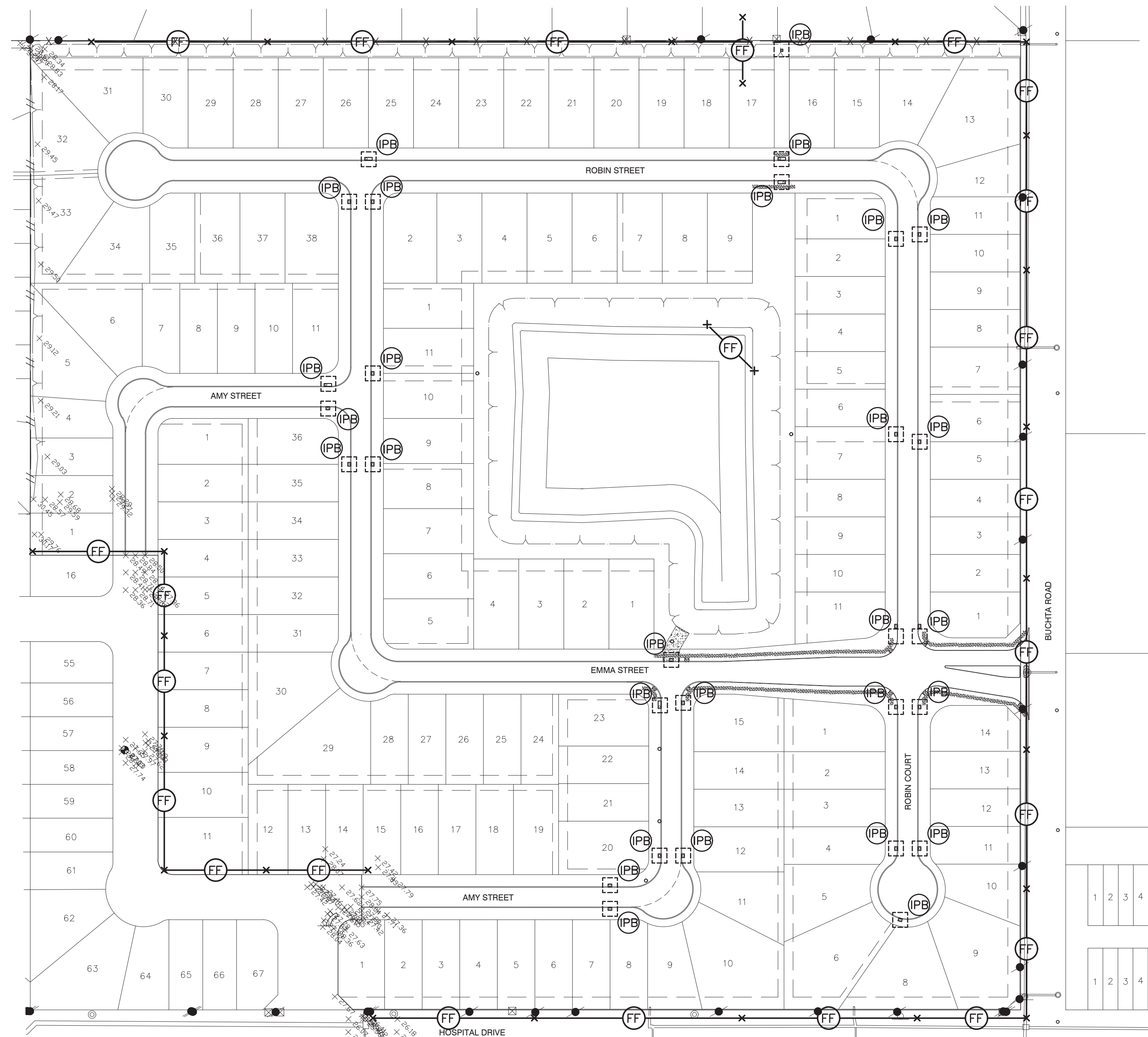
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 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: \_\_\_\_\_ 1" = 30'  
 PROFILE: \_\_\_\_\_  
 HORIZONTAL: \_\_\_\_\_  
 VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

DETENTION POND  
 PROJECT NO. 14396



**PROJECT/SITE INFORMATION**

PROJECT NAME: RIVERWOOD RANCH SUBDIVISION, SECTIONS 3 & 4  
 PROJECT ADDRESS/LOCATION: NE CORNER OF DOWNING ROAD AND HOSPITAL DRIVE INTERSECTION  
 CITY: ANGLETON STATE: TX. ZIP CODE: 77515  
 LATITUDE: 29°11'13.1" LONGITUDE: 95°24'45.0" COUNTY: BRAZORIA  
 NAME OF RECEIVING WATERS: GULF OF MEXICO

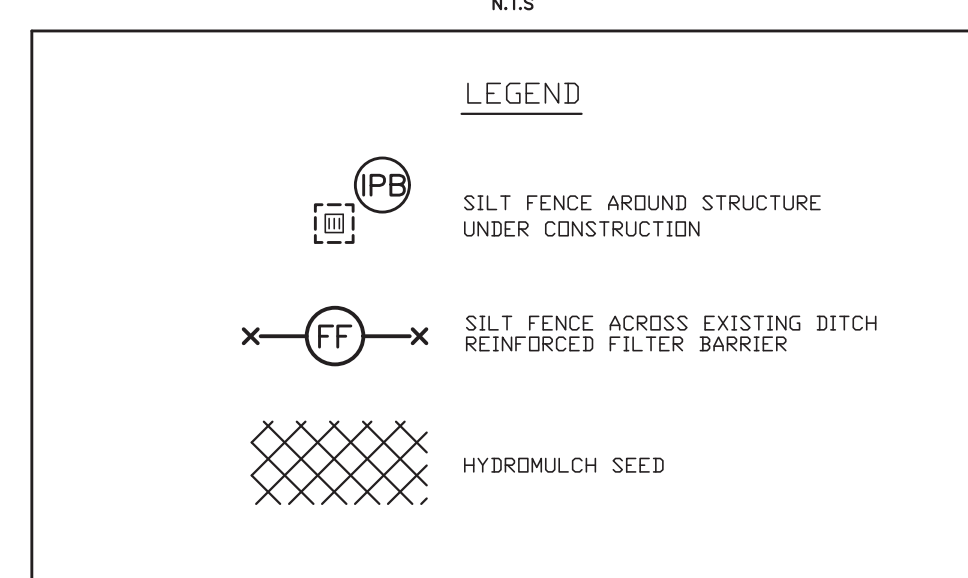
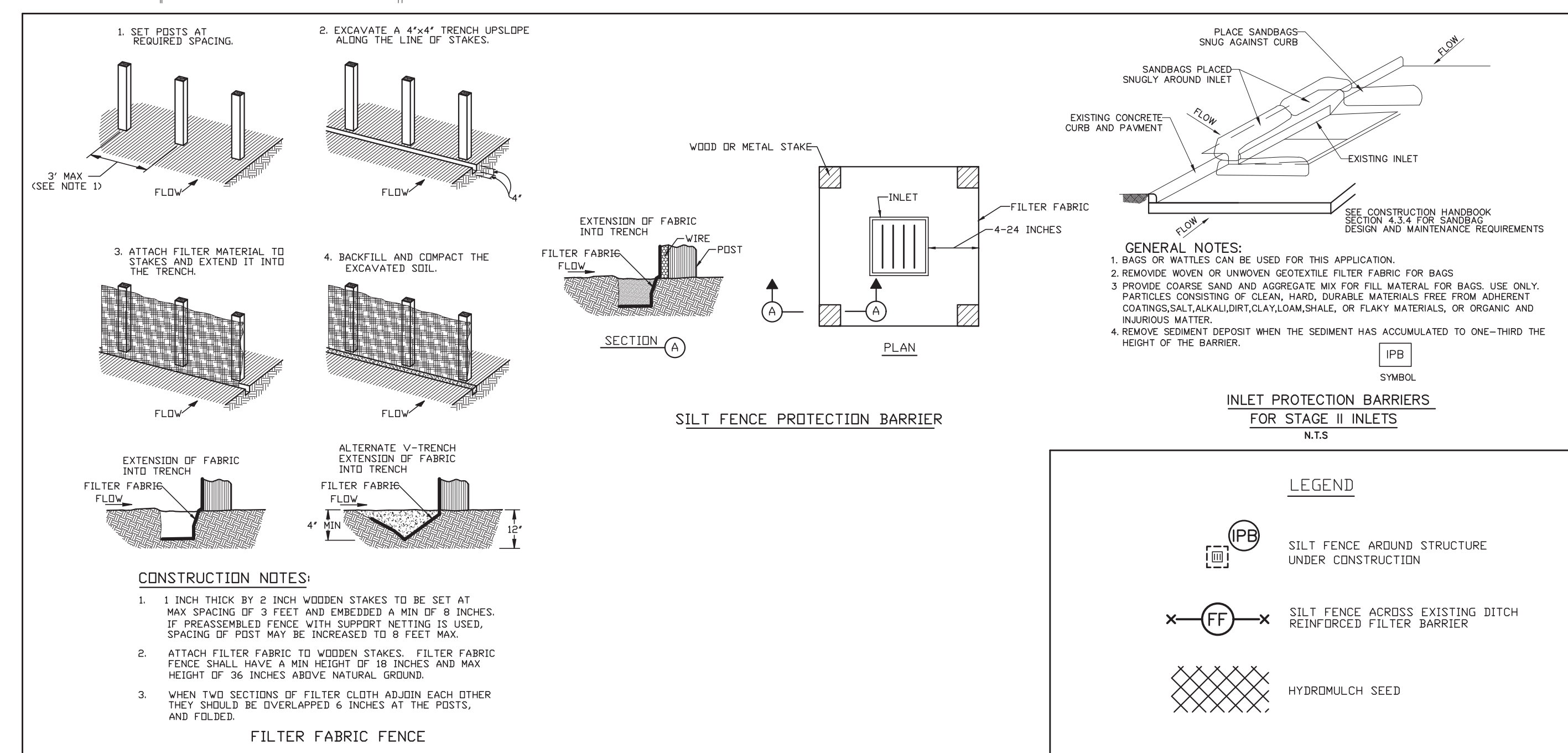
2/01/2023 MONTH/DAY/YEAR ESTIMATED CONSTRUCTION START DATE  
 8/01/2023 MONTH/DAY/YEAR ESTIMATED COMPLETION DATE  
 ESTIMATE OF AREA TO BE DISTURBED: 36.0 ACRES  
 ESTIMATE OF LIKELIHOOD OF DISCHARGE:

- UNLIKELY
- ONCE PER WEEK
- CONTINUAL
- ONCE PER MONTH
- ONCE PER DAY

ARE THERE ANY LISTED ENDANGERED OR THREATENED SPECIES, OR DESIGNATED CRITICAL HABITAT IN THE PROJECT AREA?  
 YES  NO

ELIGIBILITY WITH REGARD TO PROTECTION OF ENDANGERED SPECIES HAS BEEN SATISFIED THROUGH THE INDICATED SECTION OF PART 1.B.3.e.(2) OF THE PERMIT.

- (a)
- (b)
- (c)
- (d)



NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE

OWNER:  
**RIVERWAY PROPERTIES**  
 6115 SKYLINE DR. STE A.  
 HOUSTON, TEXAS 77057

PLAN: 1" = 100'  
 PROFILE:  
 HORIZONTAL:  
 VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
 A 35.620 AC, 145-LOT SUBDIVISION  
 ANGLETON, TEXAS 77515

SWPPP LAYOUT  
 PROJECT NO. 14396

1. SITE DESCRIPTION

- A. NATURE OF THE CONSTRUCTION ACTIVITY:  
 RIVERWOOD RANCH SUBDIVISION SECTIONS 3&4, ANGLETON, BRAZORIA COUNTY, TEXAS. BEING A 35.620 ACRE WHICH WILL BE DEVELOPED INTO A RESIDENTIAL SUBDIVISION OF 145 LOTS. CONSTRUCTION WILL INCLUDE UNDERGROUND UTILITIES, STORM SEWERS AND CONCRETE ROADWAYS WITH CURBS WITH EXCESS EXCAVATION WITH MATERIAL SPREAD FOR LOT GRADING.
- B. INTENDED SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:  
 STREET RIGHT OF WAY AND LOT AREAS WILL BE STRIPPED OF ALL VEGETATIVE MATTER. THIS MATERIAL WILL BE STOCKPILED ADJACENT TO THE WORK TO BE SPREAD ON DEVELOPED LOTS AFTER FINAL GRADING. UTILITY AND STORM SEWER CONSTRUCTION WILL REQUIRE TRENCHING. EXCAVATION FOR ROADWAY SUBGRADE WILL INVOLVE SPREADING EXCAVATED MATERIAL ON ADJACENT LOTS. RAINFALL RUNOFF WILL BE DIRECTED TO THE STREET GUTTERS AND TO THE CONSTRUCTED STORM SEWER SYSTEM. TRUCKS WILL BE USED TO DELIVER MATERIAL TO THE PROJECT INCLUDING LIME, CONCRETE, UTILITY AND STORM SEWER MATERIALS AND OTHER CONSTRUCTION MATERIALS. TRUCKS WILL ALSO BE USED TO HAUL CONSTRUCTION DEBRIS AWAY FROM THE SITE. THESE TRUCKS WILL BE ROUTED ALONG HOSPITAL DR. AND BUTCHA ROADS FOR INGRESS AND EGRESS. RUTTING DURING WET WEATHER WILL PROVIDE POTENTIAL FOR TRACKING MUD ALONG THE ROUTE.
- C. TOTAL PROJECT AREA: 35.620 ACRES
- D. TOTAL AREA TO BE DISTURBED: 36 ACRES
- WEIGHTED RUNOFF COEFFICIENT (BEFORE CONSTRUCTION): 0.25 (AFTER CONSTRUCTION): 0.55
- E. REFER TO GENERAL LOCATION MAP AND SITE MAP FOR DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER MAJOR GRADING ACTIVITIES; AREAS OF SOIL DISTURBANCE; AREAS WHICH WILL NOT BE DISTURBED; LOCATIONS OF MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS; LOCATIONS WHERE STABILIZATION PRACTICES ARE EXPECTED TO OCCUR; LOCATION OF OFF-SITE MATERIAL, WASTE, BORROW OR EQUIPMENT STORAGE AREAS; SURFACE WATERS (INCLUDING WETLANDS); AND LOCATIONS WHERE STORM WATER DISCHARGES TO A SURFACE WATER.
- F. LOCATION AND DESCRIPTION OF ANY DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY OTHER THAN CONSTRUCTION:
- G. NAME OF RECEIVING WATERS:  
 RUNOFF WILL BE COLLECTED IN THE STORM SEWER SYSTEM AND ROUTED TO THE PROPOSED DETENTION POND AND TO A PROPOSED 30" CULVERT STUBBED OUT FROM BUCHTA DR. TO SERVE THIS TRACT. THE POND AND THE PROPOSED 30" CULVERT OUTFALL INTO BRUSHY BAYOU WHICH FLOWS TO BASTROP BAYOU AND THEN TO THE GULF OF MEXICO.
- AREAL EXTENT AND DESCRIPTION OF WETLAND OR SPECIAL AQUATIC SITE AT OR NEAR THE SITE WHICH WILL BE DISTURBED OR WHICH WILL RECEIVE DISCHARGES FROM DISTURBED AREAS OF THE PROJECT.
- NONE
- H. REFER TO FEDERAL REGISTER, VOLUME 63, NO.128, MONDAY JULY 6, 1998, PAGES 36497 TO 36515 FOR REQUIREMENTS OF NPDES GENERAL PERMITS FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES IN REGION 6.
- I. LISTED ENDANGERED OR THREATENED SPECIES OR CRITICAL HABITAT FOUND IN PROXIMITY TO THE CONSTRUCTION ACTIVITY:
- NONE
- J. PROPERTY LISTED OR ELIGIBLE FOR LISTING ON THE NATIONAL REGISTER OF HISTORIC PLACES:
- NONE

2. CONTROLS

NARRATIVE – SEQUENCE OF CONSTRUCTION ACTIVITIES AND APPROPRIATE CONTROL MEASURES DURING CONSTRUCTION

- THE ORDER OF CONSTRUCTION WILL BEGIN WITH STRIPPING OF ALL VEGETATION FROM THE WORK AREA.
- INSTALL SILT FENCE AROUND THE PERIMETER OF THE AREA TO BE DISTURBED. THE ORDER OF ACTIVITIES WILL BEGIN WITH THE COMPLETE STRIPPING OF ALL AREAS TO RECEIVE FILL MATERIAL. REMOVED VEGETATION TO BE STOCKPILED ADJACENT TO THE WORK TO BE SPREAD AFTER LOT GRADING IS COMPLETE.
  - INSTALL WATER LINES, SANITARY SEWER LINES AND MANHOLES AND STORM SEWER PIPES, INLETS AND MANHOLES. INSTALL INLET PROTECTION BARRIERS AROUND ALL INLETS.
  - ROADWAY EXCAVATION, LIME STABILIZATION AND CONCRETE PAVING WILL FOLLOW UNDERGROUND, UTILITY STORM SEWER CONSTRUCTION, AND DESIGNATED POND EVACUATION.
  - AS SOON AS CONCRETE CURBS ARE INSTALLED, PLACE 18" WIDE SOLID SOD BEHIND ALL CURBS, OR FILTER FABRIC FENCE.

- A. EROSION AND SEDIMENT CONTROLS: EROSION AND SEDIMENT CONTROLS SHALL RETAIN SEDIMENT ON SITE TO THE EXTENT PRACTICABLE. CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS (WHERE APPLICABLE) AND GOOD ENGINEERING PRACTICES. OFFSITE SEDIMENT ACCUMULATIONS MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS WHEN CAPACITY HAS BEEN REDUCED BY 50%. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WALL SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES.

SOIL STABILIZATION PRACTICES:	OWNER/DEVELOPER	GENERAL CNTRTR.	BUILDER	OTHER
TEMPORARY SEEDING				
PERMANENT PLANTING, SODDING, OR SEEDING		X		
MULCHING- WHERE INDICATED		X		
SOIL RETENTION BLANKET				
VEGETATIVE BUFFER STRIPS				
PRESERVATION OF NATURAL RESOURCES				
OTHER:				

THE FOLLOWING RECORDS SHALL BE MAINTAINED AND ATTACHED TO THIS SWPPP: DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, DATES WHEN STABILIZATION MEASURES ARE INITIATED.

STRUCTURAL PRACTICES:	OWNER/DEVELOPER	GENERAL CNTRTR.	BUILDER	OTHER
SILT FENCES		X		
HAY BALES				
ROCK BERMS				
DIVERSION, INTERCEPTOR, OR PERIMETER DIKES				
DIVERSION, INTERCEPTOR, OR PERIMETER SWALES				
DIVERSION DIKE AND SWALE COMBINATIONS				
PIPE SLOPE DRAINS				
ROCK BEDDING AT CONSTRUCTION EXIT				
TIMBER MATTING AT CONSTRUCTION EXIT				
SEDIMENT TRAPS				
SEDIMENT BASINS				
STORM INLET PROTECTION		X		
STONE OUTLET STRUCTURES				
OTHER:				

- B. STORM WATER MANAGEMENT MEASURES INSTALLED DURING CONSTRUCTION TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION:
- CURBS & GUTTERS STORM SEWERS

C. OTHER CONTROLS

NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO WATERS OF THE UNITED STATES, EXCEPT AS AUTHORIZED BY A PERMIT ISSUED UNDER SECTION 404 OF THE CLEAN WATER ACT.

WASTE MATERIALS: ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL CONTAINER. THE CONTAINER SHALL MEET ALL STATE AND CITY SOLID WASTE MANAGEMENT REGULATIONS. THE CONTAINER SHALL BE EMPTIED AS NECESSARY AND THE TRASH HAULED TO AN APPROPRIATE DUMP SITE. NO CONSTRUCTION MATERIALS WILL BE BURIED ON SITE.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING): AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS: PAINT, CLEANING SOLVENTS, ASPHALT PRODUCTS, PETROLEUM PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION, AND CONCRETE CURING COMPOUNDS AND ADDITIVES. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, THE SPILL COORDINATOR SHOULD BE CONTACTED IMMEDIATELY.

SANITARY WASTE: PORTABLE SANITARY FACILITIES WILL BE PROVIDED BY THE CONTRACTOR. ALL SANITARY WASTES WILL BE COLLECTED FROM PORTABLE UNITS AND SERVICED BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

OFFSITE VEHICLE TRACKING SHALL BE MINIMIZED BY:  
 HAUL ROADS DAMPENED FOR DUST CONTROL LOADED  
 HAUL TRUCKS TO BE COVERED WITH TARPULIN  
 EXCESS DIRT ON ROAD REMOVED DAILY STABILIZED  
 CONSTRUCTION ENTRANCE

OTHER: TRUCKS HAULING VEGETATION AND DEBRIS WILL BE MONITORED AND SHALL BE COVERED WITH TARPULINS IF REQUIRED TO PREVENT DUST OR OTHER PARTICLES FROM BLOWING OR FALLING FROM TRUCK.

REMARKS: ALL OPERATIONS WILL BE CONDUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNTS OF SEDIMENT THAT MAY ENTER THE RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY, OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS.

3. MAINTENANCE

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. IF A REPAIR IS NECESSARY IT SHALL BE DONE AT THE EARLIEST TIME POSSIBLE, BUT NO LATER THAN SEVEN CALENDAR DAYS AFTER THE GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE FROM HEAVY EQUIPMENT. THE AREAS ADJACENT TO DRAINAGE WAYS SHALL HAVE PRIORITY, FOLLOWED BY DEVICES PROTECTING STORM SEWER INLETS. MAINTENANCE SHALL BE PERFORMED BEFORE THE NEXT ANTICIPATED STORM EVENT OR AS SOON AS PRACTICABLE.

4. INSPECTION

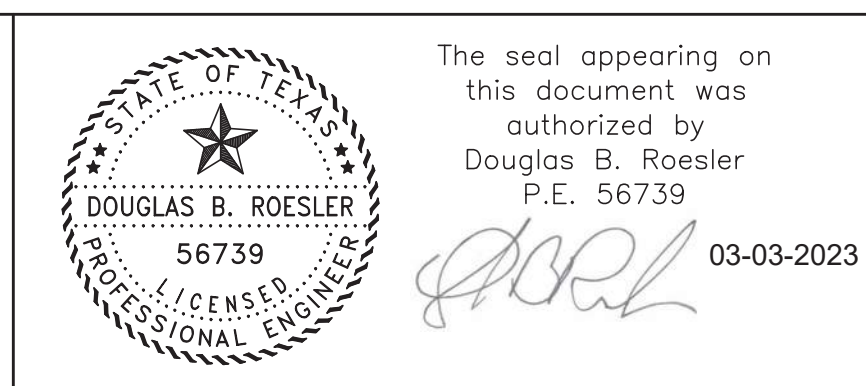
AN INSPECTION WILL BE PERFORMED BY THE PERMITEE EVERY FOURTEEN DAYS AS WELL AS AFTER EVERY ONE-HALF INCH OR GREATER RAINFALL EVENT. AN INSPECTION AND RAINFALL REPORT WILL BE MADE AFTER EACH INSPECTION. ANY DEFICIENCIES WILL BE NOTED AND APPROPRIATE CHANGES SHALL BE MADE TO THE SYSTEM TO COMPLY WITH REQUIREMENTS.

5. NON-STORMWATER DISCHARGES

- FIRE HYDRANT FLUSHING
- BUILDING WASHDOWN WITHOUT DETERGENTS
- PAVEMENT WASHDOWN WITHOUT DETERGENTS
- CONDENSATE
- UNCONTAMINATED GROUNDWATER
- UNCONTAMINATED FOUNDATION DRAINS

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED  
 DATE



OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" =  
 PROFILE:  
 HORIZONTAL:  
 VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

SWPPP NARRATIVE  
 PROJECT NO. 14396

①

**Hydrological and Hydraulic Impacts**  
Riverwood Ranch Subdivision - NE Area  
Job # 13032

Brazoria County, Texas

A = 40.016 Acre Development :

Pre Development:  
C = 0.175  
TC = 90.0 Minutes, I = 3.66  
Q = 100 Year Storm = 32.04 cfs  
Q-allowable is 0.80 cfs / ac. = 32.01 cfs

Post Development  
C = 0.55  
TC = 31.6 Minutes, I = 6.573  
Q = 100 Year Storm = 180.83 cfs

Required Detention:  
17.179 acre - feet (748,317 c.f.)

EXISTING CONDITIONS  
Bra. Co. Master Drg. Study allows only 0.80 cfs/acre in this area. These are Bastrop Bayou drainage areas BB 35 and BB 36.

TC = 15 Minutes gather time plus diagonal length (1,800') overlaid at 0.40 fps = 90.0 Minutes

PROPOSED CONDITIONS  
TC = 15 Minutes gather time + 150' overlaid at 0.50 fps + 1,650' l.f. storm sewer at 3 fps = 29.2 Minutes  
C = 0.55 per City of Sugarland

ACREAGE = 40.016 Ac.  
Section 3 & 4 = 35.6 Ac. (+/-) + 4.38 Ac. from Sec. 2 to compensate for free drain to Hospital Dr.

②

**Drainage Analysis**  
Job # 13032 - Riverwood Ranch Subdivision - NE Area

**Rainfall Intensity calculations for Brazoria County**

I = intensity (in/hr)  
b = coefficient  
t = time of concentration  
d = coefficient  
e = coefficient

subscript i = 1 = 2 year storm  
i = 2 = 5 year storm  
i = 3 = 10 year storm  
i = 4 = 25 year storm  
i = 5 = 50 year storm  
i = 6 = 100 year storm

i = 1..6

b <sub>i</sub>	e <sub>i</sub>	d <sub>i</sub>
71.0	0.774	8.4
70.1	0.752	7.7
96.6	0.770	17.2
89.2	0.726	10.4
86.5	0.709	10.0
120.2	0.741	21.3

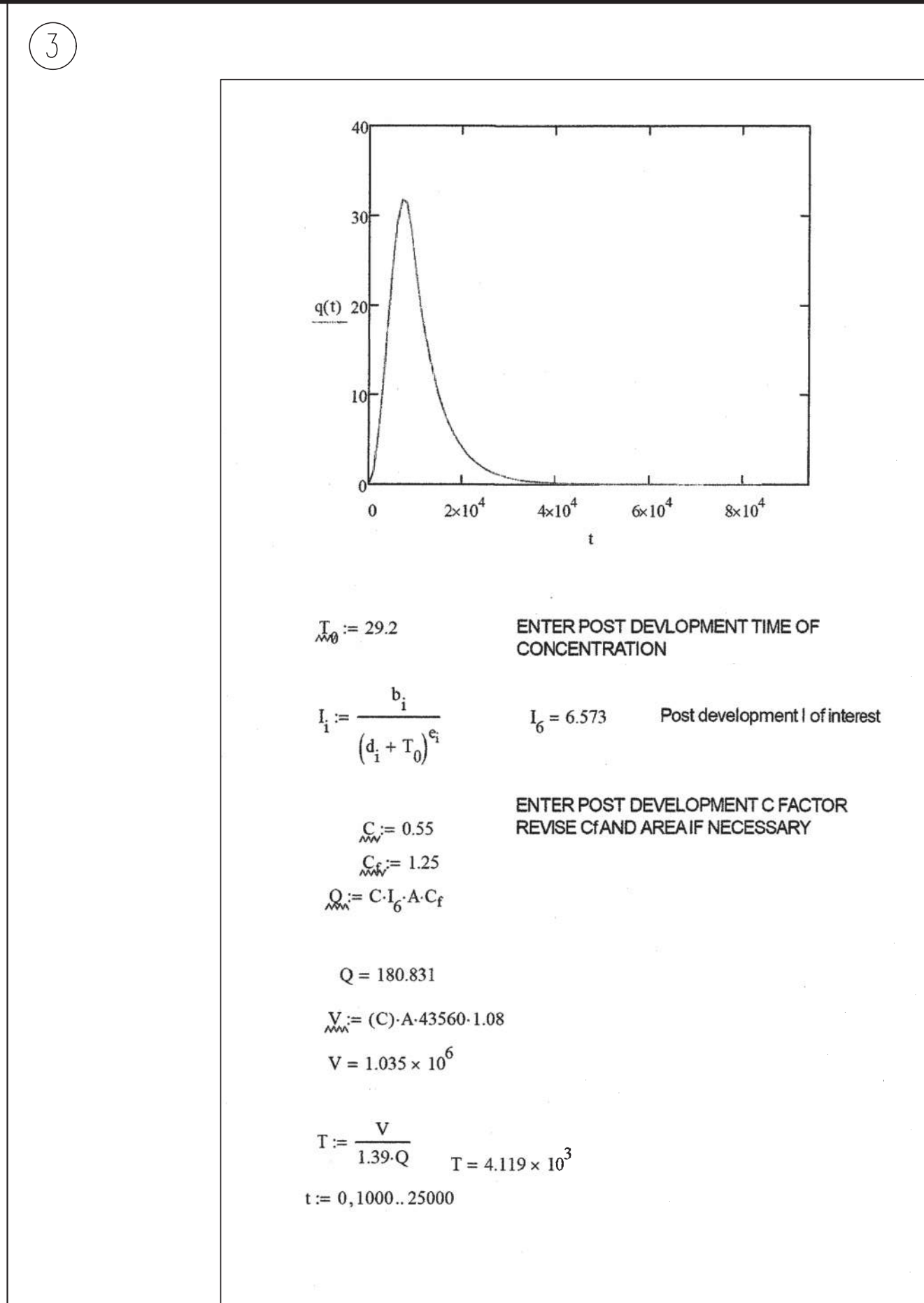
T<sub>0</sub> = 90.0 ENTER PREDEVELOPMENT TIME OF CONCENTRATION

I<sub>0</sub> = 3.66 Predevelopment Intensity of interest

I<sub>i</sub> =  $\frac{b_i}{(d_i + T_0)^e}$

C<sub>pre</sub> = .175 ENTER PREDEVELOPMENT C VALUE

A<sub>pre</sub> = 40.016 ENTER AREA



④

C<sub>f</sub> = 1.25

Q = C \* C<sub>f</sub> \* I<sub>0</sub> \* A  
Q = 32.036

V<sub>pre</sub> = (C) \* A \* 43560 \* 1.08  
V = 3.294 x 10<sup>5</sup>

For these calculations, total volume storage is assumed to equal (C)\*A with A converted to square feet multiplied by 13' (1.08)

**DEVELOPMENT OF RUNOFF HYDROGRAPH MALCOM'S METHOD AS DESCRIBED IN THE BRAZORIA COUNTY DRAINAGE CRITERIA MANUAL**

T =  $\frac{V}{1.39 \cdot Q}$  T = 7.398 x 10<sup>3</sup>

T = Time to peak, presented as a function of volume and peak flow and therefore indirectly related to time of concentration

t = 0, 1000.. 84000

f(t) =  $\left(\frac{Q}{2}\right) \left(1 - \cos\left(\frac{t \cdot \pi}{T}\right)\right)$  f(t) describes rising limb of hydrograph

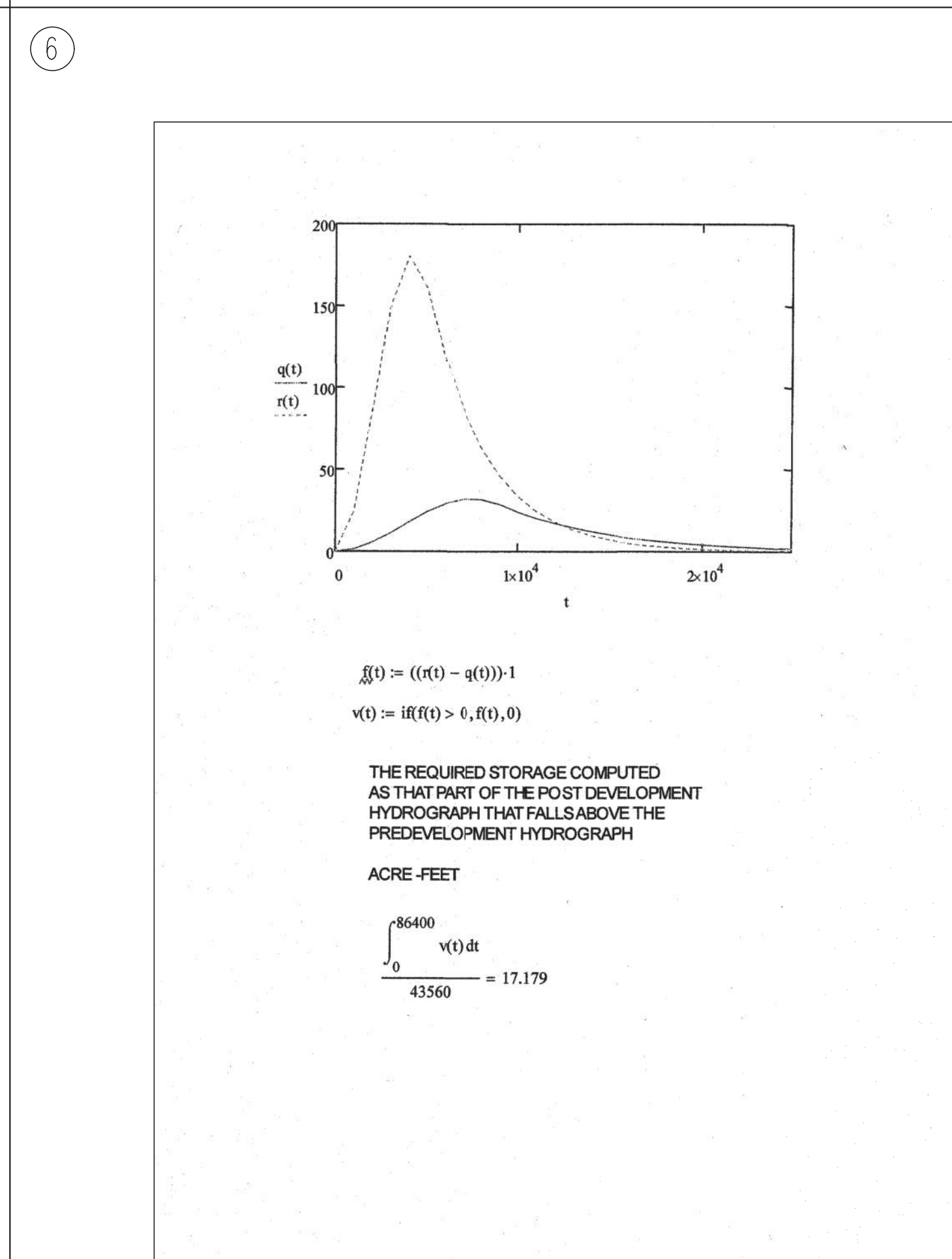
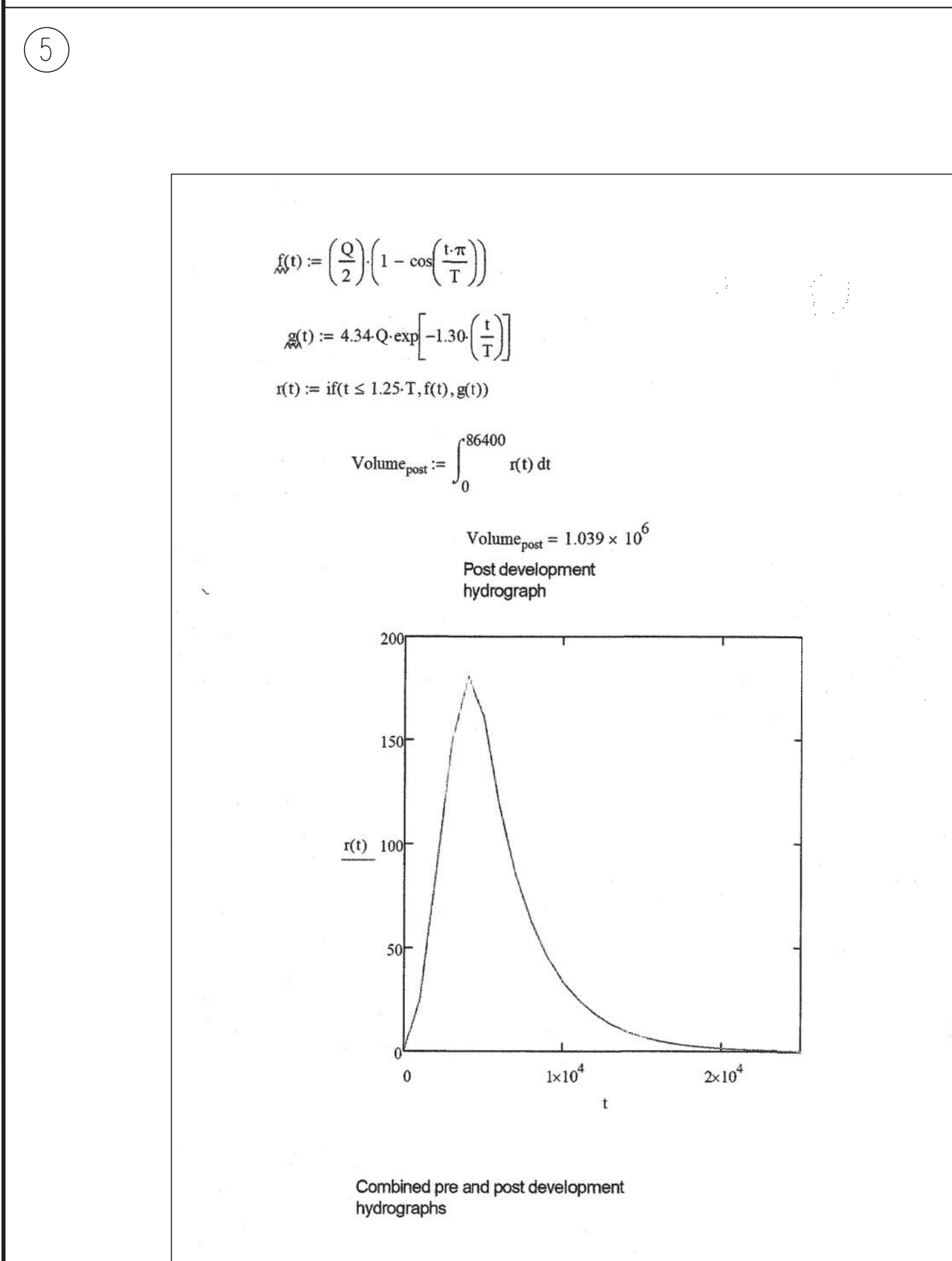
g(t) = 4.34 \* Q \* exp $\left[-1.30 \left(\frac{t}{T}\right)\right]$  g(t) describes descending limb of hydrograph

q(t) := if(t < 1.25 \* T, f(t), g(t))

Volume<sub>pre</sub> =  $\int_0^{86400} q(t) dt$

Volume<sub>pre</sub> = 3.306 x 10<sup>5</sup>

Predevelopment hydrograph



14396 - RIVERWOOD RANCH SUBDIVISION SECTIONS 3 & 4 IN ANGLETON, TEXAS  
RESTRICTIVE OUTLET WITH MAX. FLOW RATE OF 32.01 CFS AND 1.0' HEAD

A	B	C	D	E	F	G	H	I	J	K	L	M	N
1													
2	H"	Q"	ENTR.	n	L	D		EQ.	EQ.	EQ.	EQ.	EQ.	EQ.
3			LOSS					2.5204(1+D4)	466.18*E4^2*F4	B4/(C4/10)^2	I4/G4^4	J4/G4^5.333	L4-(L4+M4)
4	1	24.6	0.5	0.013	116	2.5		3.7806	9.1390	0.1658	0.0968	0.0690	0.0000
5	1	37.1	0.5	0.013	116	3		3.7806	9.1390	0.0728	0.0467	0.0261	0.0000

USE 30" RESTRICTIVE OUTLET

ORIFICE EQUATION

Q = Cd \* A \* (2 \* G \* H)^0.5

Where:

Cd = 0.8

G = 32.2

H = 1

Q = 32.01

A = 4.99 30" Dia. 4.91 S.F.

NO.	DATE	DESCRIPTION	APPROVED

DESIGNED DR  
DRAWN BT  
CHECKED  
DATE

REVISIONS

**B & L**  
BAKER & LAWSON, INC.  
ENGINEERS • PLANNERS • SURVEYORS  
4005 TECHNOLOGY DRIVE, SUITE 1530  
ANGLETON, TEXAS 77515 (979) 849-6681  
REG. NO. F-825

The seal appearing on this document was authorized by Douglas B. Roesler P.E. 56739

DOUGLAS B. ROESLER  
56739  
LICENSED PROFESSIONAL ENGINEER

03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

PLAN:  
PROFILE:  
HORIZONTAL:  
VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

HYDROLOGICAL CALCULATIONS

PROJECT NO. 14396

PROJECT NAME : Riverwood Ranch Subd. Sec. 3 & 4  
 JOB NUMBER : 14396  
 PROJECT DESCRIPTION : Area A 10 - Year Storm  
 DESIGN FREQUENCY : 10 Years  
 ANALYSIS FREQUENCY : 100 Years  
 MEASUREMENT UNITS : ENGLISH

OUTPUT FOR DESIGN FREQUENCY OF: 10 Years

Runoff Computation for Design Frequency.

ID (acre)	C Value (min)	Area (min)	Tc (in/hr)	Tc Used (in/hr)	Intensity (cfs)	Supply Q (cfs)	Total Q (cfs)
A-1	0.55	1.56	15.00	15.00	6.21	0.000	5.327
A-2	0.55	1.13	15.00	15.00	6.21	0.000	3.859
A-3	0.55	0.77	15.00	15.00	6.21	0.000	2.630
A-4	0.55	0.33	15.00	15.00	6.21	0.000	1.127
A-5	0.55	0.47	15.00	15.00	6.21	0.000	1.605
A-6	0.55	1.76	15.00	15.00	6.21	0.000	6.010
A-7	0.55	1.19	15.00	15.00	6.21	0.000	4.064

Sag Inlets Configuration Data.

Inlet ID	Type	Inlet Length (ft)	Grate Perim (sf)	Left-Slope (%)	Right-Slope (%)	Gutter Long Trans (ft)	Depth Allowed (ft)	Critic Elev.
A-1	Curb	5.00	n/a	0.50	2.00	0.014	1.50	28.00
A-2	Curb	4.00	n/a	0.50	2.00	0.014	1.50	28.00
A-3	Curb	3.00	n/a	0.50	2.00	0.014	1.50	28.00
A-4	Curb	2.00	n/a	0.50	2.00	0.014	1.50	28.00
A-5	Curb	2.00	n/a	0.50	2.00	0.014	1.50	28.00
A-6	Curb	6.00	n/a	0.50	2.00	0.014	1.50	28.00
A-7	Curb	4.00	n/a	0.50	2.00	0.014	1.50	28.00

Sag Inlets Computation Data.

Inlet ID	Type	Inlet Length (ft)	Grate Perim Area (cfs)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded width Left (ft)	Ponded width Right (ft)
A-1	Curb	5.00	n/a	5.327	6.261	0.449	11.25	11.25
A-2	Curb	4.00	n/a	3.859	5.448	0.397	10.00	10.00
A-3	Curb	3.00	n/a	2.630	4.635	0.343	8.65	8.65
A-4	Curb	2.00	n/a	1.127	3.822	0.222	6.30	6.30
A-5	Curb	2.00	n/a	1.605	3.822	0.280	7.20	7.20
A-6	Curb	6.00	n/a	6.010	7.075	0.449	11.80	11.80
A-7	Curb	4.00	n/a	4.064	5.448	0.411	10.20	10.20

Cumulative Junction Discharge Computations

Node I.D.	Type	Weighted C-Value (min)	Cumulat. Dr. Area (in/hr)	Cumulat. Intens. (cfs)	Intens. (cfs)	User Supply Q (cfs)	Additional Q in Node	Total Disch.
A-1	Curb	0.550	1.56	15.00	6.21	0.000	0.00	5.327
A-2	Curb	0.550	2.69	16.55	6.00	0.000	0.00	8.877
A-3	Curb	0.550	0.77	15.00	6.21	0.000	0.00	2.630
A-4	Curb	0.550	3.79	16.89	5.96	0.000	0.00	12.416
A-5	Curb	0.550	0.47	15.00	6.21	0.000	0.00	1.605
A-6	Curb	0.550	6.02	17.79	5.84	0.000	0.00	19.350
A-7	Curb	0.550	7.21	17.87	5.83	0.000	0.00	23.134
MH-1	CircMh	0.550	2.69	16.55	6.00	0.000	0.00	8.877
MH-2	CircMh	0.550	7.21	17.87	5.83	0.000	0.00	23.134
OUT	outlt	0.550	7.21	17.87	5.83	0.000	0.00	23.134

Conveyance Configuration Data

Run#	Node I.D.	Flowline Elev. (ft)	US DS	DS	Shape #	Span	Rise	Length	Slope	n_value	
1	A-1	23.50	A-2	23.44	Circ	1	0.00	1.50	280.00	0.02	0.013
2	A-2	23.44	MH-1	23.27	Circ	1	0.00	2.00	45.00	0.38	0.013
3	MH-1	23.27	A-4	23.35	Circ	1	0.00	2.00	40.00	0.20	0.013
4	A-3	23.55	A-4	23.55	Circ	1	0.00	1.50	28.00	0.39	0.013
5	A-4	23.27	A-6	22.83	Circ	1	0.00	2.50	220.00	0.20	0.013
6	A-5	23.55	A-6	23.55	Circ	1	0.00	1.50	28.00	0.39	0.013
7	A-6	22.83	A-7	22.71	Circ	1	0.00	2.50	30.00	0.40	0.013
8	A-7	22.71	MH-2	22.63	Circ	1	0.00	3.00	38.00	0.21	0.013
9	MH-2	20.25	OUT	20.15	Circ	1	0.00	3.00	30.00	0.33	0.013

Conveyance Hydraulic Computations. Tailwater = 25.000 (ft)

Run#	US Elev (ft)	DS Elev (ft)	Depth (ft)	Fr. Slope (%)	Unif. (f/s)	Actual (f/s)	Velocity (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1	26.13	25.42	0.257	1.50	1.50	3.01	3.01	5.33	1.54	0.000
2	25.42	25.35	0.154	1.16	2.00	4.72	2.83	8.88	13.91	0.000
3	25.35	25.29	0.154	1.44	2.00	3.67	2.83	8.88	10.12	0.000
4	25.30	25.29	0.063	0.66	1.50	3.54	1.49	2.63	6.58	0.000
5	25.29	25.13	0.092	1.48	2.29	4.09	2.63	12.42	18.35	0.000
6	25.13	25.13	0.023	0.50	1.50	3.08	0.91	1.61	6.58	0.000
7	25.13	25.08	0.222	1.60	2.37	5.83	4.02	19.35	25.95	0.000
8	25.08	25.04	0.120	1.97	2.41	4.70	3.81	23.13	30.61	0.000
9	25.04	25.00	0.120	1.69	3.00	5.65	3.27	23.13	38.51	0.000

OUTPUT FOR ANALYSIS FREQUENCY OF: 100 Years

Runoff Computation for Analysis Frequency.

ID (acre)	C Value (min)	Area (min)	Tc (in/hr)	Tc Used (in/hr)	Intensity (cfs)	Supply Q (cfs)	Total Q (cfs)
A-1	0.55	1.56	15.00	15.00	8.39	0.000	7.203
A-2	0.55	1.13	15.00	15.00	8.39	0.000	5.217
A-3	0.55	0.77	15.00	15.00	8.39	0.000	3.555
A-4	0.55	0.33	15.00	15.00	8.39	0.000	1.524
A-5	0.55	0.47	15.00	15.00	8.39	0.000	2.170
A-6	0.55	1.76	15.00	15.00	8.39	0.000	8.126
A-7	0.55	1.19	15.00	15.00	8.39	0.000	5.494

Sag Inlets Configuration Data.

Inlet ID	Type	Inlet Length (ft)	Grate Perim Area (sf)	Left-Slope (%)	Right-Slope (%)	Gutter Long Trans (ft)	Depth Allowed (ft)	Critic Elev.
A-1	Curb	7.00	n/a	0.50	2.00	0.014	1.50	28.00
A-2	Curb	5.00	n/a	0.50	2.00	0.014	1.50	28.00
A-3	Curb	4.00	n/a	0.50	2.00	0.014	1.50	28.00
A-4	Curb	2.00	n/a	0.50	2.00	0.014	1.50	28.00
A-5	Curb	3.00	n/a	0.50	2.00	0.014	1.50	28.00
A-6	Curb	8.00	n/a	0.50	2.00	0.014	1.50	28.00
A-7	Curb	5.00	n/a	0.50	2.00	0.014	1.50	28.00

Sag Inlets Computation Data.

Inlet ID	Type	Inlet Length (ft)	Grate Perim Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded width Left (ft)	Ponded width Right (ft)
A-1	Curb	7.00	n/a	7.203	7.888	0.471	12.60	12.60
A-2	Curb	5.00	n/a	5.217	6.261	0.443	11.20	11.20
A-3	Curb	4.00	n/a	3.555	5.448	0.376	9.70	9.70
A-4	Curb	2.00	n/a	1.524	3.822	0.271	7.05	7.05
A-5	Curb	3.00	n/a	2.170	4.635	0.301	8.05	8.05
A-6	Curb	8.00	n/a	8.126	8.701	0.478	13.20	13.20
A-7	Curb	5.00	n/a	5.494	6.261	0.458	11.40	11.40

Cumulative Junction Discharge Computations

Node I.D.	Type	Weighted C-Value (min)	Cumulat. Dr. Area (in/hr)	Cumulat. Intens. (cfs)	Intens. (cfs)	User Supply Q (cfs)	Additional Q in Node	Total Disch.
A-1	Curb	0.550	1.56	15.00	8.39	0.000	0.00	7.203
A-2	Curb	0.550	2.69	17.04	8.06	0.000	0.00	11.928
A-3	Curb	0.550	0.77	15.00	8.39	0.000	0.00	3.555
A-4	Curb	0.550	3.79	17.36	8.01	0.000	0.00	16.700
A-5	Curb	0.550	0.47	15.00	8.39	0.000	0.00	2.170
A-6	Curb	0.550	6.02	18.23	7.88	0.000	0.00	26.094
A-7	Curb	0.550	7.21	18.31	7.87	0.000	0.00	31.203
MH-1	CircMh	0.550	2.69	17.04	8.06	0.000	0.00	11.928
MH-2	CircMh	0.550	7.21	18.31	7.87	0.000	0.00	31.203
OUT	outlt	0.550	7.21	18.31	7.87	0.000	0.00	31.203

Conveyance Configuration Data

Run#	Node I.D.	Flowline Elev. (ft)	US DS	DS	Shape #	Span	Rise	Length	Slope	n_value	
1	A-1	23.50	A-2	23.44	Circ	1	0.00	2.00	280.00	0.02	0.013
2	A-2	23.44	MH-1	23.27	Circ	1	0.00	2.00	45.00	0.38	0.013
3	MH-1	23.27	A-4	23.35	Circ	1	0.00	2.00	40.00	0.20	0.013
4	A-3	23.55	A-4	23.55	Circ	1	0.00	1.50	28.00	0.39	0.013
5	A-4	23.27	A-6	22.83	Circ	1	0.00	2.50	220.00	0.20	0.013
6	A-5	23.55	A-6	23.55	Circ	1	0.00	1.50	28.00	0.39	0.013
7	A-6	22.83	A-7	22.71	Circ	1	0.00	2.50	30.00	0.40	0.013
8	A-7	22.71	MH-2	22.63	Circ	1	0.00	3.00	38.00	0.21	0.013
9	MH-2	20.25	OUT	20.15	Circ	1	0.00	3.00	30.00	0.33	0.013

Conveyance Hydraulic Computations. Tailwater = 26.000 (ft)

Run#	US Elev (ft)	DS Elev (ft)	Depth (ft)	Fr. Slope (%)	Unif. (f/s)	Actual (f/s)	Velocity (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1	27.15	26.87	0.101	2.00	2.00	2.29	2.29	2.29	3.31	0.000
2	26.87	26.74	0.278	1.44	2.00	4.94	3.80	11.93	13.91	0.000
3	26.74	26.63	0.278	2.00	2.00	3.80	3.80	11.93	10.12	0.000
4	26.67	26.63	0.115	0.79	1.50	3.80	2.01	3.56	6.58	0.000
5	26.63	26.27	0.166	1.88	2.50	4.23	3.40	16.70	18.35	0.000
6	26.28	26.27	0.049	0.59	1.50	3.35	1.23	2.17	6.58	0.000
7	26.27	26.15	0.405	2.07	2.50	6.00	5.32	26.09	25.95	0.000
8	26.15	26.07	0.219	2.53	3.00	4.90	4.41	31.20	30.61	0.000
9	26.07	26.00	0.219	2.06	3.00	6.02	4.41	31.20	38.51	0.000

NORMAL TERMINATION OF WINSTORM.

PROJECT NAME : Riverwood Ranch Subd. Sec. 3 & 4  
 JOB NUMBER : 14396  
 PROJECT DESCRIPTION : Area B 10 - Year Storm  
 DESIGN FREQUENCY : 10 Years  
 ANALYSIS FREQUENCY : 100 Years  
 MEASUREMENT UNITS : ENGLISH

OUTPUT FOR DESIGN FREQUENCY OF: 10 Years

Runoff Computation for Design Frequency.

ID (acre)	C Value (min)	Area (min)	Tc (in/hr)	Tc Used (in/hr)	Intensity (cfs)	Supply Q (cfs)	Total Q (cfs)
B-1	0.55	0.63	15.00	15.00	6.21	0.000	2.151
B-2	0.55	1.88	15.00	15.00	6.21	0.000	6.420
B-3	0.55	1.31	15.00	15.00	6.21	0.000	4.474
B-4	0.55	0.88	15.00	15.00	6.21	0.000	3.005
B-5	0.55	1.85	15.00	15.00	6.21	0.000	6.318

PROJECT NAME : Riverwood Ranch Subd. Sec. 3 & 4  
 JOB NUMBER : 14396  
 PROJECT DESCRIPTION : Area C 10 - Year Storm  
 DESIGN FREQUENCY : 10 Years  
 ANALYSIS FREQUENCY : 100 Years  
 MEASUREMENT UNITS : ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 10 Years

Runoff Computation for Design Frequency.

ID (acre)	C Value (min)	Area (min)	Tc (in/hr)	Tc Used (in/hr)	Intensity (cfs)	Supply Q (cfs)	Total Q (cfs)
C-1	0.55	1.24	15.00	15.00	6.21	0.000	4.235
C-2	0.55	0.46	15.00	15.00	6.21	0.000	1.571
C-3	0.55	0.52	15.00	15.00	6.21	0.000	1.776
C-4	0.55	0.31	15.00	15.00	6.21	0.000	1.059
C-5	0.55	0.60	15.00	15.00	6.21	0.000	2.049
C-6	0.55	0.57	15.00	15.00	6.21	0.000	1.947
C-7	0.55	0.85	15.00	15.00	6.21	0.000	2.903
C-8	0.55	1.35	15.00	15.00	6.21	0.000	4.610
C-9	0.55	0.56	15.00	15.00	6.21	0.000	1.912
C-10	0.55	0.74	15.00	15.00	6.21	0.000	2.527
C-11	0.55	0.77	15.00	15.00	6.21	0.000	2.630

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Inlet Length (ft)	Grate Perim Area (sf)	Left-Slope Long Trans (%)	Right-Slope Long Trans (%)	Gutter n	Depth Depurw (ft)	Depth Allowed (ft)	Critic Elev. (ft)
C-1	Curb	4.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-2	Curb	2.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-3	Curb	2.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-4	Curb	2.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-5	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-6	Curb	2.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-7	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-8	Curb	4.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-9	Curb	2.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-10	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-11	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Inlet Length (ft)	Grate Perim Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded width Left (ft)	Ponded width Right (ft)
C-1	Curb	4.00	n/a	4.235	5.448	0.423	10.35	10.35
C-2	Curb	2.00	n/a	1.571	3.822	0.276	7.15	7.15
C-3	Curb	2.00	n/a	1.776	3.822	0.300	7.45	7.45
C-4	Curb	2.00	n/a	1.059	3.822	0.212	6.15	6.15
C-5	Curb	3.00	n/a	2.049	4.635	0.290	7.90	7.90
C-6	Curb	2.00	n/a	1.947	3.822	0.319	7.70	7.70
C-7	Curb	3.00	n/a	2.903	4.635	0.366	8.95	8.95
C-8	Curb	4.00	n/a	4.610	5.448	0.447	10.70	10.70
C-9	Curb	2.00	n/a	1.912	3.822	0.315	7.65	7.65
C-10	Curb	3.00	n/a	2.527	4.635	0.334	8.50	8.50
C-11	Curb	3.00	n/a	2.630	4.635	0.343	8.65	8.65

Cumulative Junction Discharge Computations.

Node I.D.	Node Type	Node C-value	Weighted C-value (min)	Cumulat. Dr.Area (acres)	Cumulat. Tc (in/hr)	Intens. (cfs)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
C-1	Curb	0.550	1.24	15.00	6.21	0.000	0.00	0.00	4.235
C-2	Curb	0.550	1.70	15.49	6.14	0.000	0.00	0.00	5.742
C-3	Curb	0.550	2.22	15.63	6.12	0.000	0.00	0.00	7.475
C-4	Curb	0.550	0.31	15.00	6.21	0.000	0.00	0.00	1.059
C-5	Curb	0.550	3.12	15.55	6.00	0.000	0.00	0.00	3.128
C-6	Curb	0.550	0.57	15.00	6.21	0.000	0.00	0.00	1.947
C-7	Curb	0.550	4.55	16.96	5.95	0.000	0.00	0.00	14.883
C-8	Curb	0.550	1.35	15.00	6.21	0.000	0.00	0.00	4.610
C-9	Curb	0.550	1.91	15.15	6.19	0.000	0.00	0.00	6.501
C-10	Curb	0.550	0.74	15.00	6.21	0.000	0.00	0.00	2.527
C-11	Curb	0.550	7.97	18.21	5.79	0.000	0.00	0.00	25.396
MH-5	CircMh	0.550	7.97	18.21	5.79	0.000	0.00	0.00	25.396
OUT	Outlt	0.550	7.97	18.21	5.79	0.000	0.00	0.00	25.396

Conveyance Configuration Data.

Run#	Node I.D.	Node Type	Flowline Elev. (ft)	US DS	DS	Shape #	Span	Rise	Length	Slope	n_value
1	C-1	C-2	23.00	22.82	Circ	1	0.00	2.00	90.00	0.20	0.013
2	C-2	C-3	23.50	23.44	Circ	1	0.00	2.00	28.00	0.21	0.013
3	C-3	C-5	22.82	22.43	Circ	1	0.00	2.00	195.00	0.20	0.013
4	C-4	C-5	23.60	23.44	Circ	1	0.00	1.50	28.00	0.57	0.013
5	C-5	C-7	22.43	22.24	Circ	1	0.00	2.50	95.00	0.20	0.013
6	C-6	C-7	23.55	23.44	Circ	1	0.00	1.50	28.00	0.39	0.013
7	C-7	C-11	22.24	21.61	Circ	1	0.00	3.00	315.00	0.20	0.013
8	C-8	C-9	23.00	22.94	Circ	1	0.00	1.50	28.00	0.21	0.013
9	C-9	C-11	22.94	22.42	Circ	1	0.00	2.00	260.00	0.20	0.013
10	C-10	C-11	23.55	23.44	Circ	1	0.00	1.50	28.00	0.39	0.013
11	C-11	MH-5	21.61	21.34	Circ	1	0.00	3.00	135.00	0.20	0.013
12	MH-5	OUT	19.75	19.65	Circ	1	0.00	3.00	50.00	0.20	0.013

Conveyance Hydraulic Computations. Tailwater = 25.000 (ft)

Run#	US Elev (ft)	DS Elev (ft)	Fr.Slope (%)	Unif. (f/s)	Actual (f/s)	Velocity (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1	25.74	25.71	0.035	0.91	2.00	3.06	1.35	4.23	0.12
2	25.71	25.70	0.064	1.06	2.00	3.39	1.83	5.74	0.10
3	25.70	25.48	0.109	1.28	2.00	3.52	2.38	7.48	0.12
4	25.49	25.48	0.010	0.37	1.50	3.13	0.60	1.06	7.94
5	25.48	25.42	0.063	1.33	2.50	3.90	2.10	10.33	0.18
6	25.43	25.42	0.034	0.56	1.50	3.22	1.10	1.95	6.58
7	25.42	25.27	0.050	1.50	3.00	4.21	2.11	14.88	0.29
8	25.53	25.48	0.193	1.17	1.50	3.11	2.61	4.61	4.86
9	25.48	25.27	0.083	1.16	2.00	3.45	2.07	6.50	10.12
10	25.28	25.27	0.058	0.64	1.50	3.48	1.43	2.53	6.58
11	25.27	25.07	0.145	2.16	3.00	4.67	3.59	25.40	29.83
12	25.07	25.00	0.145	2.16	3.00	4.67	3.59	25.40	29.83

OUTPUT FOR ANALYSIS FREQUENCY of: 100 Years

Runoff Computation for Analysis Frequency.

ID (acre)	C Value (min)	Area (min)	Tc (in/hr)	Tc Used (in/hr)	Intensity (cfs)	Supply Q (cfs)	Total Q (cfs)
C-1	0.55	1.24	15.00	15.00	8.39	0.000	5.725
C-2	0.55	0.46	15.00	15.00	8.39	0.000	2.124
C-3	0.55	0.52	15.00	15.00	8.39	0.000	2.401
C-4	0.55	0.31	15.00	15.00	8.39	0.000	1.431
C-5	0.55	0.60	15.00	15.00	8.39	0.000	2.770
C-6	0.55	0.57	15.00	15.00	8.39	0.000	2.632
C-7	0.55	0.85	15.00	15.00	8.39	0.000	3.925
C-8	0.55	1.35	15.00	15.00	8.39	0.000	6.233
C-9	0.55	0.56	15.00	15.00	8.39	0.000	2.586
C-10	0.55	0.74	15.00	15.00	8.39	0.000	3.417
C-11	0.55	0.77	15.00	15.00	8.39	0.000	3.555

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Inlet Length (ft)	Grate Perim Area (sf)	Left-Slope Long Trans (%)	Right-Slope Long Trans (%)	Gutter n	Depth Depurw (ft)	Depth Allowed (ft)	Critic Elev. (ft)
C-1	Curb	5.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-2	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-3	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-4	Curb	2.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-5	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-6	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-7	Curb	4.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-8	Curb	6.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-9	Curb	3.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-10	Curb	4.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00
C-11	Curb	4.00	n/a	0.50	2.00	0.014	1.50	0.50	28.00

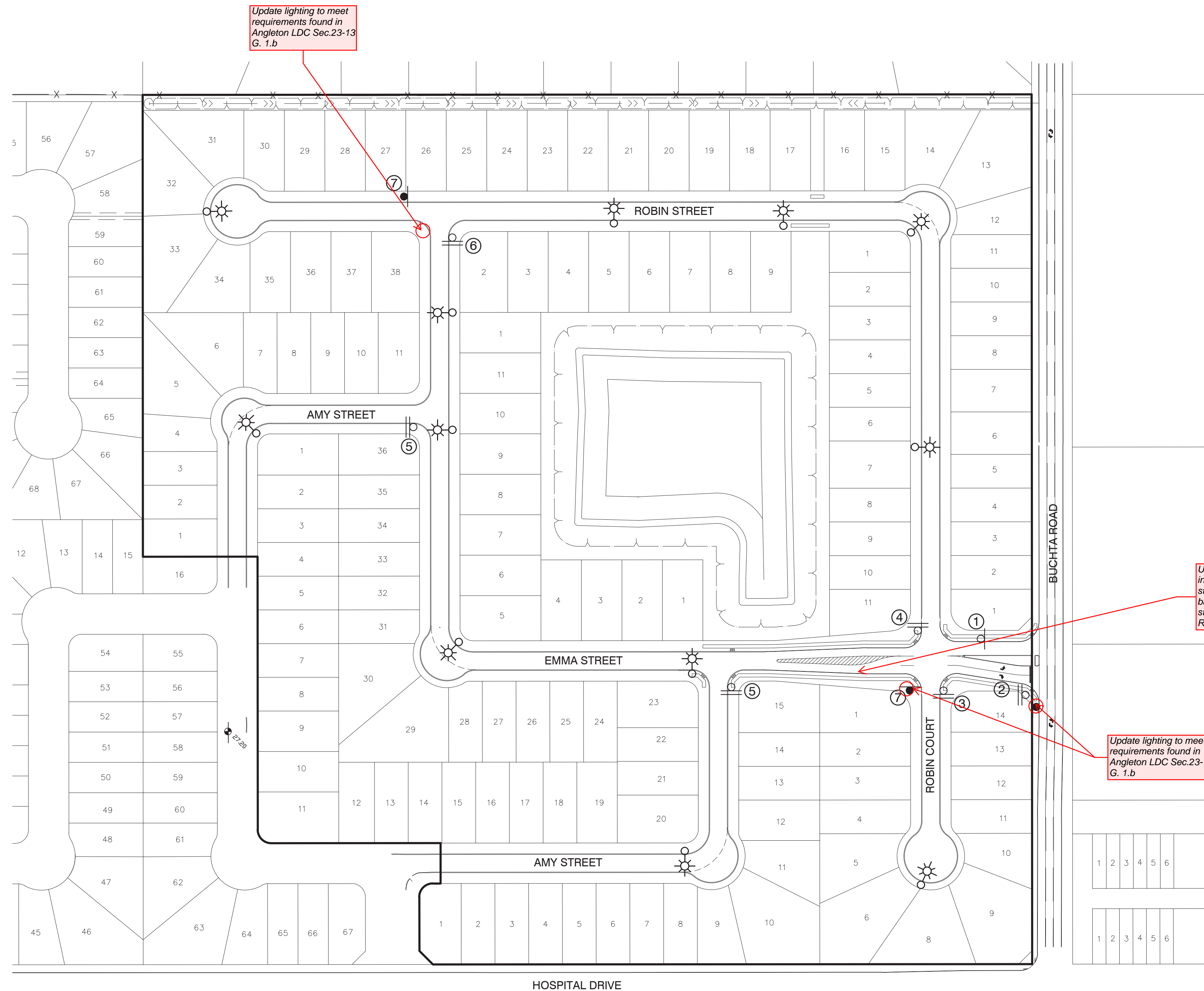
Sag Inlets Computation Data.

Inlet ID	Inlet Type	Inlet Length (ft)	Grate Perim Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded width Left (ft)	Ponded width Right (ft)
C-1	Curb	5.00	n/a	5.725	6.261	0.471	11.60	11.60
C-2	Curb	3.00	n/a	2.124	4.635	0.297	8.00	8.00
C-3	Curb	3.00	n/a	2.401	4.635	0.322	8.35	8.35
C-4	Curb	2.00	n/a	1.431	3.822	0.260	6.90	6.90
C-5	Curb	3.00	n/a	2.770	4.635	0.355	8.80	8.80
C-6	Curb	3.00	n/a	2.632	4.635	0.343	8.65	8.65
C-7	Curb	4.00	n/a	3.925	5.448	0.402	10.05	10.05
C-8	Curb	6.00	n/a	6.233	7.075	0.460	11.95	11.95
C-9	Curb	3.00	n/a	2.586	4.635	0.339	8.60	8.60
C-10	Curb	4.00	n/a	3.417	5.448	0.366	9.55	9.55
C-11	Curb	4.00	n/a	3.555	5.448	0.376	9.70	9.70

Cumulative Junction Discharge Computations.

Node I.D.	Node Type	Node C-value	Weighted C-value (min)	Cumulat. Dr.Area (acres)	Cumulat. Tc (in/hr)	Intens. (cfs)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
C-1	Curb	0.550	1.24	15.00	8.39	0.000	0.00	0.00	5.725
C-2	Curb	0.550	1.70	15.44	8.32	0.000	0.00	0.00	7.779
C-3	Curb	0.550	2.22	15.57	8.30	0.000	0.00	0.00	10.132
C-4	Curb	0.550	0.31	15.00	8.39	0.000	0.00	0.00	1.431
C-5	Curb	0.550	3.13	16.45	8.15	0.000	0.00	0.00	14.039
C-6	Curb	0.550	0.57	15.00	8.39	0.000	0.00	0.00	2.632
C-7	Curb	0.550	4.55	16.96	8.09	0.000	0.00	0.00	20.255
C-8	Curb	0.550	1.35	15.00	8.39	0.000	0.00	0.00	6.233
C-9	Curb	0.550	1.91	15.13	8.37	0.000	0.00	0.00	8.795
C-10	Curb	0.550	0.74	15.00	8.39	0.000	0.00	0.00	3.417
C-11	Curb	0.550	7.97	18.00	7.91	0.000	0.00	0.00	34.694
MH-5	CircMh	0.550	7.97	18.00	7.91	0.000	0.00	0.00	34.694
OUT	Outlt	0.550	7.97	18.00	7.91	0.000	0.00	0.00	





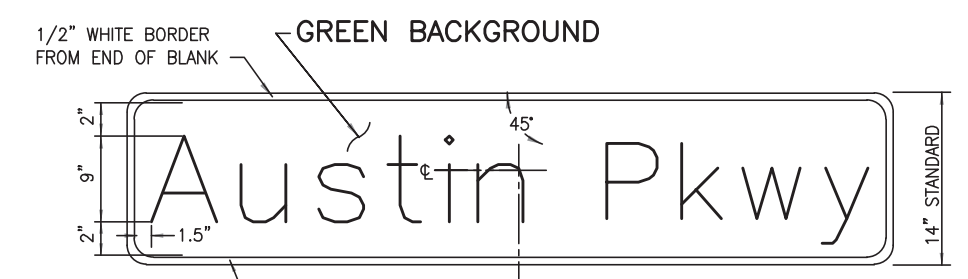
Update lighting to meet requirements found in Angleton LDC Sec.23-13 G. 1.b

Update plansheet to include all proposed striping including stop bar locations and striping on Buchta Road

Update lighting to meet requirements found in Angleton LDC Sec.23-13 G. 1.b

- GENERAL CONSTRUCTION NOTES:
1. SECURELY ATTACH STREET NAME SIGN TO TRAFFIC SIGNAL SUPPORT WIRES WITH MULTI-LEVELING, WIND DUMPING BRACKETS.
  2. SUPPORT WIRES SHOULD NOT BE PROHIBITED FROM INDEPENDENT MOVEMENT.
  3. INSTALL ONE STREET NAME SIGN APPROXIMATE 2' FROM POLE ABOVE ON-COMING TRAFFIC ON EACH TRAFFIC SIGNAL SPAN.
  4. THE FIRST LETTER OF EACH WORD SHALL BE UPPER CASE, SUBSEQUENT LETTERS SHALL BE LOWER CASE, ALL INDIVIDUAL LETTERS FOR EXAMPLE "T.M." SHALL BE UPPER CASE, STREET SUFFIXES & "NO OUTLET" SHALL BE UPPER CASE.
  5. ALL STRIPING SHALL BE "TANDARD GRADE" OR APPROVED EQUAL.
  6. USE ANODIZED ALUMINUM ONLY.
  7. STREET SIGN FONTS SHALL BE HELVETICA BOLD, MEDIUM STYLE.
  8. MINIMUM SIGN THICKNESS IF SIGNS = 3/8", 14" SIGNS = .1875"
  9. ATTACH SIGN TO 2" SIGN POST WITH 1/2" BLADE MOUNT BRACKET.

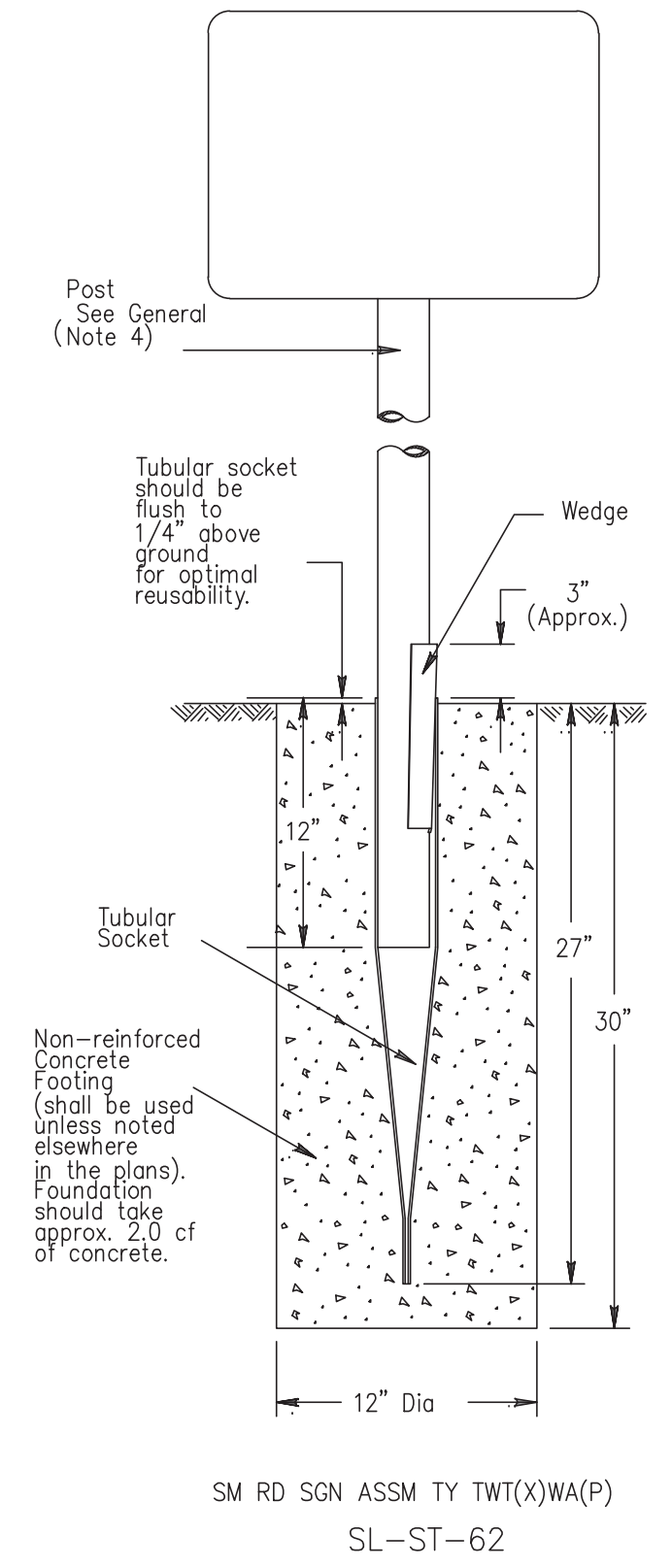
SL-ST-68



DETAIL OF SIGN FOR MAST ARM TRAFFIC SIGNAL POLES

- NOTES:
1. HELVETICA BOLD, MEDIUM STYLE, WITH 9" UPPER CASE LETTERS AND 6" LOWER CASE LETTERS.
  2. REFER TO C.O.S.L. DESIGN STANDARDS FOR MORE INFO.
- SL-ST-67

Wedge Anchor System



SM RD SGN ASSM TY TWT(X)WA(P)  
SL-ST-62

STREET SIGNS

- ① 30 MPH SPEED LIMIT
- ② STOP - FACING EMMA STREET BUCHTA STREET / EMMA LOOP
- ③ STOP - FACING ROBIN COURT ROBIN COURT / EMMA STREET
- ④ STOP - FACING ROBIN STREET ROBIN STREET / EMMA STREET
- ⑤ STOP - FACING AMY STREET AMY STREET/EMMA STREET
- ⑥ STOP - FACING EMMA STREET EMMA STREET / ROBIN STREET
- ⑦ NO OUTLET (2 LOCATION)

STREET AREA LIGHTING ( 13 LOCATIONS )

- ☐ STREET SIGNS (6 LOCATIONS)
- ☐ STREET SIGNS (1 LOCATION) 30 MPH
- NO OUTLET (2 LOCATIONS)

LIGHTING PLAN PROVIDED IS SHOWN AS RECOMMENDED. FINAL LOCATIONS AND QUANTITIES ARE DETERMINED BY TEXAS NEW MEXICO POWER (TNMP).

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
DRAWN BT  
CHECKED  
DATE

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4005 TECHNOLOGY DRIVE, SUITE 1530  
ANGLETON, TEXAS 77515 (979) 849-6681  
REG. NO. F-825

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03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

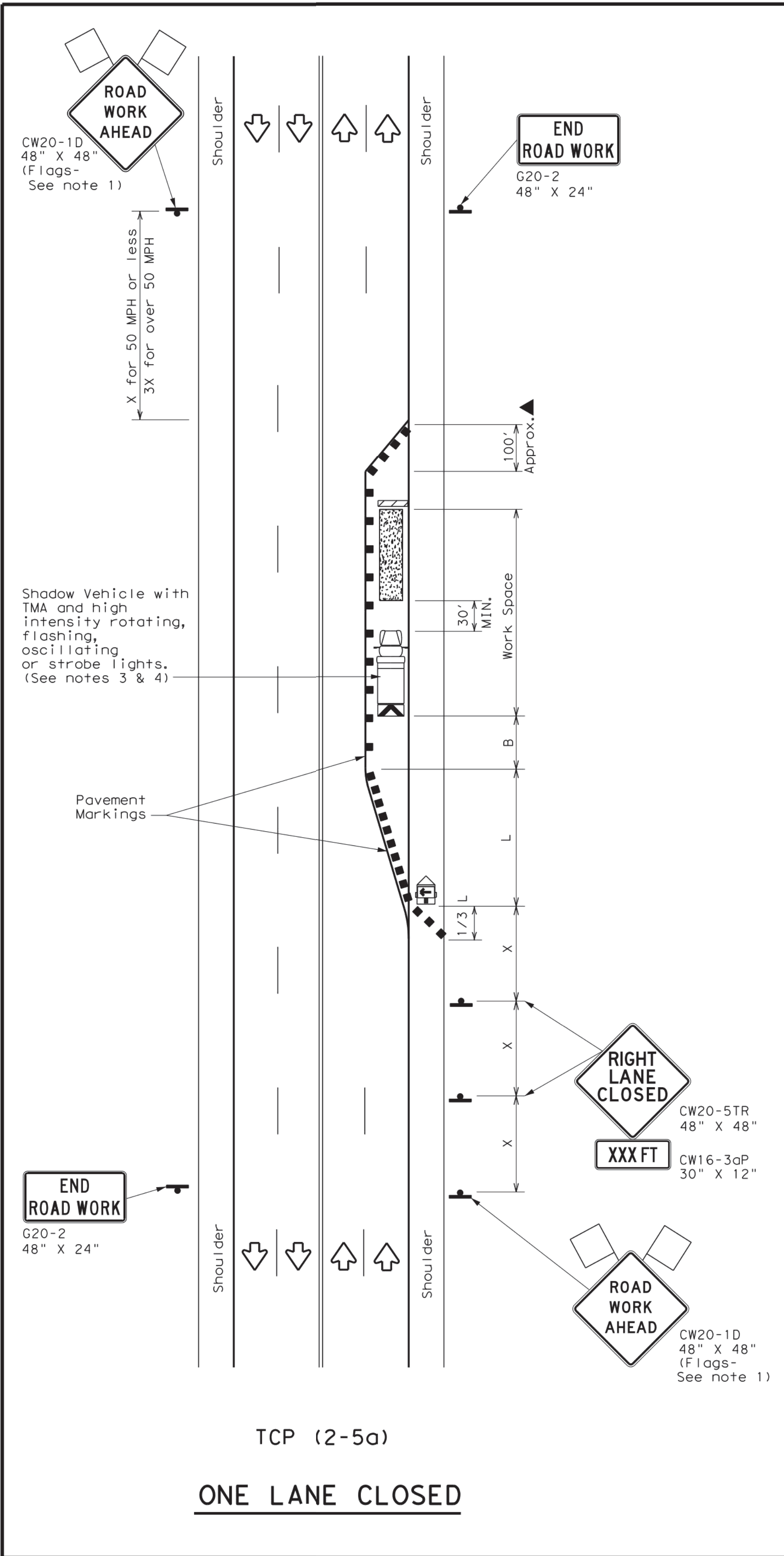
PLAN: 1" = 100'  
PROFILE:  
HORIZONTAL:  
VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

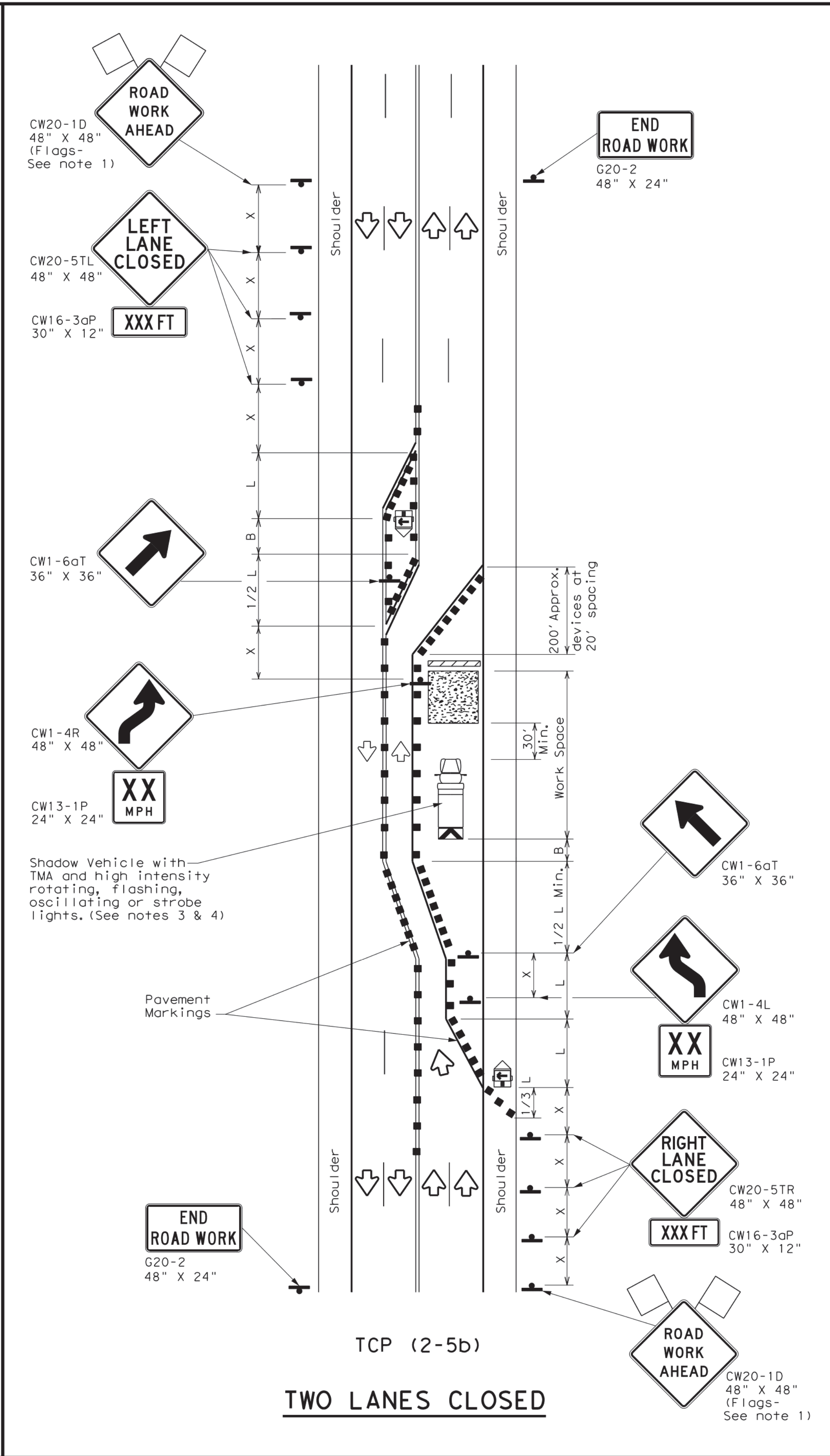
PAVING MARKING,  
STREET SIGN AND  
ROADWAY LIGHTING LAYOUT  
PROJECT NO. 14396

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DATE: \_\_\_\_\_  
FILE: \_\_\_\_\_



TCP (2-5a)  
**ONE LANE CLOSED**



TCP (2-5b)  
**TWO LANES CLOSED**

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS <sup>2</sup> / 60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		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)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY

- GENERAL NOTES**
- Flags attached to signs where shown, are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
  - 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, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
  - Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.
  - The downstream taper is optional. When used, it should be 100 feet approximately per lane, with channelizing devices spaced at 20 feet.
- TCP (2-5a)**
- If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline to protect the work space from opposing traffic, with the arrow board placed in the closed lane near the end of the merging taper.
- TCP (2-5b)**
- Conflicting pavement markings shall be removed for long-term projects.

**Texas Department of Transportation**  
Traffic Operations Division Standard

**TRAFFIC CONTROL PLAN  
LONG TERM LANE CLOSURES  
MULTILANE CONVENTIONAL RDS.**

**TCP (2-5) - 18**

FILE: tcp2-5-18.dgn	DN: _____	CK: _____	DR: _____	CK: _____
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS				
8-95 2-12				
1-97 3-03				
4-98 2-18				
165				

NO.	DATE	DESCRIPTION	APPROVED

DESIGNED DR  
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CHECKED \_\_\_\_\_  
DATE \_\_\_\_\_

**BAKER & LAWSON, INC.**  
ENGINEERS • PLANNERS • SURVEYORS  
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ANGLETON, TEXAS 77515 (979) 849-6681  
REG. NO. F-825

**DOUGLAS B. ROESLER**  
LICENSED PROFESSIONAL ENGINEER  
56739  
03-03-2023

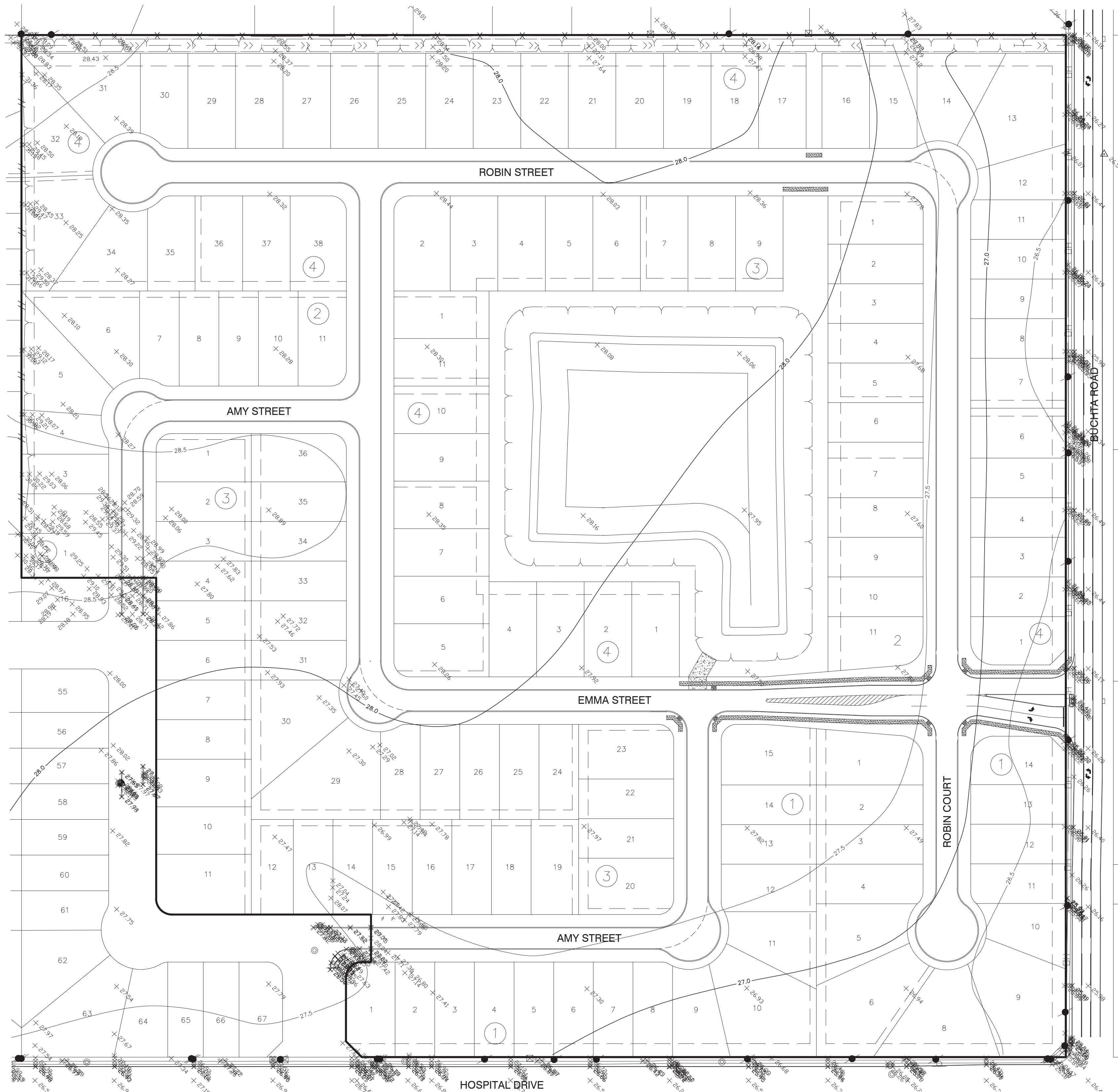
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OWNER:  
**RIVERWAY PROPERTIES  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057**

PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515**

TRAFFIC CONTROL PLAN  
TCP (1-1)-18  
PROJECT NO. 14396



**TREE LEGEND**

- HERITAGE TREE (PECAN & LIVE OAK)
- SIGNIFICANT TREE (OAK & ELM)
- PROP CREPE MYRTLE
- PROP OAK TREE

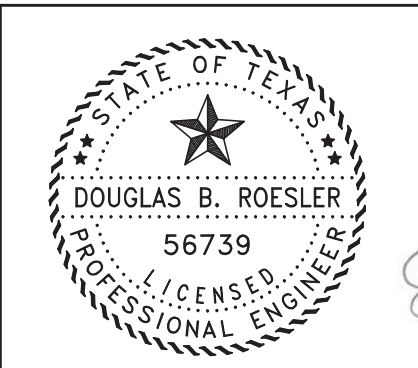
**SITE TREE SUMMARY**

TOTAL NUMBER OF HERITAGE TREES	= 0
TOTAL CALIPER OF HERITAGE TREES	= 0 IN
HERITAGE TREES TO BE REMOVED*	= 0
CALIPER OF REMOVED HERITAGE TREES	= 0 IN
HERITAGE & SIGNIFICANT TREES TO BE PRESERVED	= 0
CALIPER OF HERITAGE/SIGNIFICANT TREES TO BE PRESERVED	= 0 IN
REQUIRED REPLACEMENT CALIPER	= N/A
REQUIRED REPLACEMENT TREES (3"-CALIPER OAK TREES)	= 0 TREES
PER SECTION 23-60.H.7 OF THE ANGLETON LDC, THE HOMEOWNER WILL PROVIDE TWO TREES PER LOT IN ADDITION TO THE REQUIRED REPLACEMENT CALIPER.	

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

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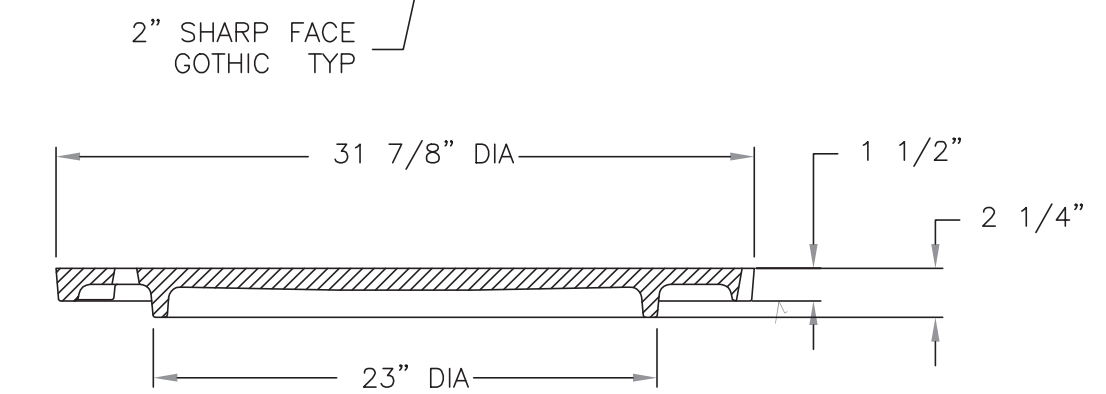
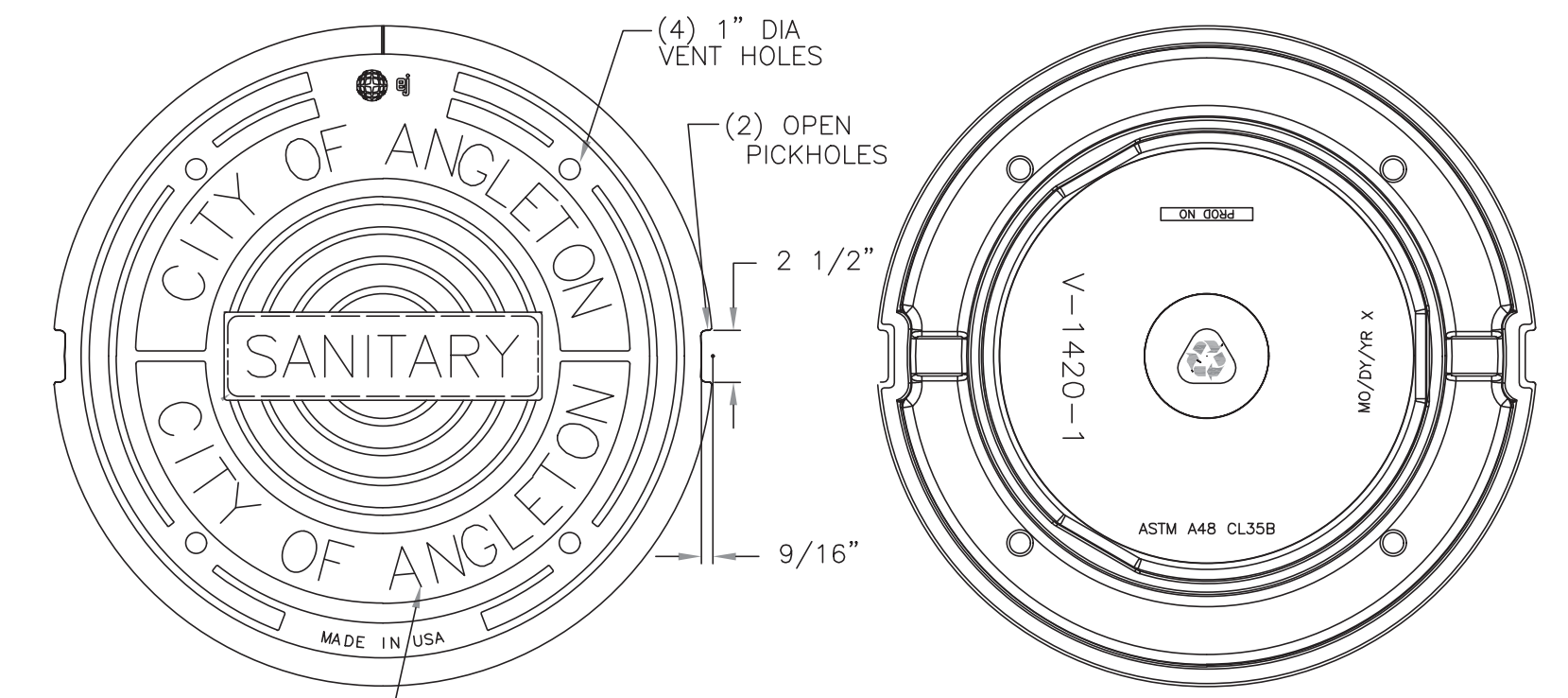
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: 1" = 80'  
 PROFILE:  
 HORIZONTAL:  
 VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

HERITAGE TREE  
 PRESERVATION PLAN  
 PROJECT NO. 14396

V1420-1 Cover



- NOTES:
1. MATERIAL SPECIFICATION SHALL BE ASTM A-48 CLASS 35B.
  2. COVER TO BE SOLID, WITHOUT HOLES AND WITH NON-PENETRATION RIM ACCESS RECESSES ONLY.
  3. HORIZONTAL BEARING SURFACES TO BE MACHINED AND SEALED AT INSTALLATION WITH WATERPROOF GREASE COATING.
  4. LOAD RATING TO BE HEAVY-DUTY.
  5. MANHOLE FRAMES AND COVERS SET IN FARM TO MARKET ROADS OR HIGHWAYS SHALL FOLLOW TXDOT SPECIFICATIONS. (UNLESS OTHERWISE NOTED BY

**32" Manhole Cover and Frame**  
Scale: NTS

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

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 DATE \_\_\_\_\_

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 ANGLETON, TEXAS 77515 (979) 849-6681  
 REG. NO. F-825

STATE OF TEXAS  
 DOUGLAS B. ROESLER  
 56739  
 LICENSED PROFESSIONAL ENGINEER

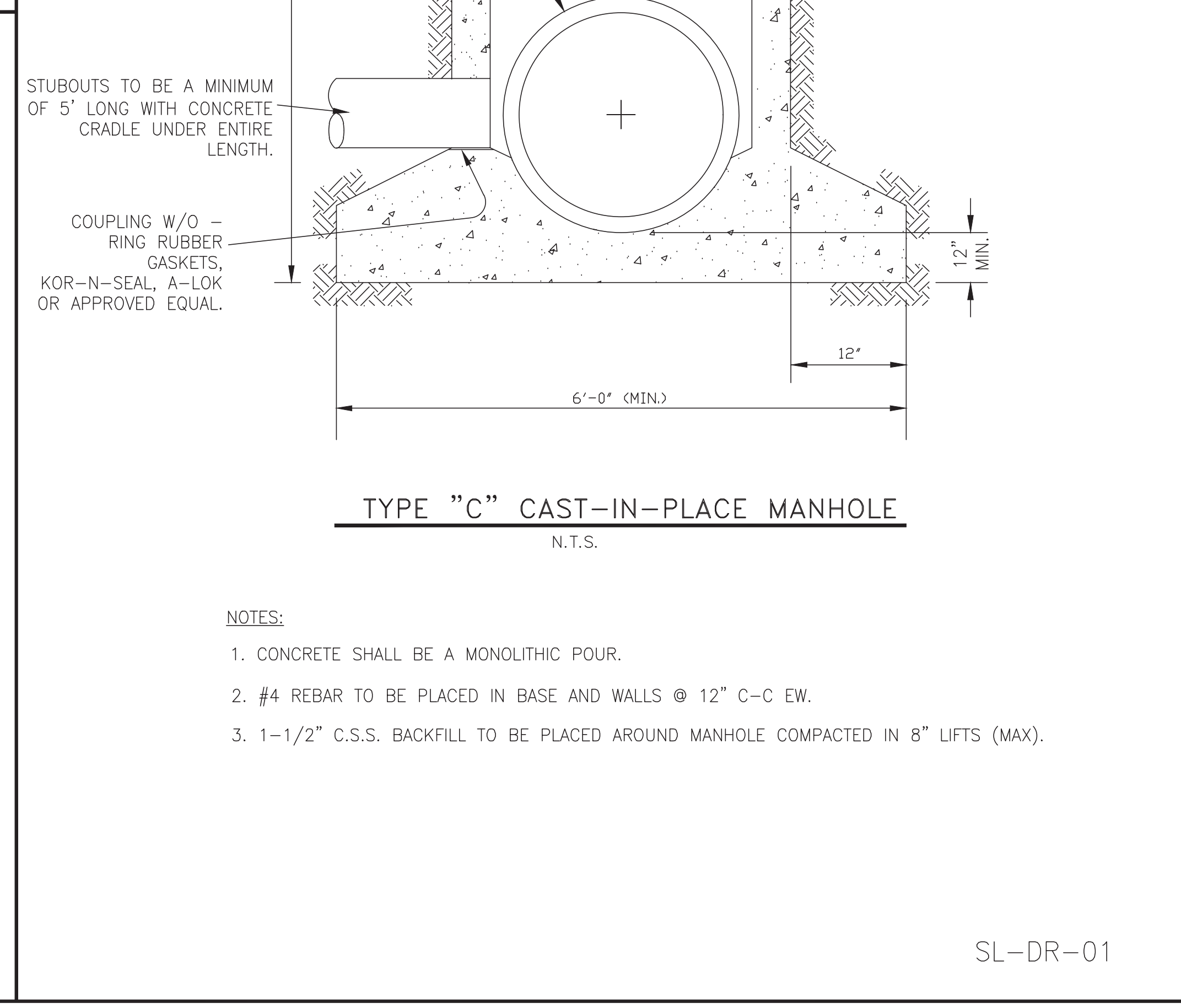
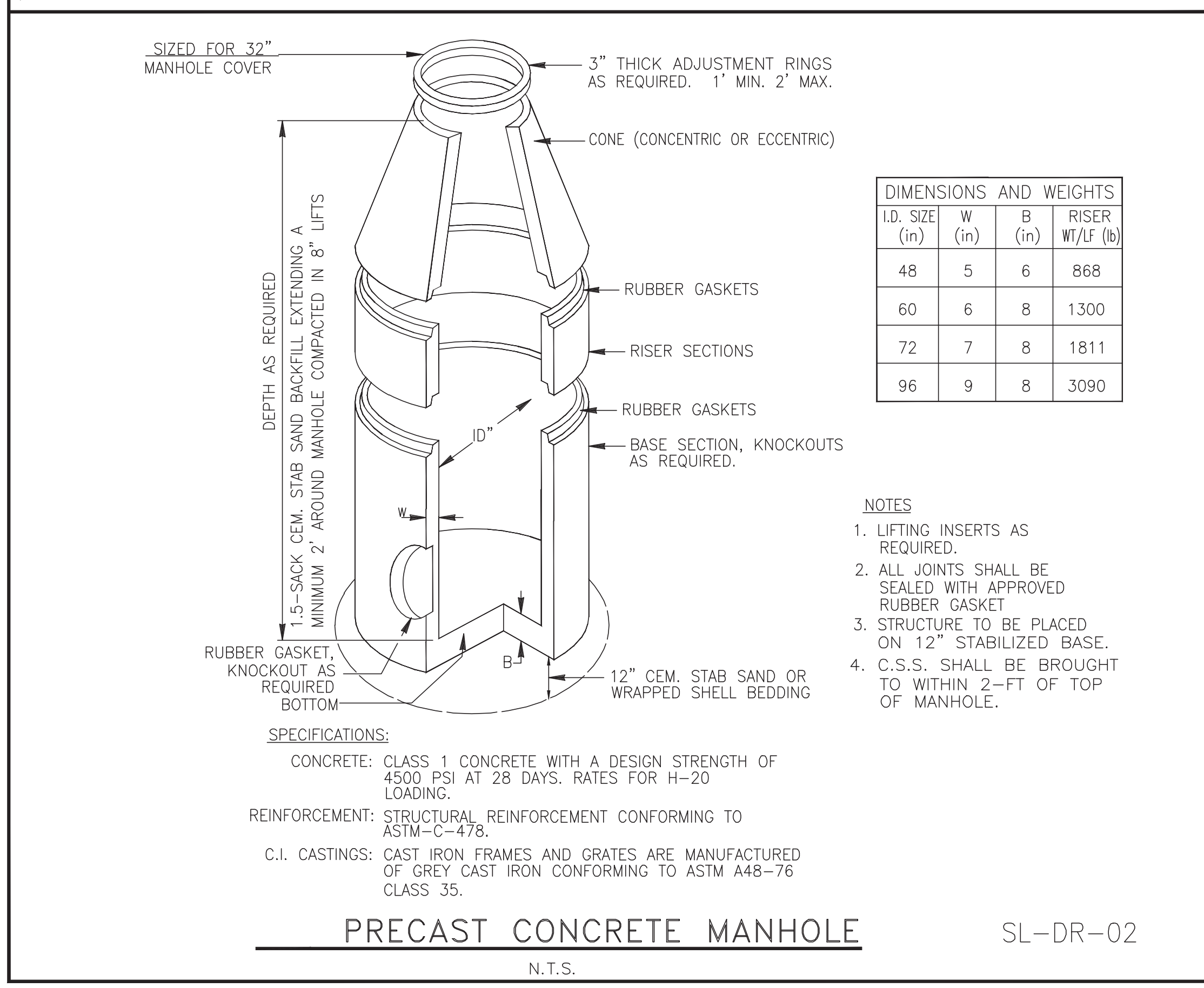
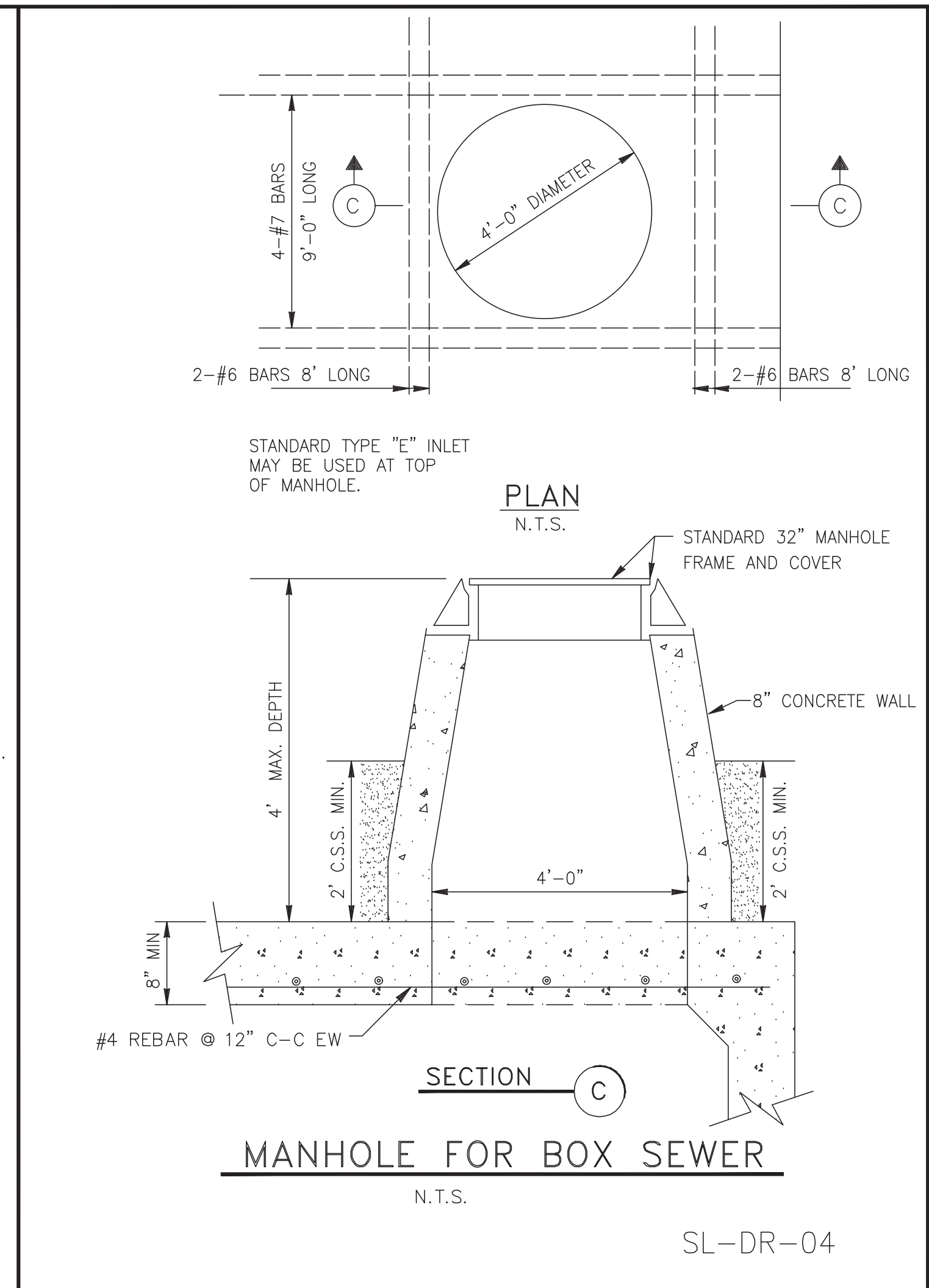
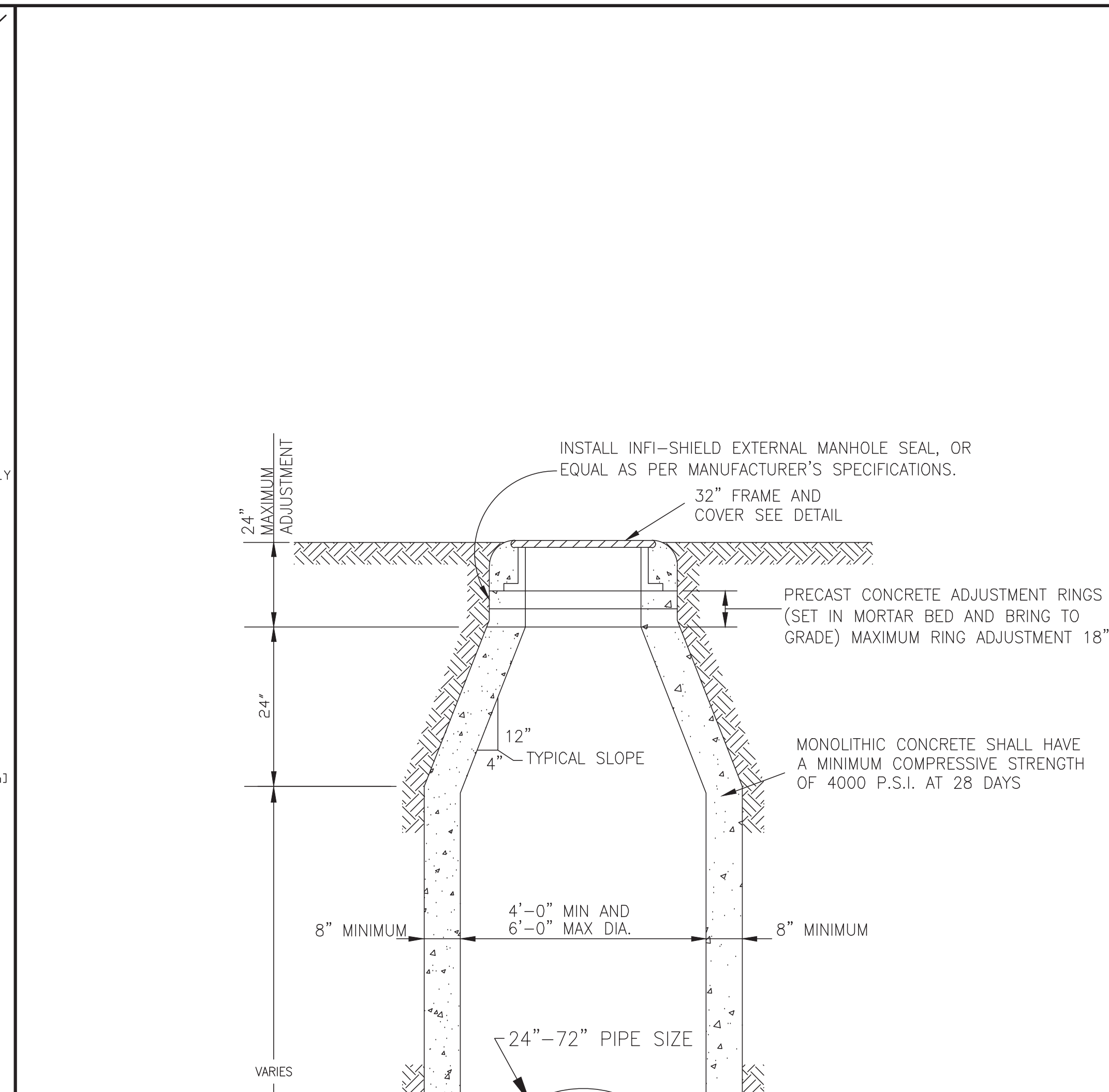
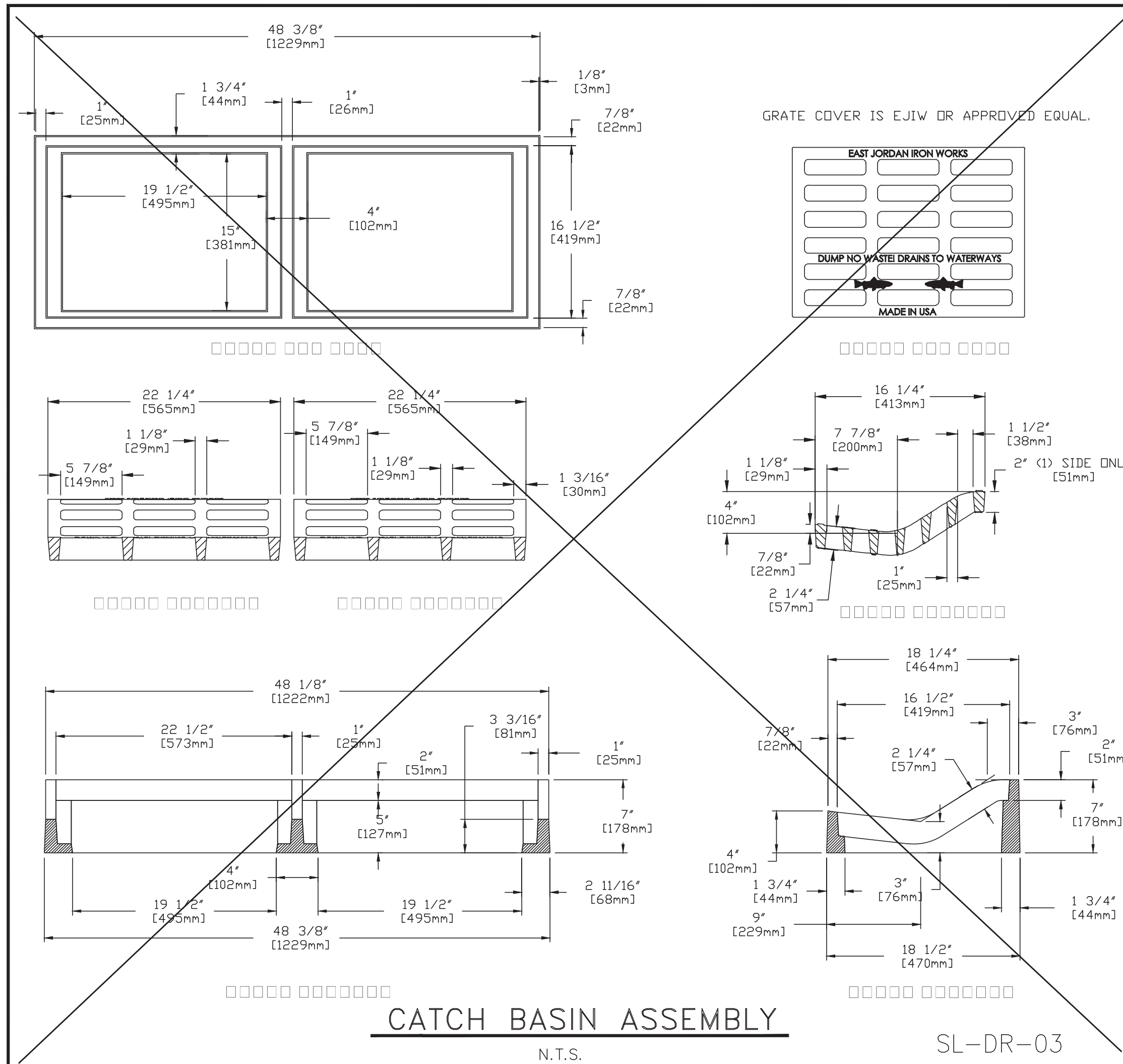
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*[Signature]* 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: \_\_\_\_\_  
 PROFILE: \_\_\_\_\_  
 HORIZONTAL: \_\_\_\_\_  
 VERTICAL: \_\_\_\_\_

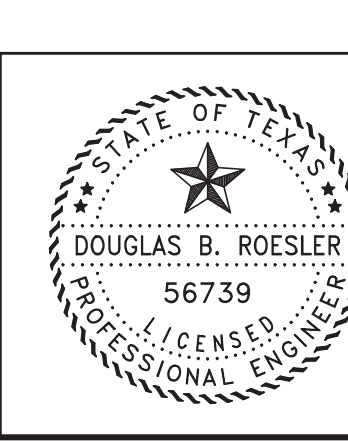
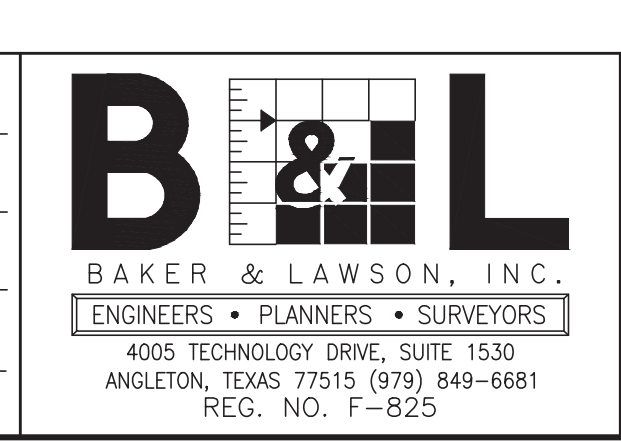
**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

MISCELLANEOUS DETAILS  
 PROJECT NO. 14396



NO.	DATE	DESCRIPTION	APPROVED

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DATE



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OWNER:  
**RIVERWAY PROPERTIES**  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

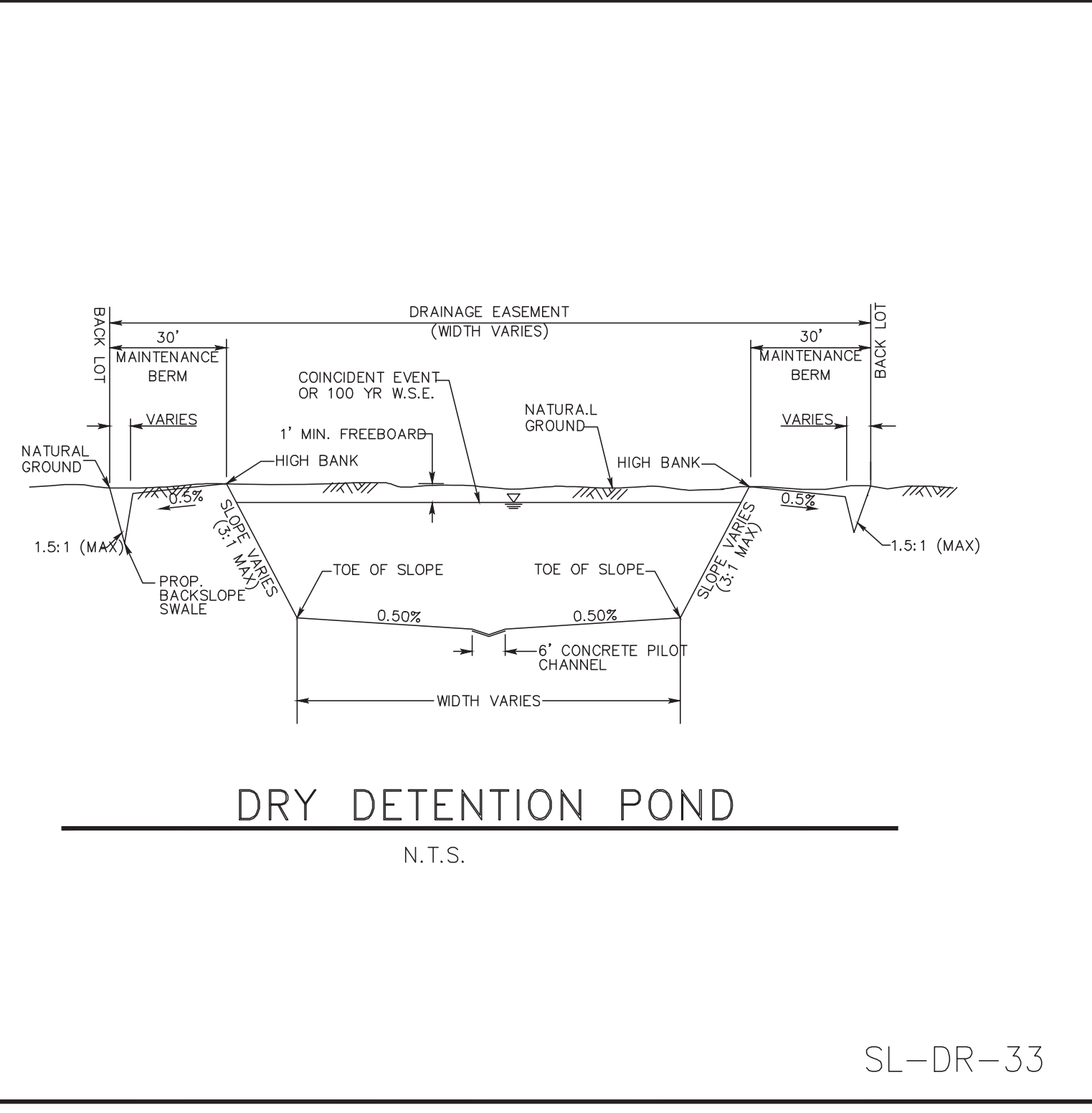
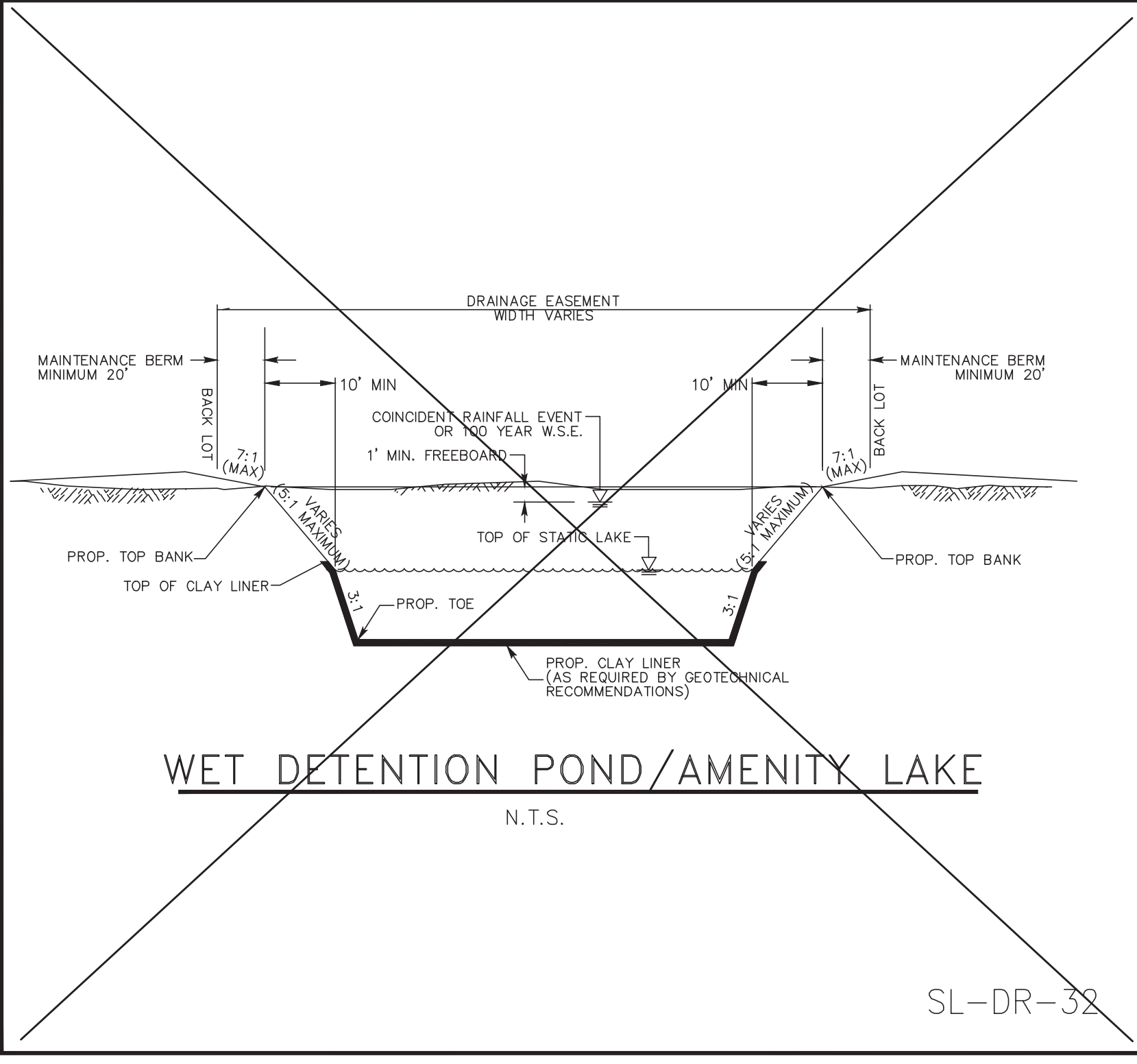
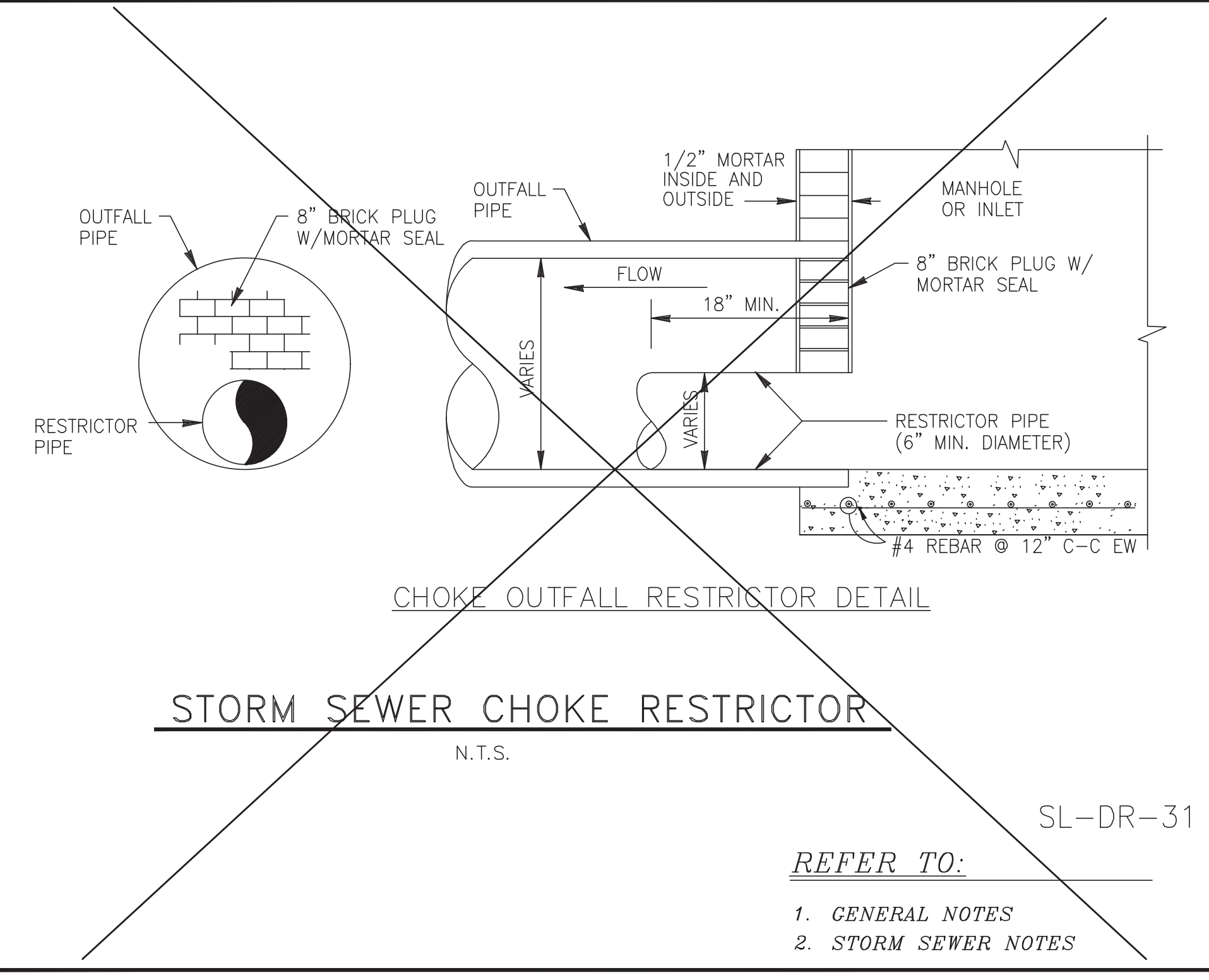
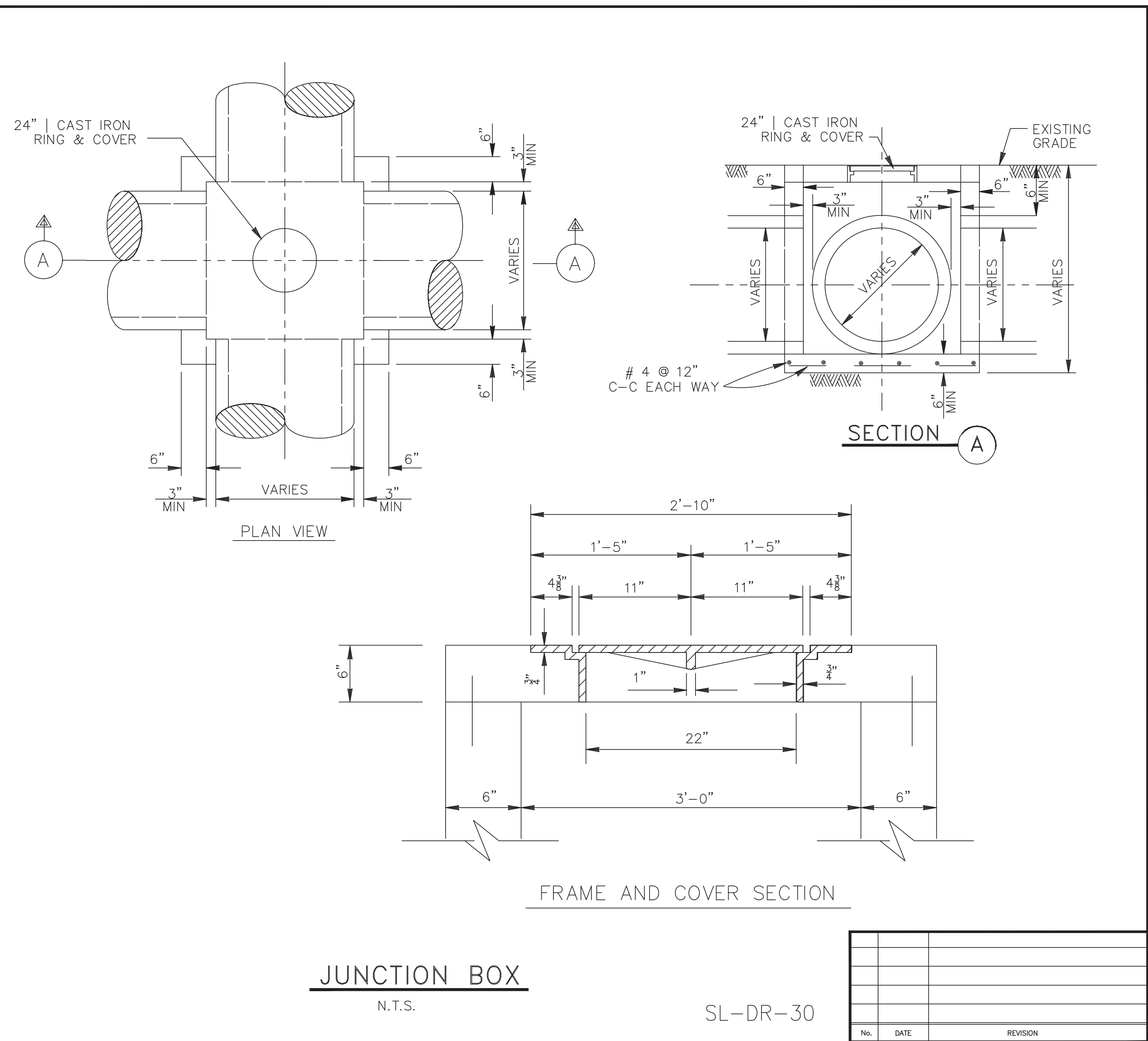
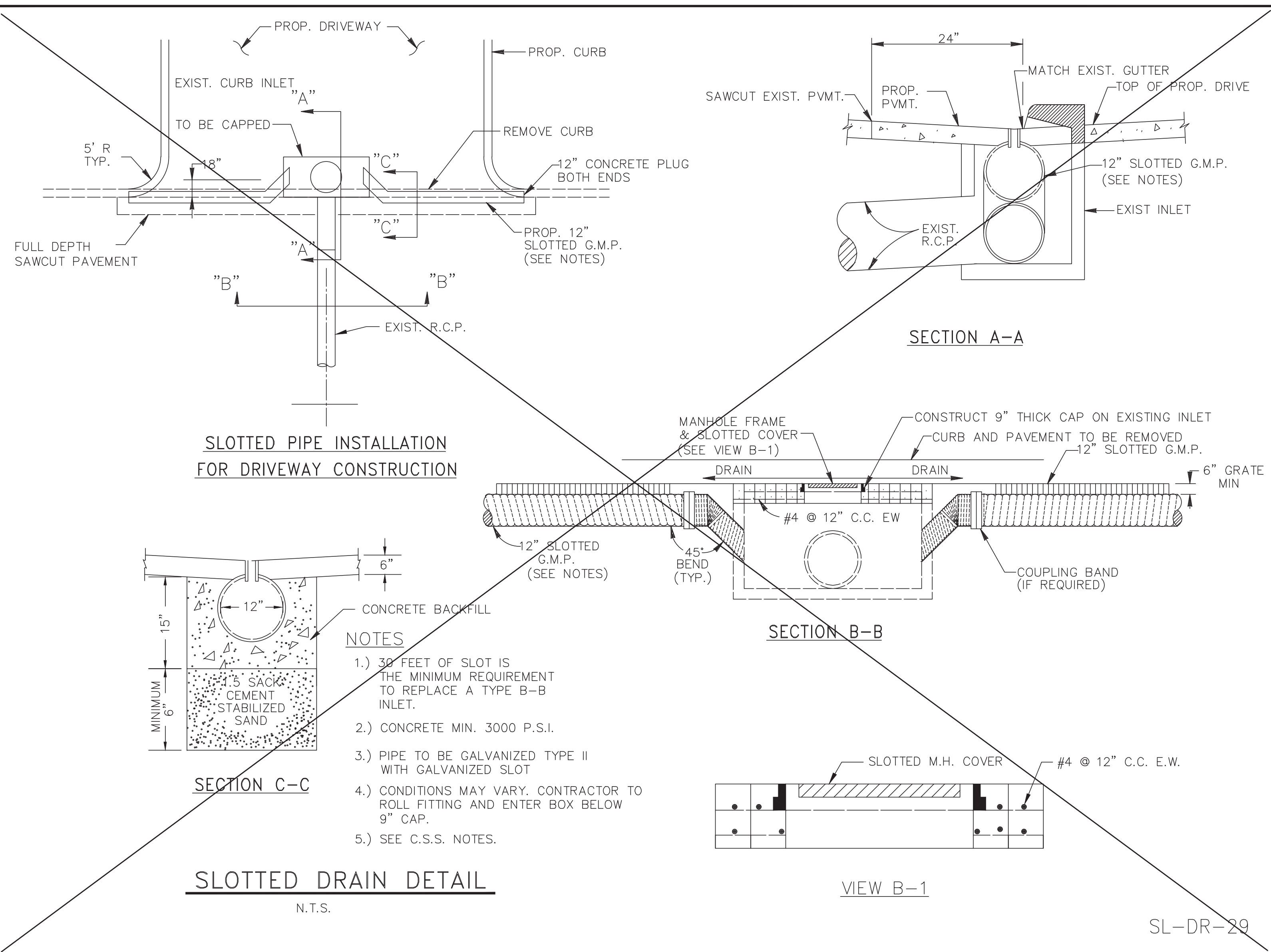
**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

**STORM SEWER MANHOLE CONSTRUCTION DETAILS**  
SL-03

PROJECT NO. 14396







NO.	DATE	REVISION

DESIGN ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

**CITY OF SUGAR LAND, TEXAS**

ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

**STORM SEWER CONSTRUCTION DETAILS**

JOB No.: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 SCALE: \_\_\_\_\_

**SL-10**

SHEET OF \_\_\_\_\_

NO.	DATE	DESCRIPTION	APPROVED

DESIGNED: DR  
 DRAWN: BT  
 CHECKED: \_\_\_\_\_  
 DATE: \_\_\_\_\_

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 ANGLETON, TEXAS 77515 (979) 849-6661  
 REG. NO. F-825

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**DOUGLAS B. ROESSLER**  
 56739  
 LICENSED PROFESSIONAL ENGINEER

03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: \_\_\_\_\_  
 PROFILE: \_\_\_\_\_  
 HORIZONTAL: \_\_\_\_\_  
 VERTICAL: \_\_\_\_\_

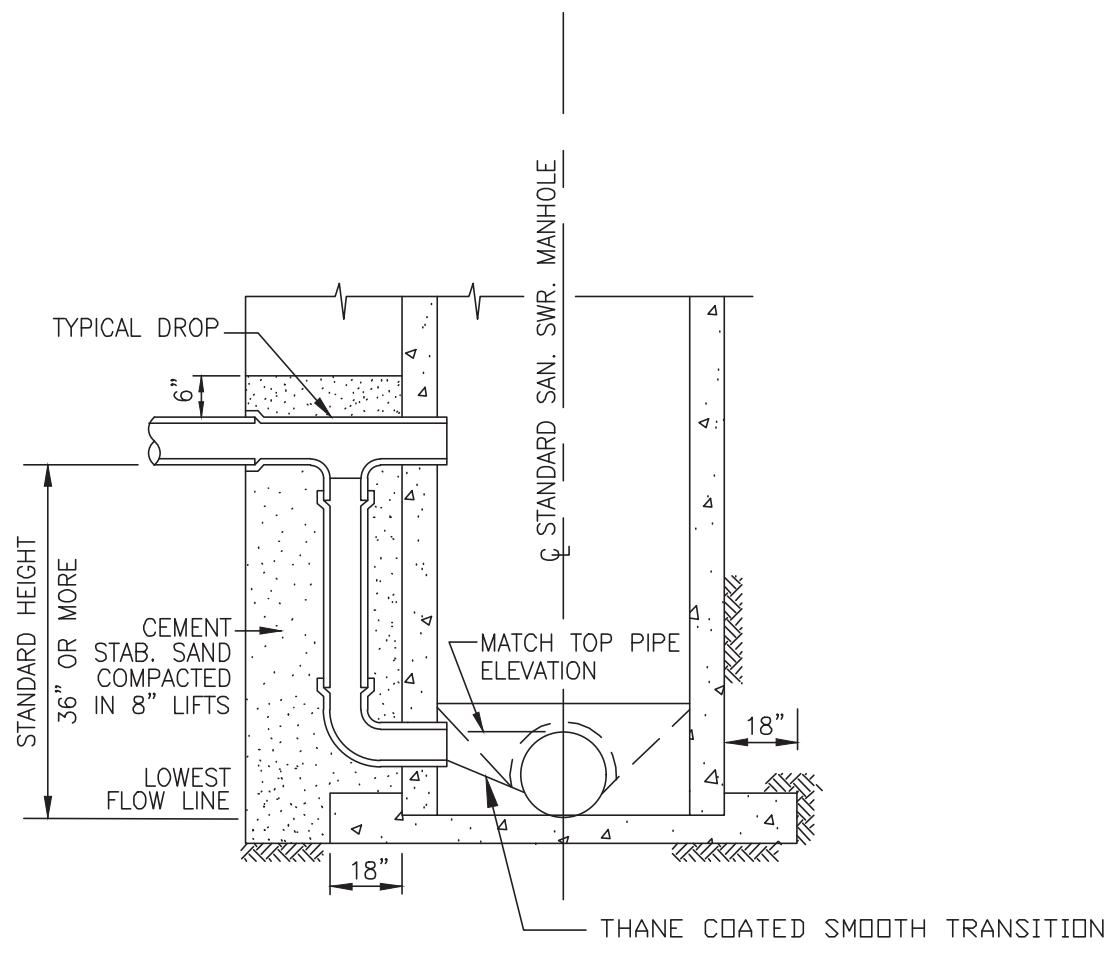
**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

STORM SEWER CONSTRUCTION DETAILS  
 SL-10

PROJECT NO. 14396



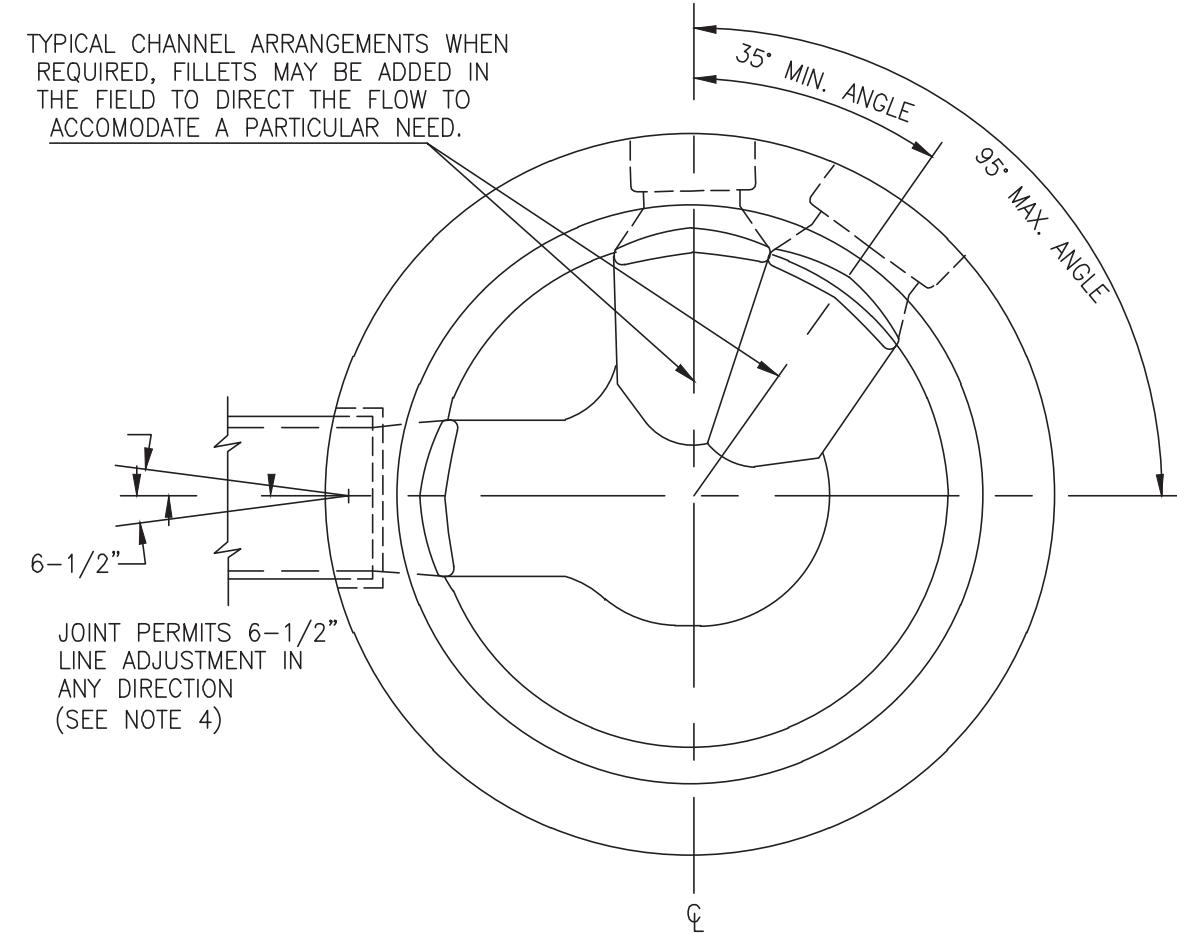




**STANDARD DROP DETAIL**

(SEE C.S.S. NOTES)

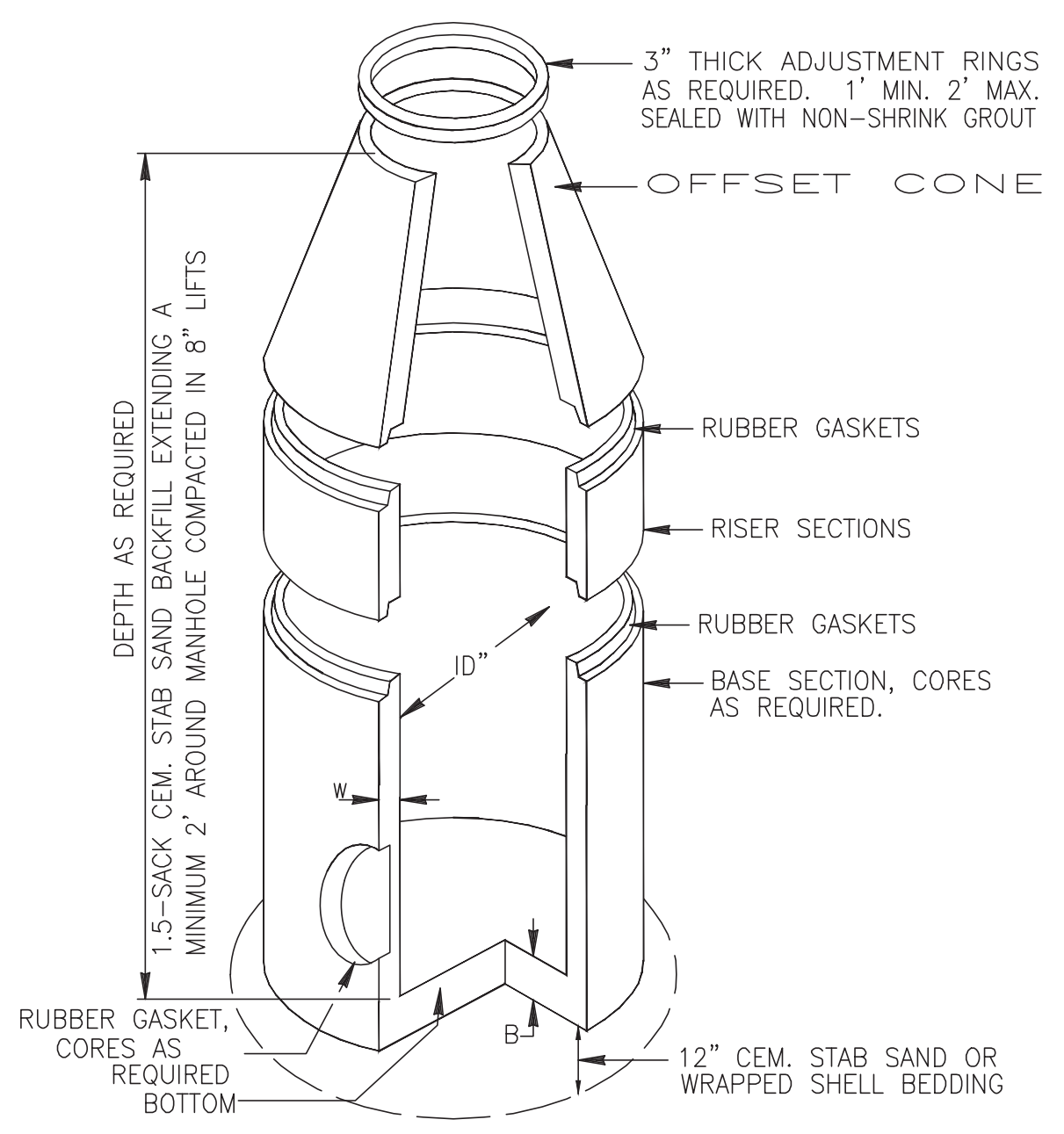
SL-SS-05



**PIPING CONNECTIONS DETAIL**

SL-SS-05

- NOTE:**
1. INFLUENT AND EXFLUENT PIPING CONNECTIONS TO MANHOLE SHALL BE ALIGNED TO PREVENT REVERSE FLOW.
  2. INFLUENT AND EXFLUENT CONNECTIONS ARE LIMITED TO A MAXIMUM 90° INCLUDED ANGLE OF CONVERGENCE.
  3. MINIMUM 35° AND MAXIMUM 90° INCLUDED ANGLES MUST BE PROVIDED BETWEEN MULTIPLE INFLUENT CONNECTIONS.
  4. ANGLE OF DEFLECTION AT PIPING JOINTS AS PER MANUFACTURE'S RECOMMENDATIONS.



**SPECIFICATIONS:**

- CONCRETE: CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. RATES FOR H-20 LOADING.
- REINFORCEMENT: STRUCTURAL REINFORCEMENT CONFORMING TO ASTM-C-478.
- C.I. CASTINGS: CAST IRON FRAMES AND LIDS ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 35.

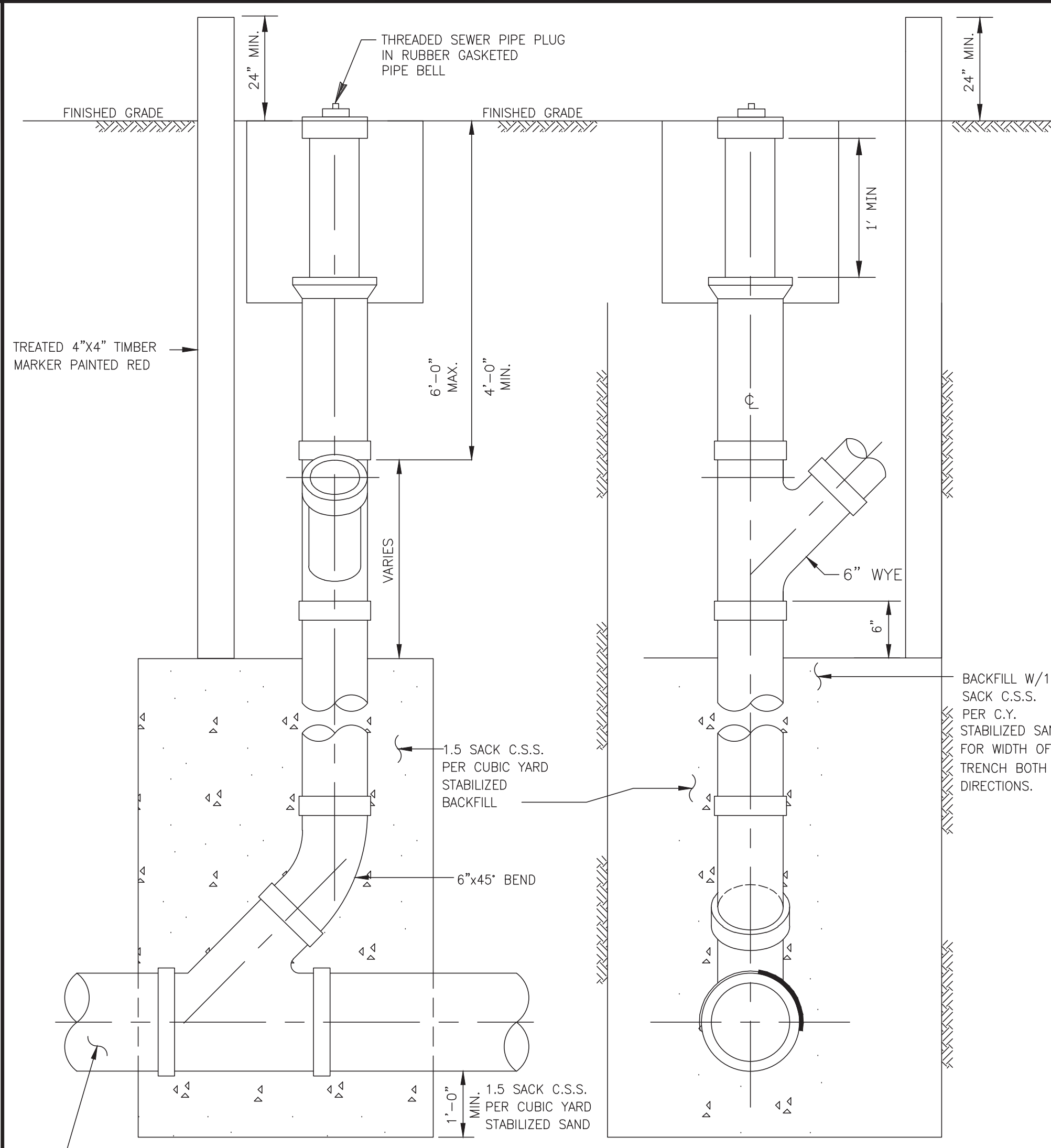
**NOTES**

1. LIFTING INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED WITH APPROVED RUBBER GASKET
3. STRUCTURE TO BE PLACED ON 12" STABILIZED BASE.
4. C.S.S. SHALL BE BROUGHT TO WITHIN 2'-FT OF TOP OF MANHOLE.
5. PRE-CAST MANHOLE SHALL BE IN COMPLIANCE APPROVED PRODUCT LIST.
6. THANE COAT SHALL BE IN COMPLIANCE WITH APPROVED PRODUCT LIST.
7. INVERTS SHALL COMPLY WITH C.O.S.L., DESIGN MANUAL SPECIFICATIONS.
8. INFLOW PROTECTORS REQUIRED ON ALL SANITARY MANHOLES.
9. REFER TO SANITARY MANHOLE LIDS, C.S.S. NOTES, MODIFIED BEDDING DETAILS AND NOTES.

**PRECAST SANITARY MANHOLE**

N.T.S.

SL-SS-03



**TRENCH SIDE VIEW TRENCH END VIEW**

N.T.S.

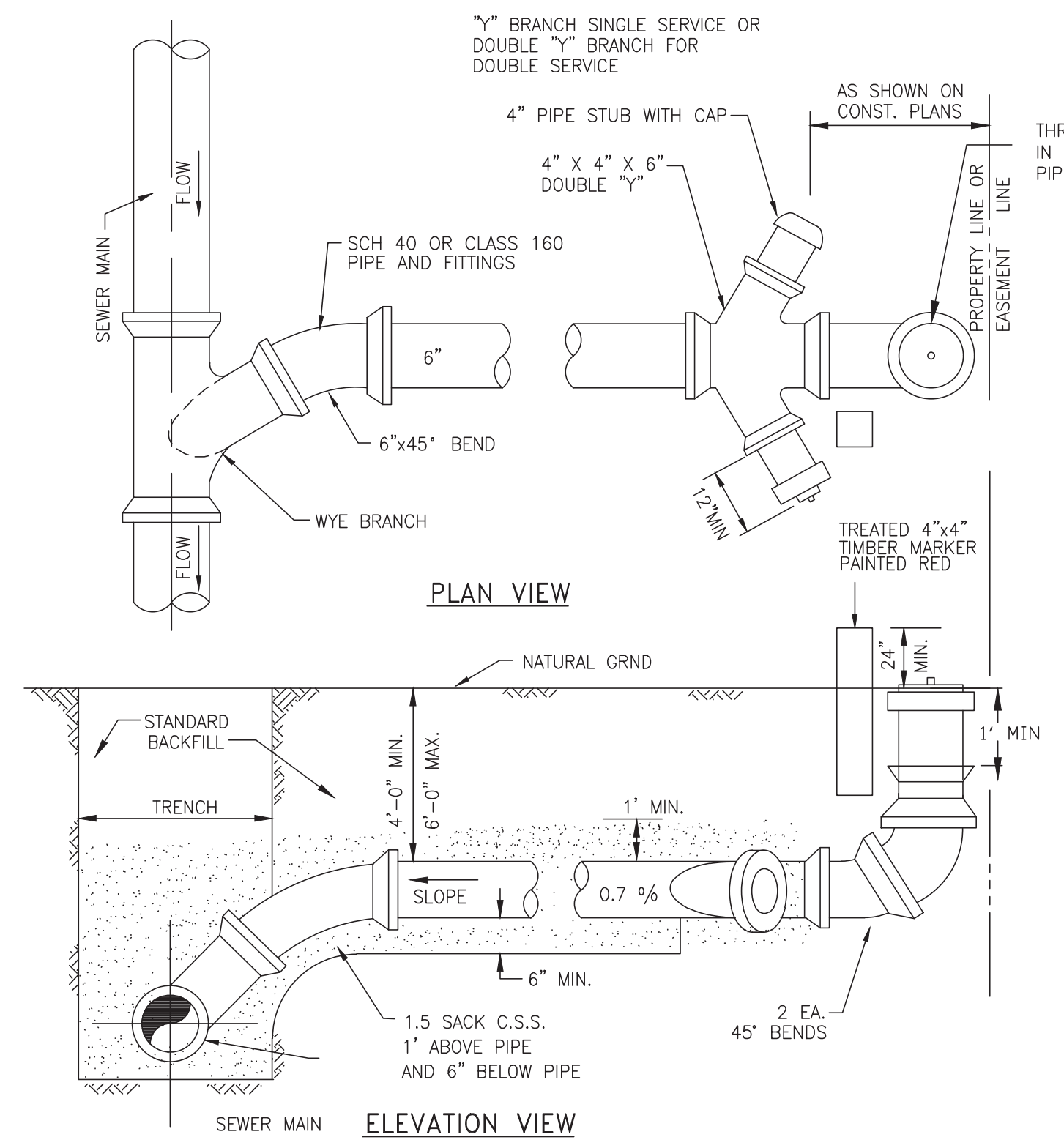
SL-SS-04

- NOTES:**
- A.) NO STACKS ON MAINS OVER 16' DEEP OR IN WET SAND CONDITIONS.
  - B.) ALL STACK CONNECTIONS SHALL BE IN-LINE FITTINGS.

**NOTES:**

1. CONTRACTOR SHALL CONTACT CITY OF SUGAR LAND ENGINEERING DEPARTMENT AT (281) 275-2780 IF WET SAND OR OTHER UNSTABLE SOIL CONDITIONS, HIGH WATER TABLE AND/OR UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED.
2. SHOULD A CONFLICT ARISE BETWEEN INFORMATION DEPICTED ON APPROVED CONSTRUCTION DRAWINGS AND INFORMATION INCLUDED IN PROJECT SPECIFICATIONS, CITY OF SUGAR LAND DESIGN STANDARDS SHALL GOVERN.
3. SANITARY SEWER MANHOLES SHALL BE CONSTRUCTED A MINIMUM OF FOUR FOOT FROM BACK OF CURB ON CURB AND GUTTER ROADWAYS AND THREE FEET FROM EDGE OF TRAVELLED ROADWAY ON THOSE THOROUGHFARES HAVING NO CURBING, MEASURED FROM OUTSIDE DIAMETER OF MANHOLE. SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED BENEATH STREET PAVING EXCEPT WHERE SPECIFICALLY AUTHORIZED BY CITY ENGINEER AND SO DESIGNATED ON APPROVED CONSTRUCTION DRAWINGS.
4. ALL SUCH MANHOLE COVERS SHALL HAVE THE CITY OF SUGAR LAND EMBLEM AND THE WORDS "SUGAR LAND" AND "SANITARY SEWER" CAST IN RAISED RELIEF AS DEPICTED IN CITY OF SUGAR LAND STANDARD CONSTRUCTION DETAILS SHEETS. ALL SANITARY SEWER MANHOLES SHALL INCORPORATE INFLOW PROTECTORS.
5. MANHOLE RIM ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY. CONTRACTORS SHALL ADJUST RIM ELEVATIONS TO 0.4 FEET ABOVE FINISHED GRADE WITHIN RIGHTS-OF-WAY AND EASEMENTS AT EACH MANHOLE LOCATION AFTER FINAL GRADING. ADJUSTMENTS TO MANHOLE RIM ELEVATIONS SHALL BE ACCOMPLISHED BY THE USE OF THROAT RINGS ONLY (MAX. OF 24 INCHES PERMITTED). THE AREA ADJACENT TO SANITARY SEWER MANHOLE LOCATIONS SHALL BE GRADED AWAY FROM SUCH MANHOLES SO AS PREVENT ENTRY OF STORM WATER RUNOFF TO THE SANITARY SEWER SYSTEM.
6. DROP CONNECTIONS ARE REQUIRED WHEN INVERT ELEVATION OF SEWER LINE TO BE CONNECTED EXCEEDS 36 INCHES DISTANCE ABOVE INVERT ELEVATION OF MANHOLE BASE. ALL DROP CONNECTIONS SHALL BE CONSTRUCTED OF SAME MATERIALS AS SEWER AND SHALL BE CONSTRUCTED EXTERIOR TO MANHOLE. PIPE CONNECTIONS TO MANHOLES SHALL BE SO CONSTRUCTED AS TO BE WATERTIGHT AND TO ALIGN UPPER INSIDE PIPE WALL ELEVATIONS OF ALL PIPING CONNECTED TO BASE OF MANHOLE UNIFORMLY, REGARDLESS OF PIPE DIAMETERS. DROP ASSEMBLIES SHALL BE BEDDED IN CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL EXTEND A MINIMUM OF SIX INCHES PAST PIPING LATERALLY FROM BASE OF MANHOLE UPWARD TO A POINT SIX INCHES (MINIMUM) ABOVE THE HORIZONTAL SEWER PIPING WHERE CONNECTED TO THE MANHOLE ABOVE THE VERTICAL DROP.
7. CONNECTIONS TO EXISTING AND/OR NEW SANITARY SEWER MANHOLES CONSTRUCTED OF PRECAST CONCRETE NOT HAVING PRECORED HOLES OF CORRECT DIAMETER, LOCATION AND FIELD CORING ONLY SHALL ACCOMPLISH INVERT ELEVATION. IN NO INSTANCE WILL EITHER MANUAL OR PNEUMATIC CHISELS AND/OR HAMMER DRILLS BE UTILIZED TO BREAK HOLES IN PRECAST CONCRETE MANHOLES, PIPE SEGMENTS OR OTHER PRECAST STRUCTURES SUCH AS LIFT STATIONS.
8. BEDDING AND BACKFILL OF SANITARY SEWER AND MANHOLES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH CITY OF SUGAR LAND DESIGN STANDARDS. A 1.5-SACK MIX IS REQUIRED FOR ALL CEMENT STABILIZED SAND BEDDING AND SUCH BEDDING SHALL BE INSTALLED IN LIFTS OF EIGHT INCHES MAXIMUM.
9. SOLVENT WELDED JOINTS ARE NOT AN ACCEPTABLE JOINING METHOD FOR SANITARY SEWERS CONSTRUCTED OF PVC PIPING MATERIALS AND LOCATED WITHIN RIGHTS-OF-WAY OR EASEMENTS. RUBBER GASKETED BELL AND SPIGOT SANITARY SEWER JOINTS ARE MANDATORY. BELL (FEMALE) ENDS OF PIPE SHALL BE INSTALLED ON UPSTREAM SIDE WITH SPIGOT (MALE) ENDS ORIENTED DOWNSTREAM.
10. SANITARY SEWER SERVICE LEADS SHALL BE EXTENDED TO RIGHTS-OF-WAY AND/OR EASEMENT LINES AS APPLICABLE AND CAPPED/PLUGGED FOR FUTURE CONNECTIONS. SERVICE LEADS ARE TO BE INSTALLED SO AS TO PASS UNDER POTABLE WATER PIPING AT CROSSINGS WHERE POSSIBLE.
11. EACH SANITARY SEWER SERVICE LEAD STUB, PLUGGED WYE BRANCH OUTLET AND STACK SHALL BE MARKED WITH A PRESSURE TREATED 4 X 4 TIMBER AT THE TIME OF CONSTRUCTION, BEGINNING AT THE INVERT ELEVATION OF THE STUB OR WYE AND AT AN ELEVATION TWO FEET BELOW THE CAPPED TERMINATION POINT OF THE STACK AND EXTENDING TWO FEET ABOVE FINISHED GRADE. EACH TIMBER MARKER SHALL BE PAINTED RED AND LABELED "SANITARY SEWER STUB", "SANITARY SEWER WYE" OR "SANITARY SEWER STACK" AS APPROPRIATE WITH STUB, WYE BRANCH OUTLET OR STACK SIZE NOTED.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION. DURING THE COURSE OF ANY AND ALL CLEARING, GRUBBING, FILL, GRADING, EXCAVATION OR OTHER CONSTRUCTION, CONTRACTOR SHALL ENSURE THAT STORM DRAINAGE PATHWAYS ARE MAINTAINED AND REMAIN OPEN TO ENSURE POSITIVE DRAINAGE AND THAT SUCH CONVEYANCES ARE NOT IMPEDED OR BLOCKED IN ANY WAY. STORM SEWER INLETS SHALL BE PROTECTED FROM ENTRY OF SILT, TRASH, DEBRIS AND ANY SUBSTANCES DELETERIOUS TO THE STORM SEWER SYSTEM AND/OR WATERWAYS RECEIVING STORM WATER RUNOFF. CONTRACTOR SHALL AT COMPLETION OF WORK, FILL LOW SPOTS AND GRADE ALL RIGHTS-OF-WAY AND UTILITY EASEMENTS AND REGRADE/RESTORE DITCHES AS NECESSARY TO MAINTAIN AND/OR ESTABLISH POSITIVE DRAINAGE.
13. ALL SANITARY SEWER PIPING AND BEDDING SHALL BE INSPECTED BY CITY CONSTRUCTION INSPECTOR FOR CONFORMANCE WITH CITY INFRASTRUCTURE STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY NOTIFY THE CITY OF ALL CONSTRUCTION ACTIVITIES AND TO CONFORM TO CITY OF SUGAR LAND PUBLIC WORKS DEPARTMENT INSPECTION POLICY.
14. C.S.S. 1' ABOVE PIPE AND 6" BELOW PIPE MINIMUM.
15. SEE GENERAL NOTES AND C.S.S. NOTES.

SL-SS-07



**SANITARY SEWER SERVICE CONNECTION**

N.T.S.

SL-SS-06

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: \_\_\_\_\_ DATE \_\_\_\_\_



CITY OF SUGAR LAND, TEXAS  
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

SANITARY SEWER  
CONSTRUCTION DETAILS

JOB No.:  
DATE:  
DRAWN BY:  
CHECKED BY:  
SCALE:

SL-14  
SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

DESIGNED DR  
DRAWN BT  
CHECKED  
DATE

**B & L**  
BAKER & LAWSON, INC.  
ENGINEERS • PLANNERS • SURVEYORS  
4005 TECHNOLOGY DRIVE, SUITE 1530  
ANGLETON, TEXAS 77515 (979) 849-6661  
REG. NO. F-825

STATE OF TEXAS  
DOUGLAS B. ROESLER  
56739  
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Douglas B. Roessler P.E. 56739  
03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

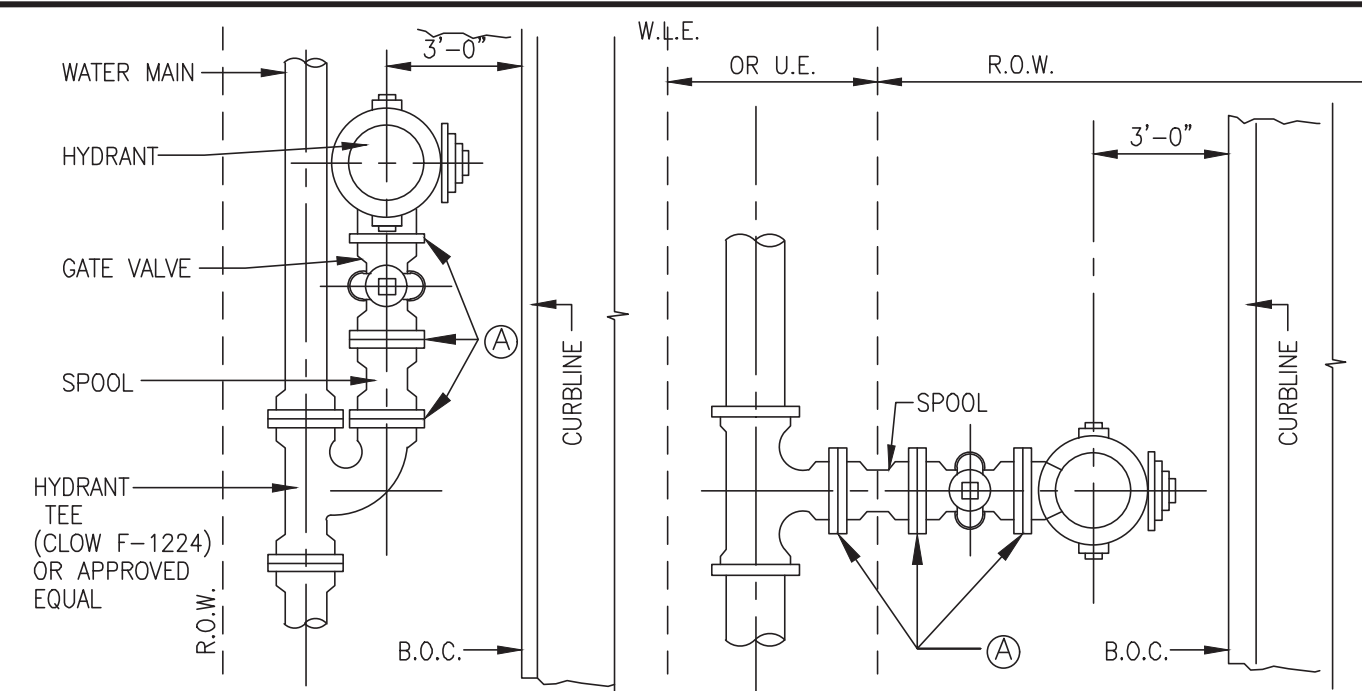
PLAN:  
PROFILE:  
HORIZONTAL:  
VERTICAL:

**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

SANITARY SEWER  
CONSTRUCTION DETAILS  
SL-14

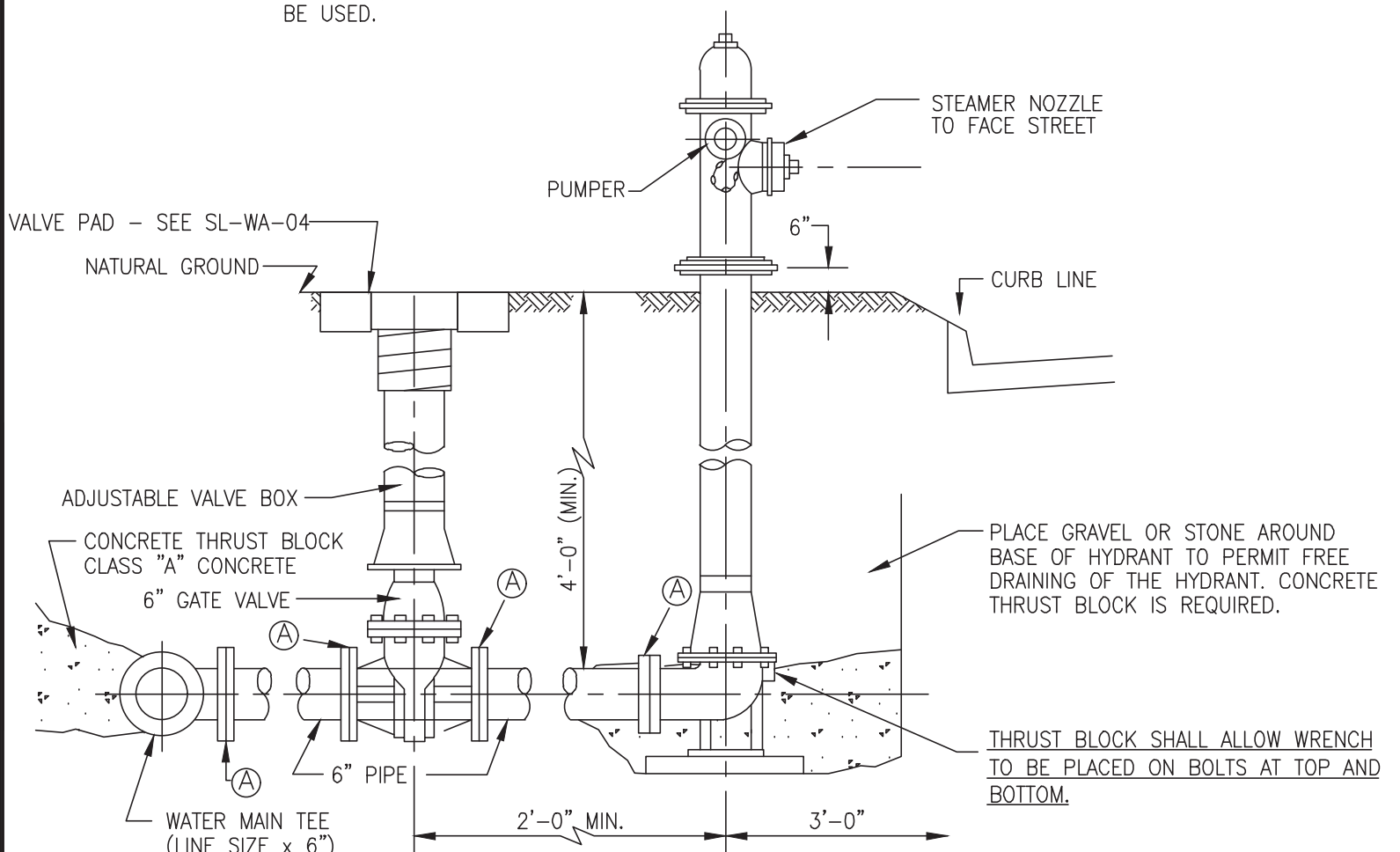
PROJECT NO. 14396

PLOI 11M.C.



**R.O.W. INSTALLATION** N.T.S. **EASEMENT INSTALLATION** N.T.S.

NOTE:  
WHEN WATER LINE IS LOCATED IN EASEMENT, STANDARD TEE MAY BE USED.



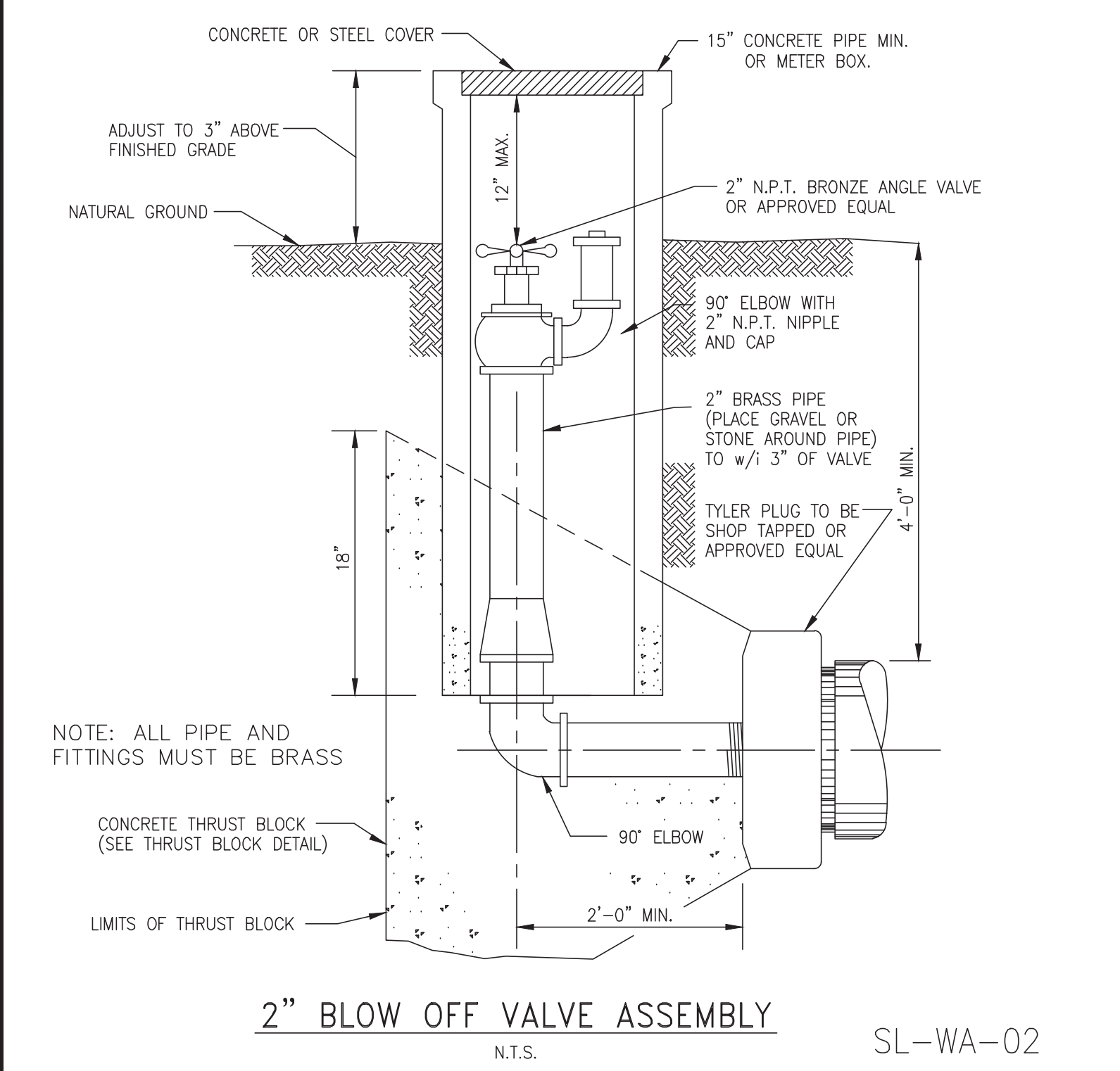
**TYPICAL GATE & FIRE HYDRANT INSTALLATION** N.T.S. SL-WA-01

**FLUSHING VALVE COLOR CODE**

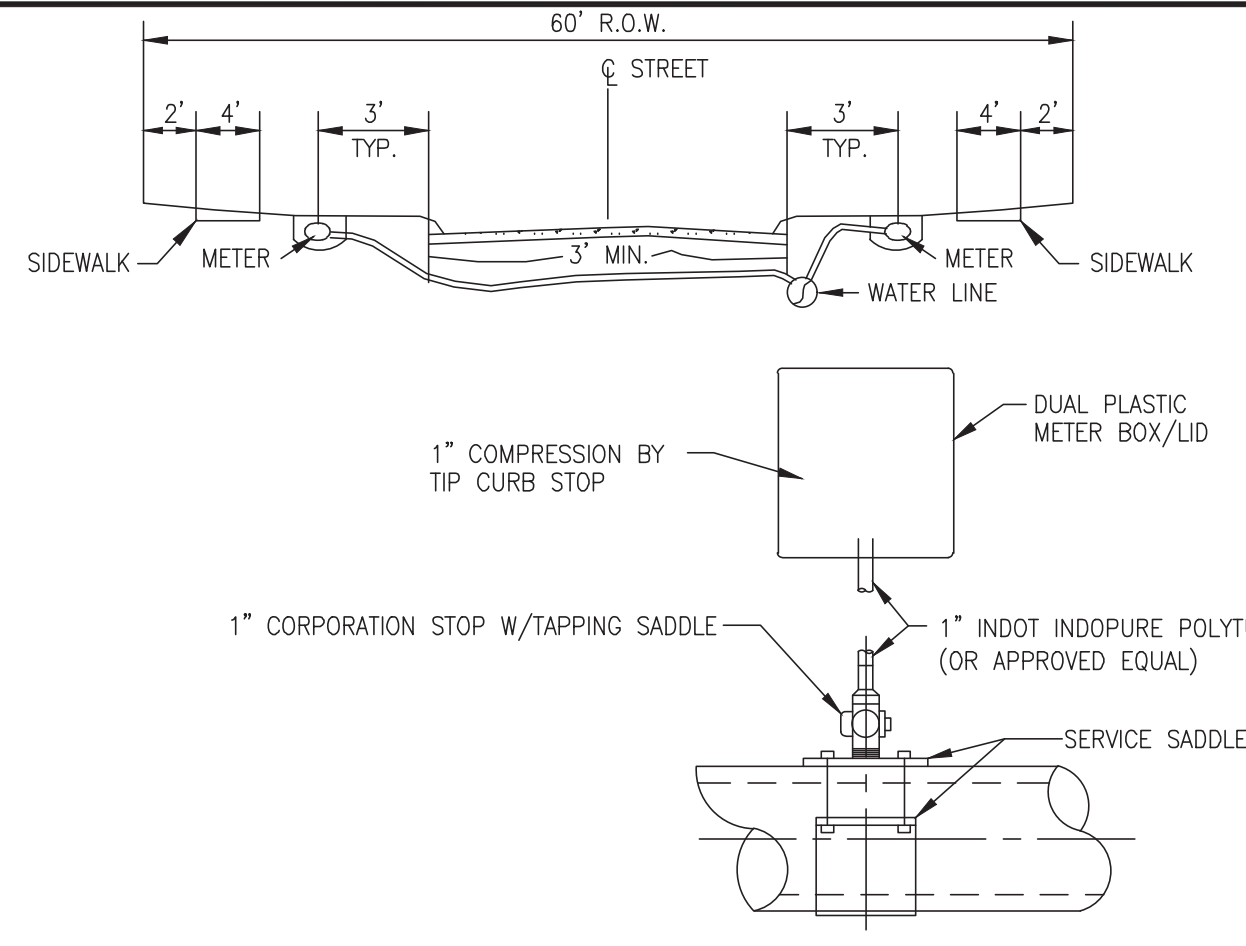
MAIN LINE DIAMETER	BONNET, PUMPER CAP AND STEAMER CAP
6 INCHES (AND LESS)	YELLOW
8 INCHES	WHITE
12 TO 16 INCHES	GREEN
GREATER THAN 16 INCHES	ORANGE

NOTE: ALL FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 250 W/ STORZ INTEGRAL CONNECTOR STEAMER NOZZLE SIZE 5-1/4" TWO PUMPER 2-1/2" N.T.S.

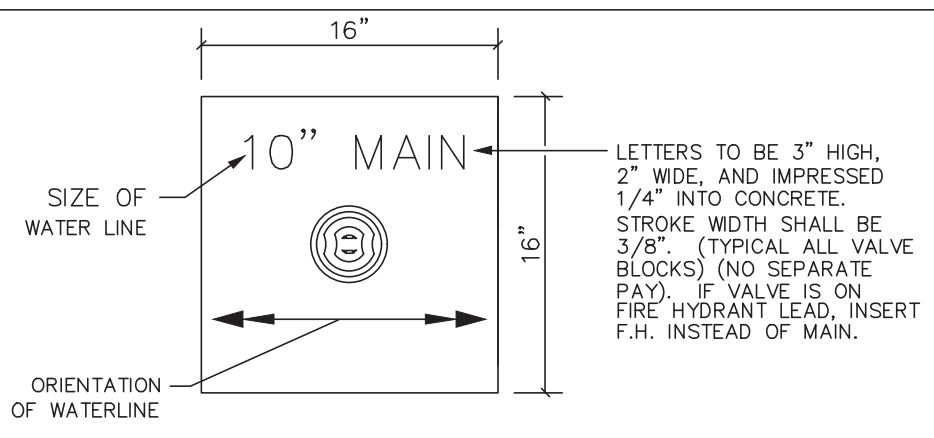
ALL FLUSHING VALVES TO BE SAND BLASTED AND PAINTED AS PER C.O.S.L. DESIGN STANDARDS.



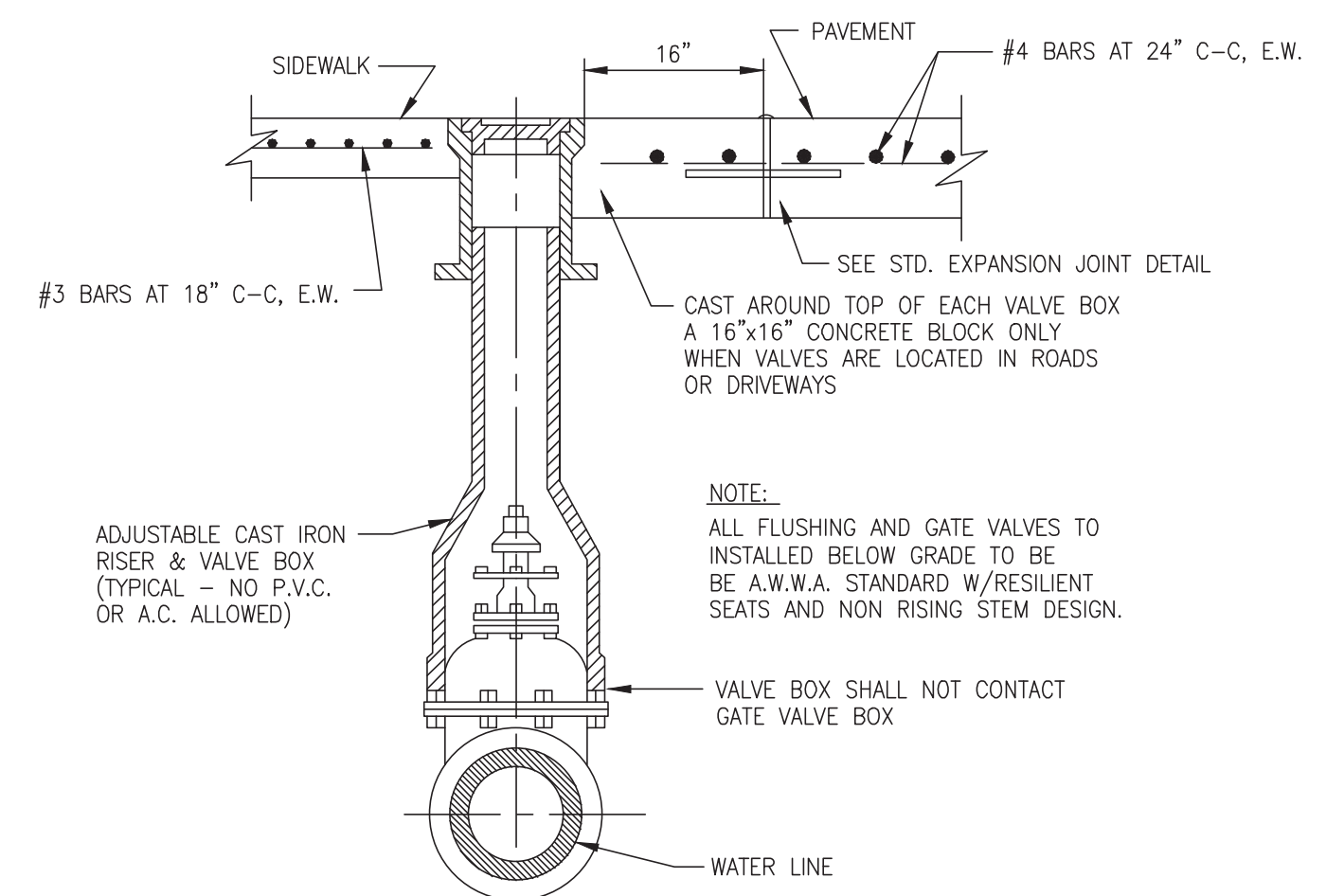
**2" BLOW OFF VALVE ASSEMBLY** N.T.S. SL-WA-02



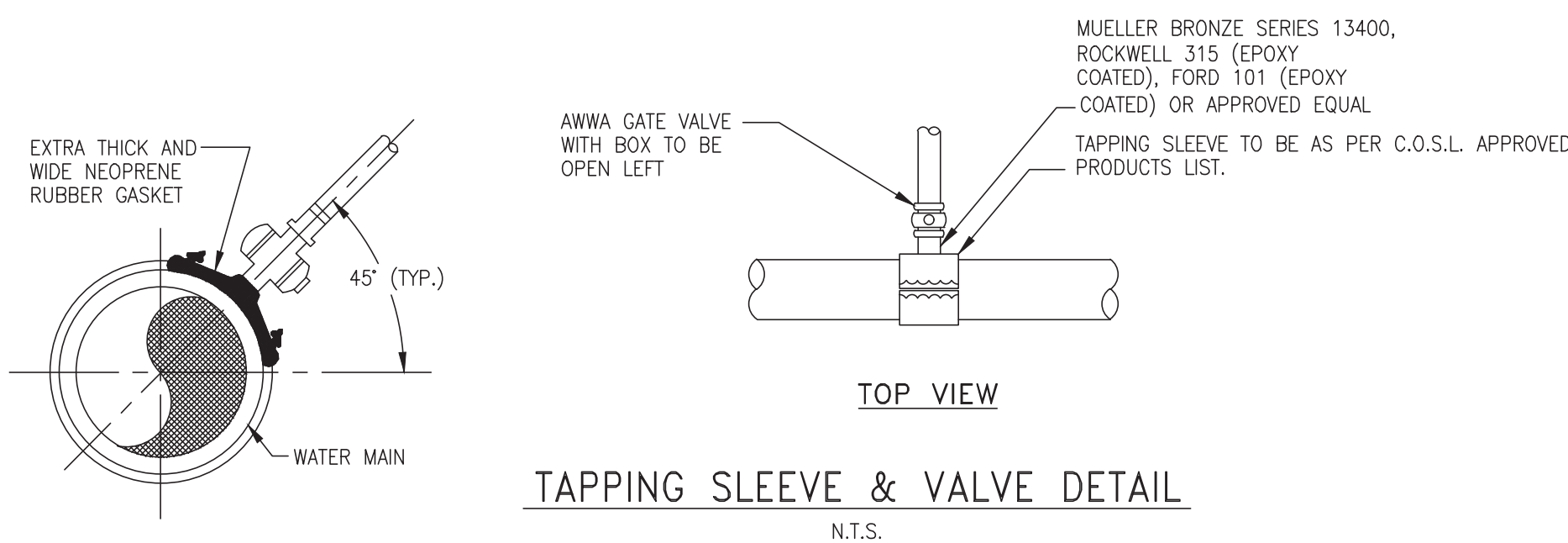
**WATER SERVICE CONNECTION AND WATER SERVICE TAPPING ASSEMBLY DETAIL** N.T.S. SL-WA-03



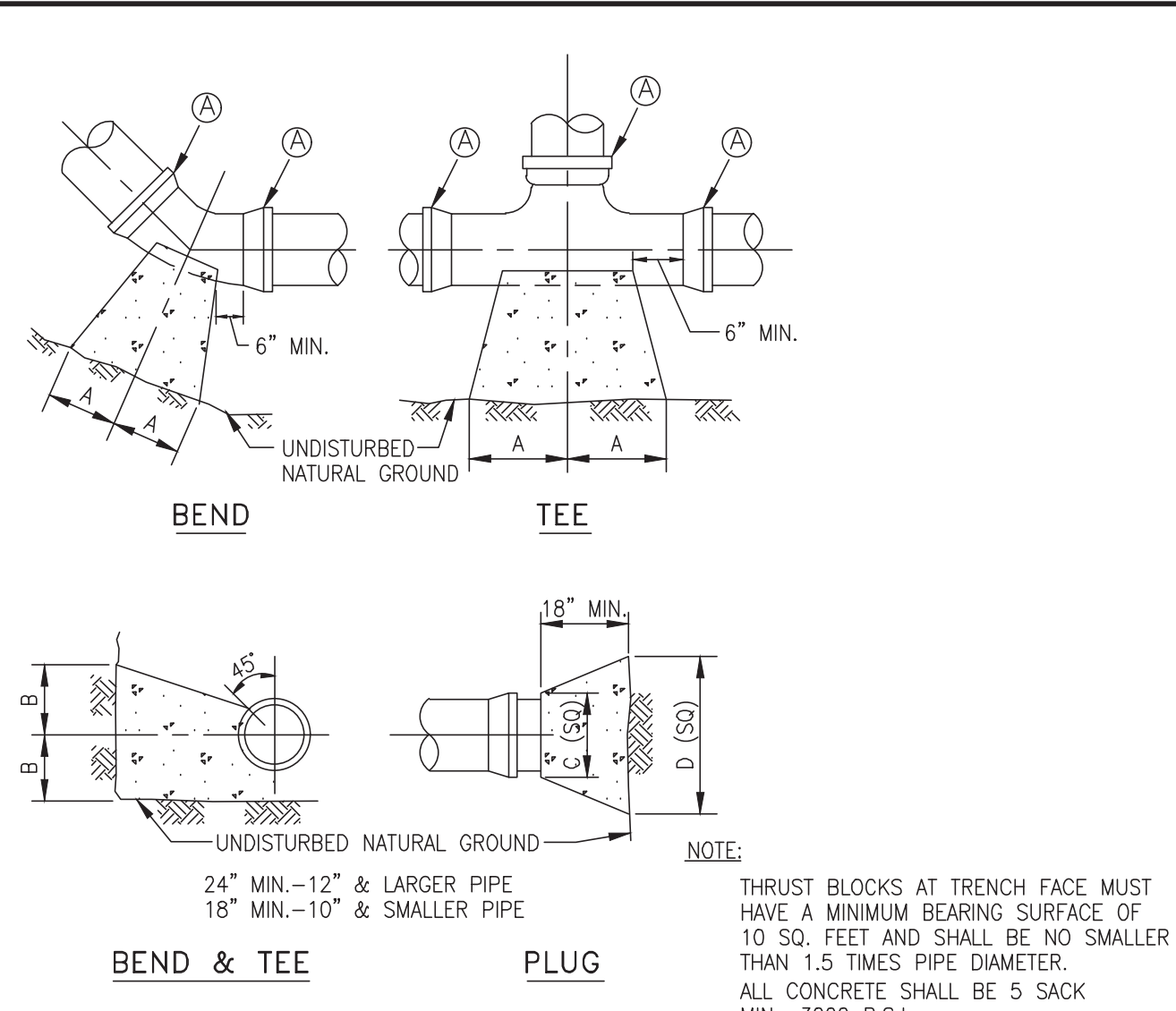
**CONCRETE PAD** N.T.S.



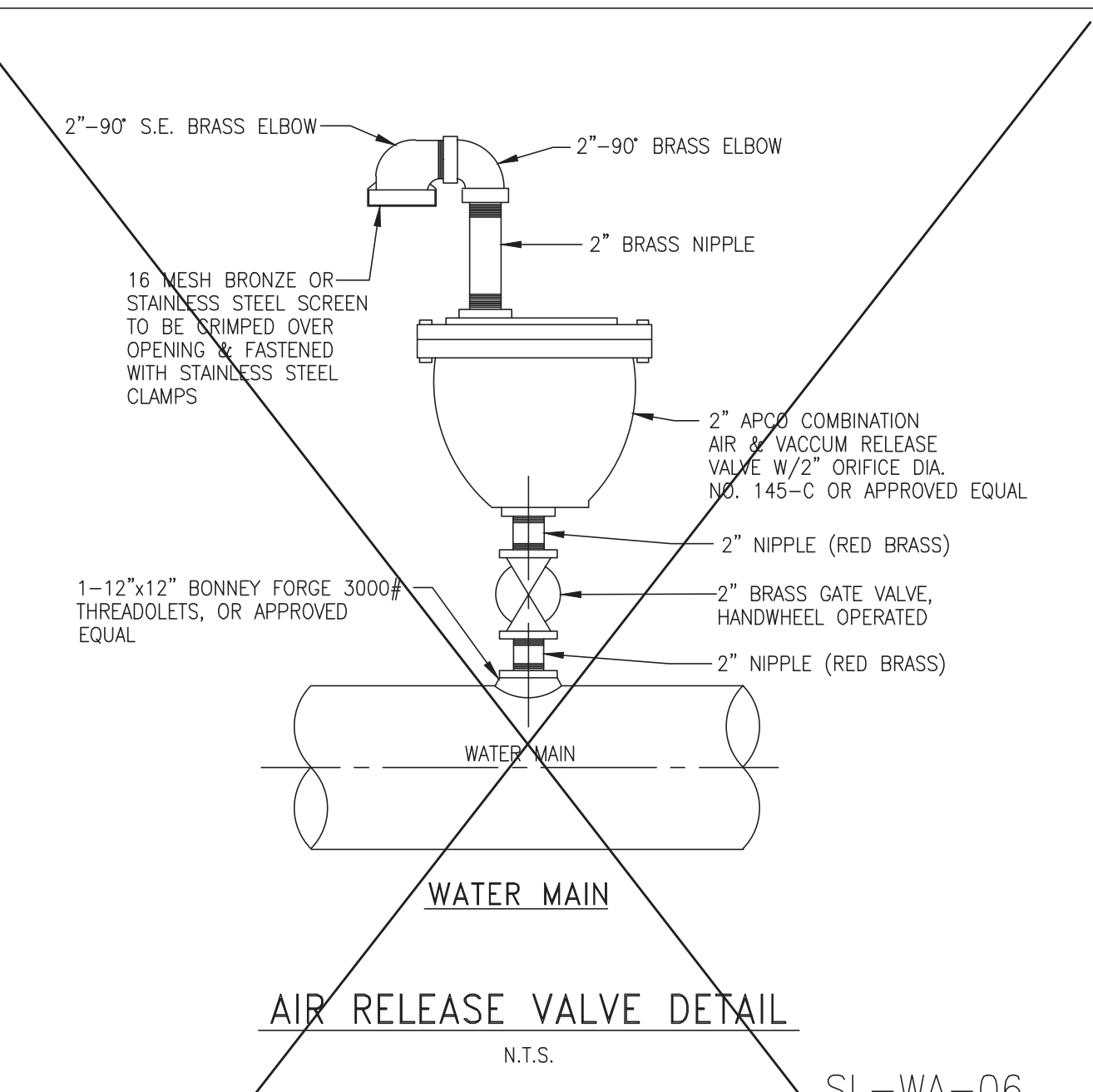
**VALVE BOX INSTALLATION DETAIL** N.T.S. SL-WA-04



**TAPPING SLEEVE & VALVE DETAIL** N.T.S. SL-WA-07



**THRUST BLOCK DETAIL** N.T.S. SL-WA-05



**AIR RELEASE VALVE DETAIL** N.T.S. SL-WA-06

**NOTES:**  
**POLYETHYLENE WRAP FOR IRON PIPE**

- NOTE:
- POLYETHYLENE FILM SHALL BE USED AS A WRAP TO PROTECT CAST IRON AND OTHER METALS IN A CORROSIVE SOIL ENVIRONMENT.
  - AN 8 MIL POLYETHYLENE FILM WRAP SHALL BE REQUIRED AROUND ALL METAL PIPE AND APPURTENANCES (EXCEPT FIRE HYDRANTS).
  - POLYETHYLENE FILM SHALL BE FURNISHED AND INSTALLED EITHER IN TUBULAR FORM PRIOR TO LOWERING THE PIPE IN TRENCH OR IN SHEET FORM.
  - POLYETHYLENE TUBE ENCASUREMENT SHALL CONFORM WITH THE MINIMUM REQUIREMENTS OF "POLYETHYLENE ENCASUREMENT FOR GRAY AND DUCTILE CAST-IRON PIPING FOR WATER AND OTHER LIQUIDS", ANSI/AWWA C105, CURRENT REVISION. SOILS WITHIN A PROJECT SHALL BE TESTED IN ACCORDANCE WITH APPENDIX A OF ANSI/AWWA C105 TO ADEQUATELY DETERMINE THE REQUIREMENTS FOR ENCASUREMENT.
  - ALL FITTINGS AND PIPE JOINTS WITHIN 10' OF A FITTING SHALL HAVE RESTRAINT JOINTS

SIZE	90° BEND		45° BEND		22 1/2° BEND		TEES		PLUGS	
	A	B	A	B	A	B	A	B	A	B
2 1/2"	12"	7"	6"	7"	6"	7"	6"	8"	8"	14"
6"	16"	10"	9"	10"	6"	12"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"
12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
14"	35"	24"	19"	24"	12"	20"	22"	27"	18"	48"
16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"
20"	50"	40"	30"	40"	18"	30"	30"	40"	30"	*78"
24"	50"	40"	30"	40"	18"	30"	30"	40"	30"	*78"
30"	60"	48"	36"	48"	20"	36"	36"	48"	36"	*96"

**BENDS, TEES & PLUGS FOR PIPE OF VARIOUS SIZES**

SL-WA-08

NO.	DATE	REVISION

DESIGN ENGINEER: \_\_\_\_\_ DATE \_\_\_\_\_

SEAL: \_\_\_\_\_



CONSTRUCTION PLANS FOR:

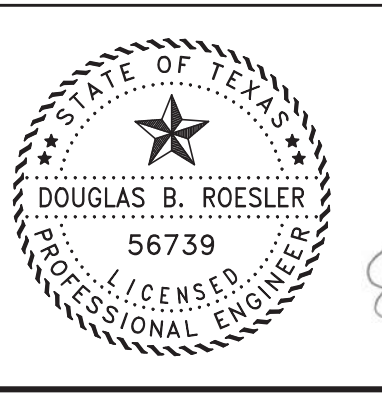
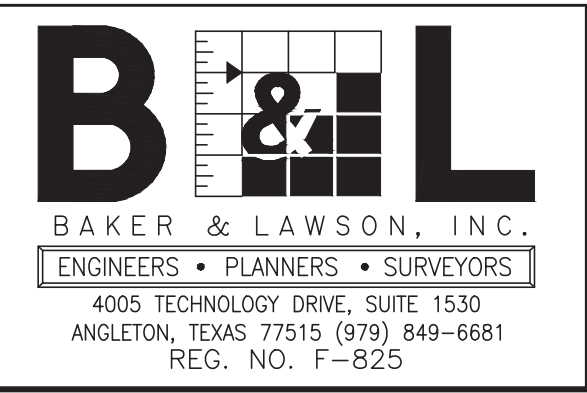
**WATER LINE CONSTRUCTION DETAILS**

JOB No.: \_\_\_\_\_  
DATE: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
SCALE: \_\_\_\_\_

SL-15 SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

DESIGNED DR  
DRAWN BT  
CHECKED \_\_\_\_\_  
DATE \_\_\_\_\_



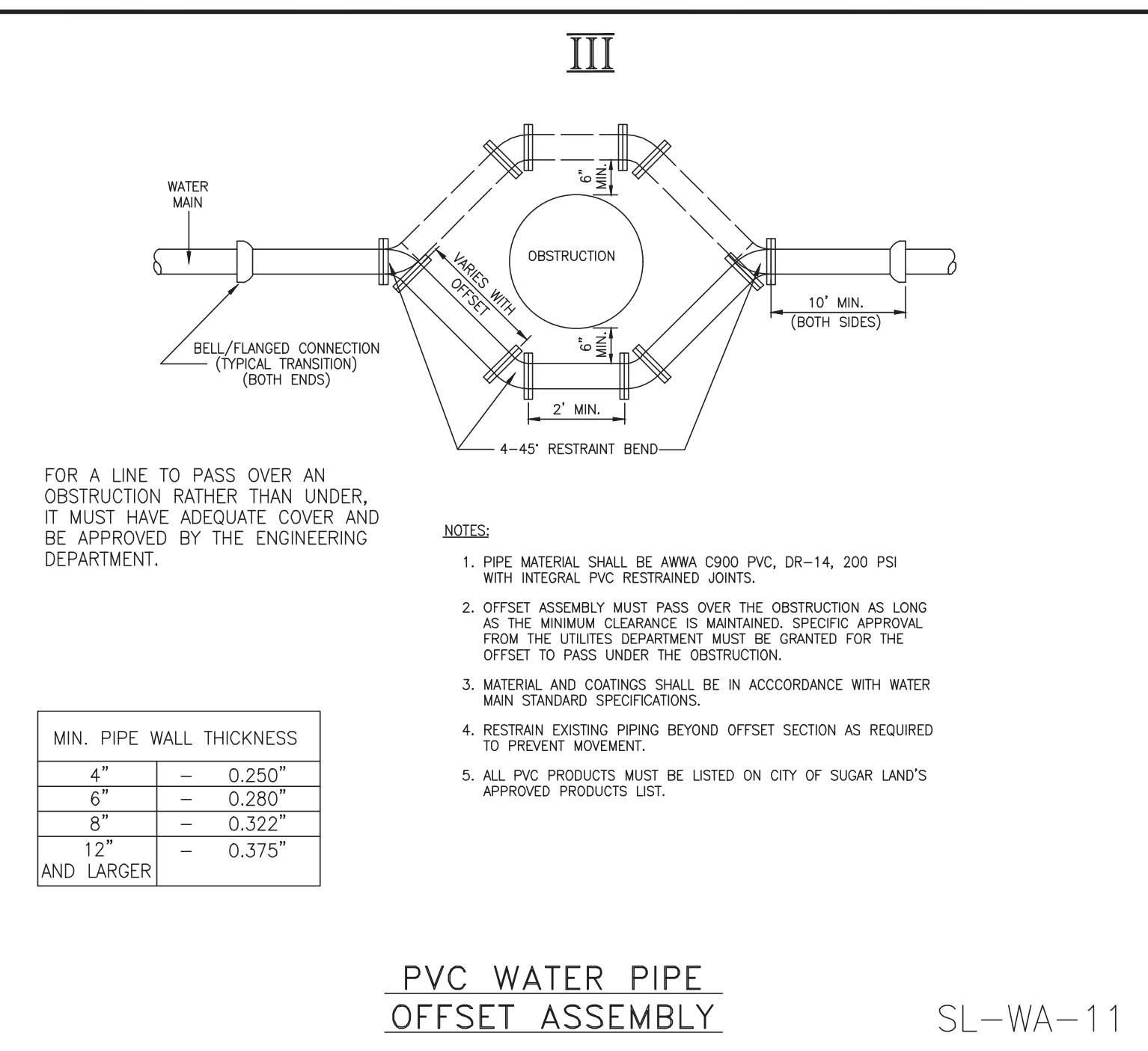
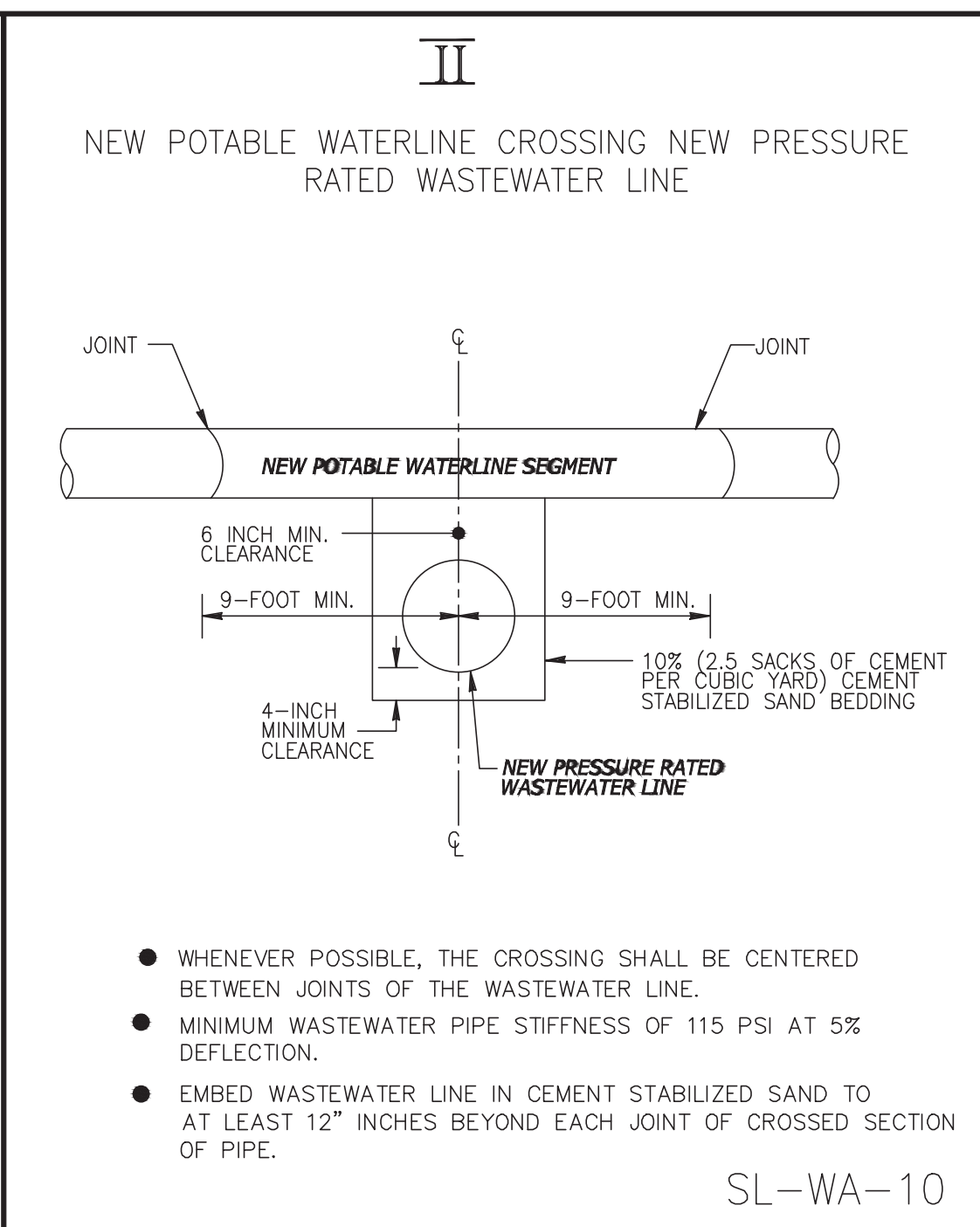
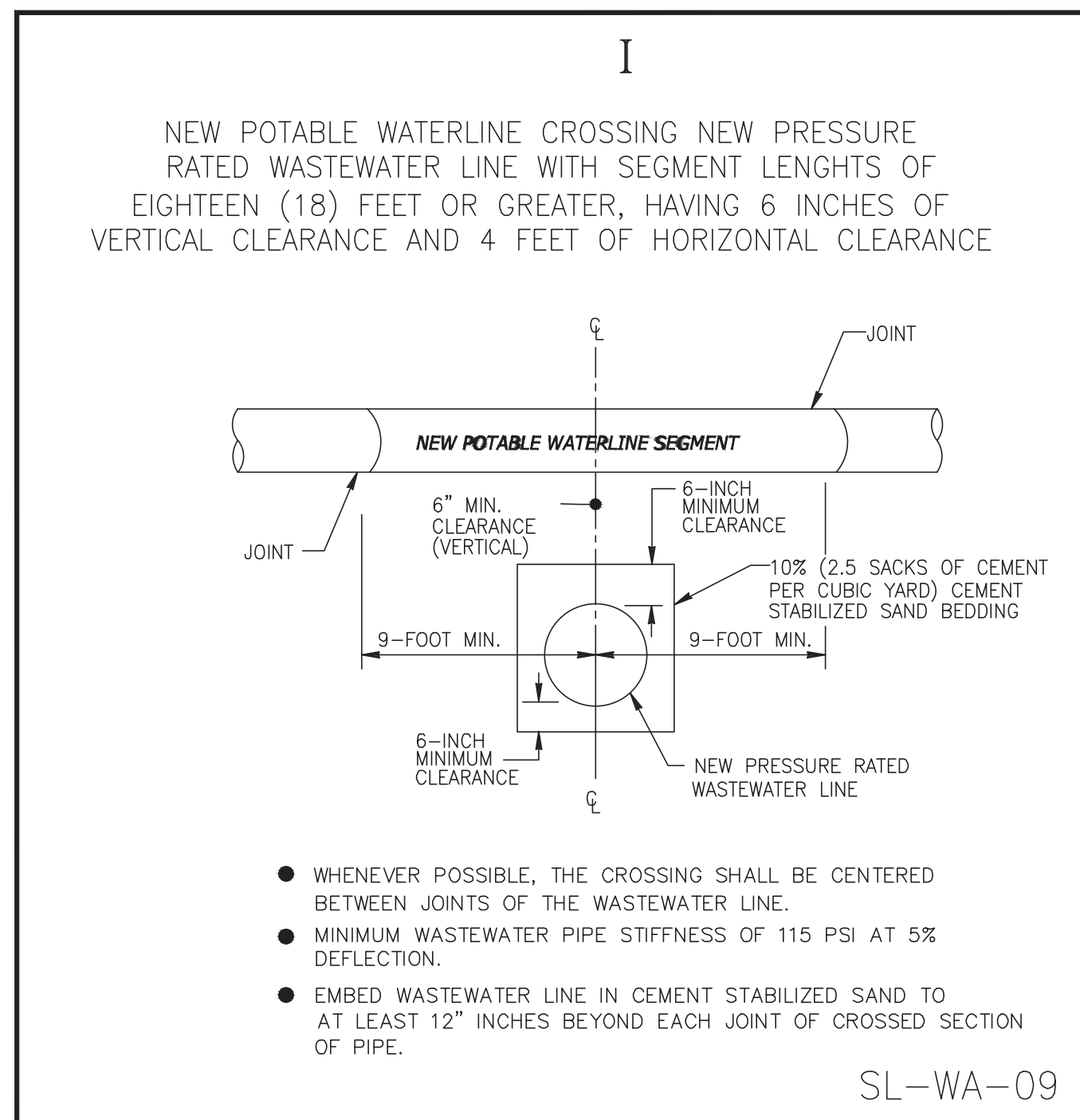
The seal appearing on this document was authorized by Douglas B. Roessler P.E. 56739 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

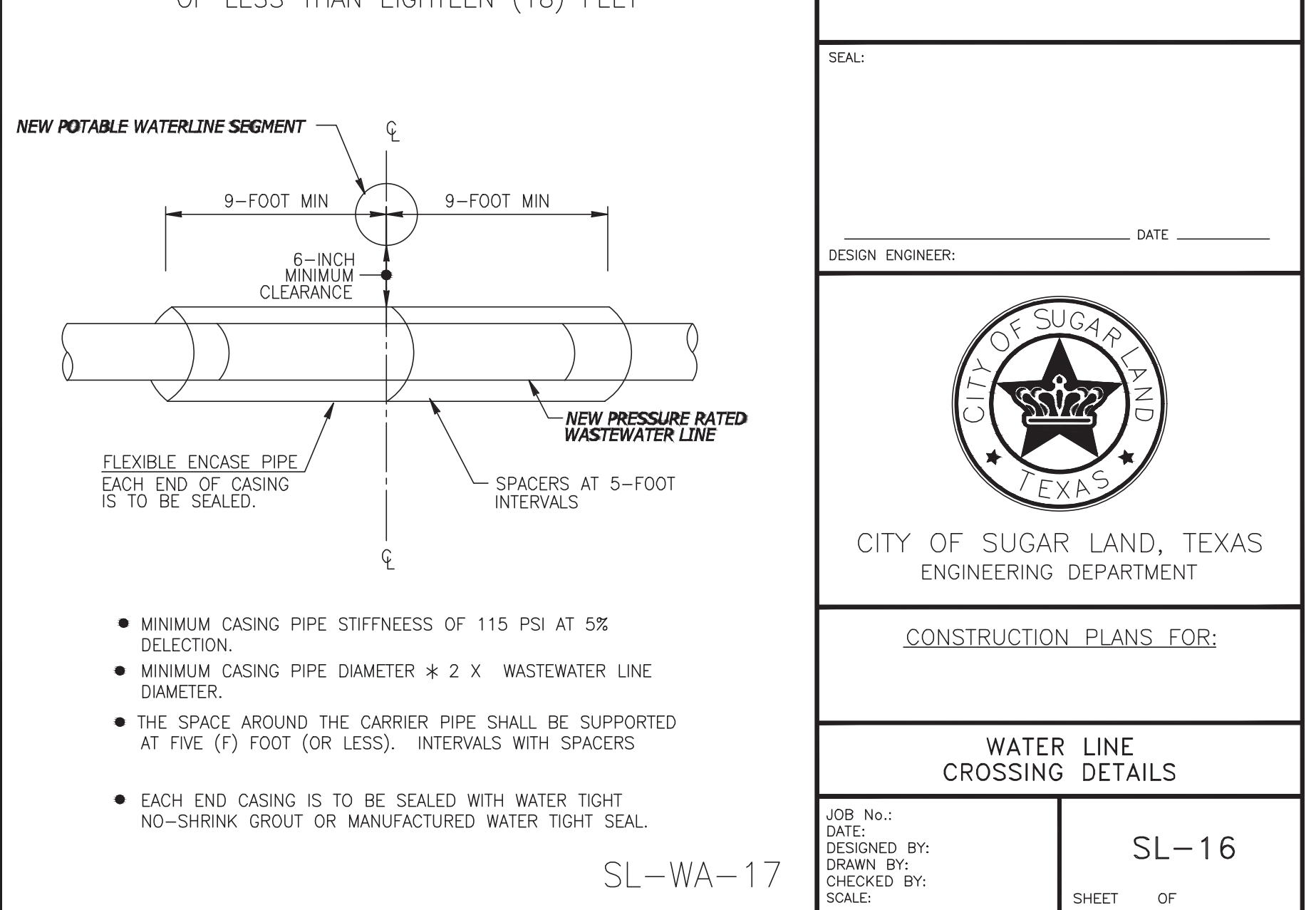
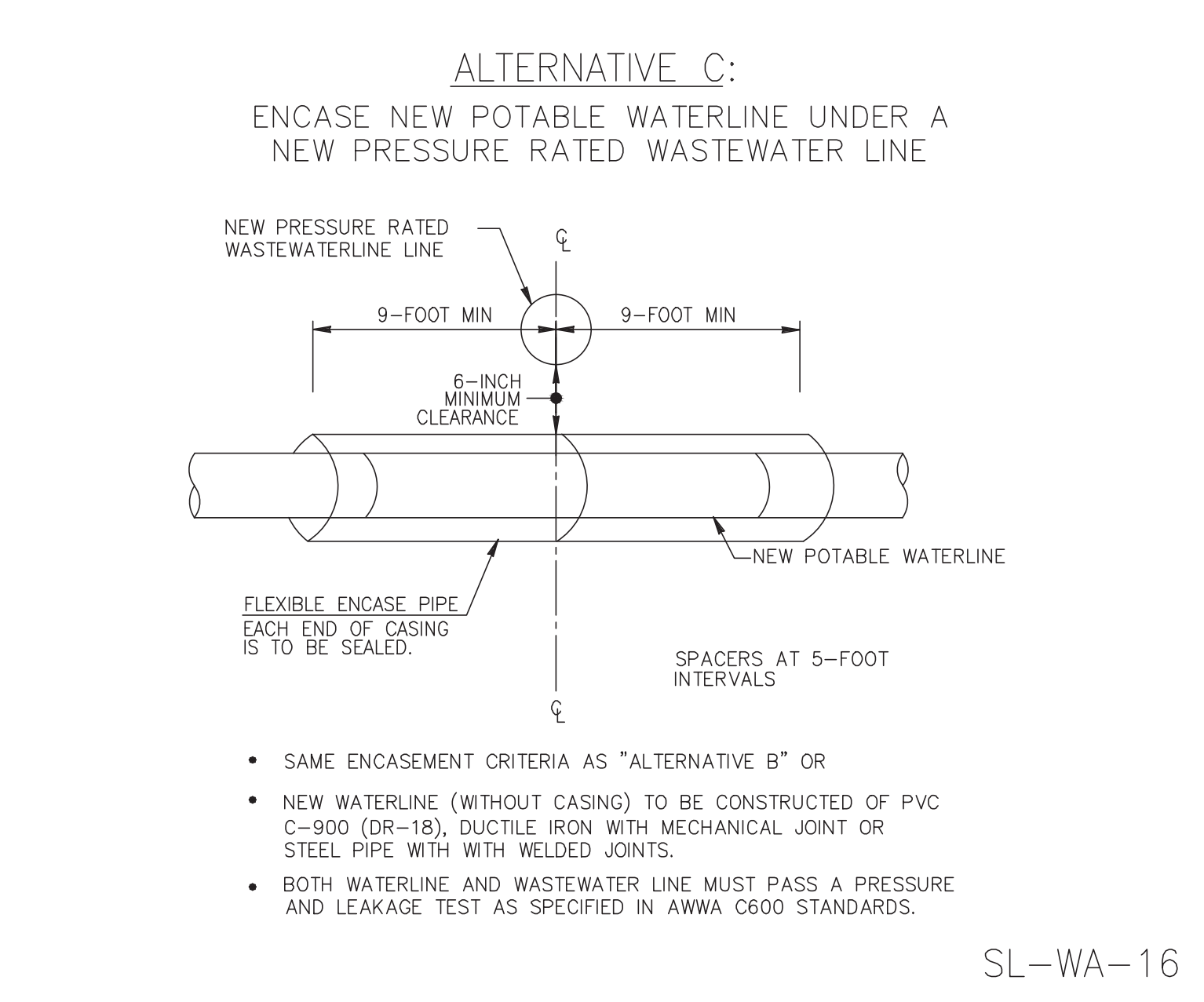
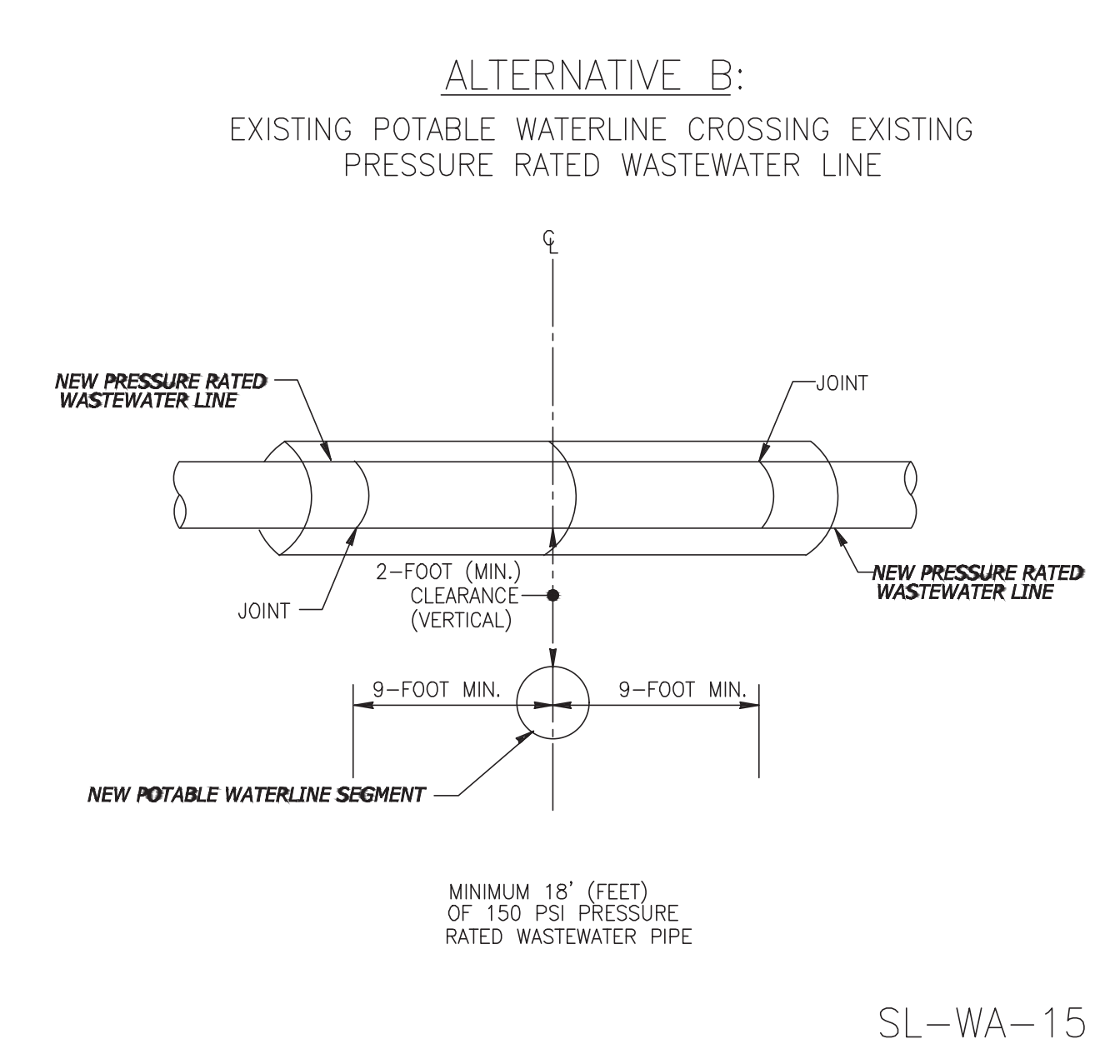
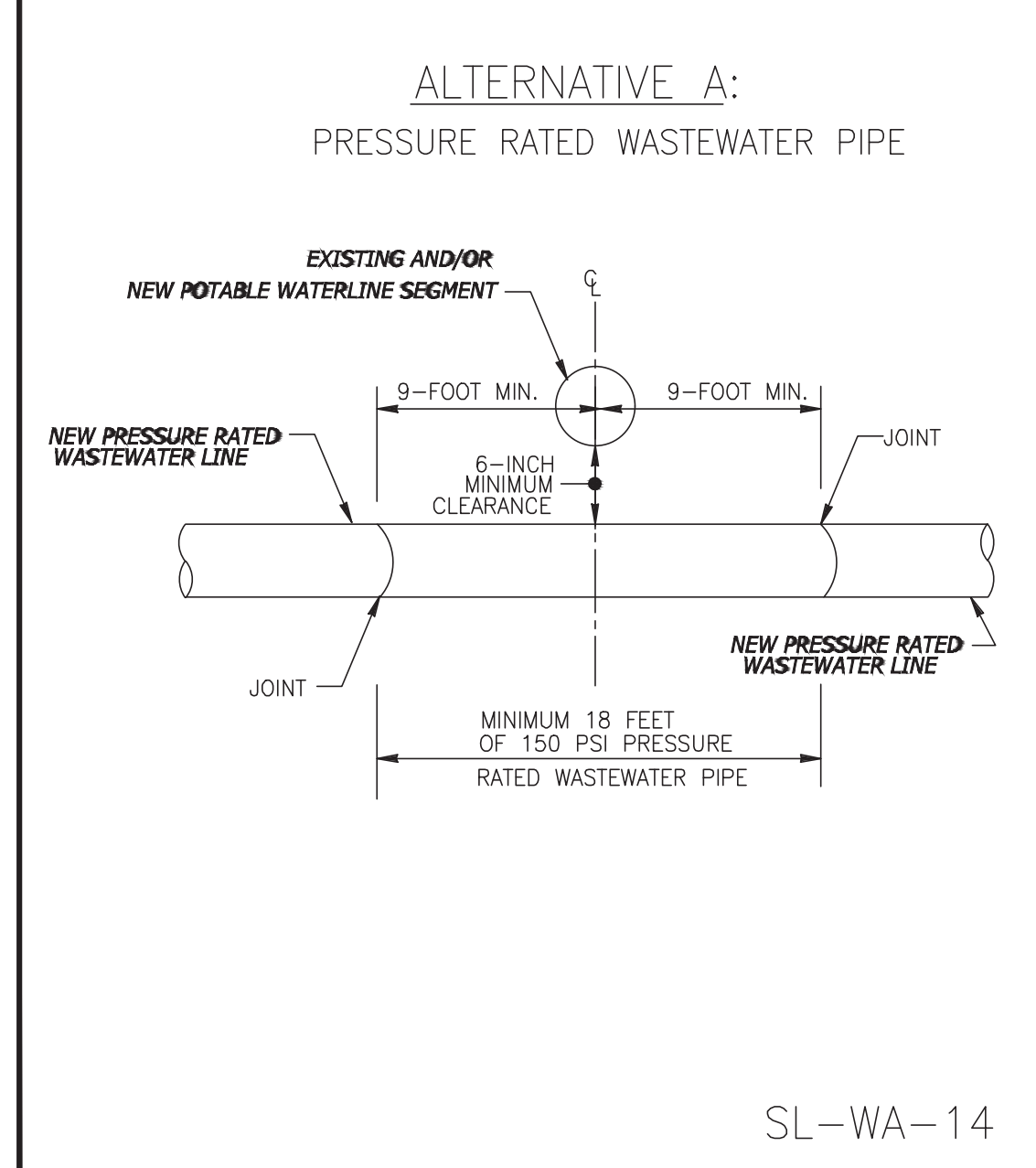
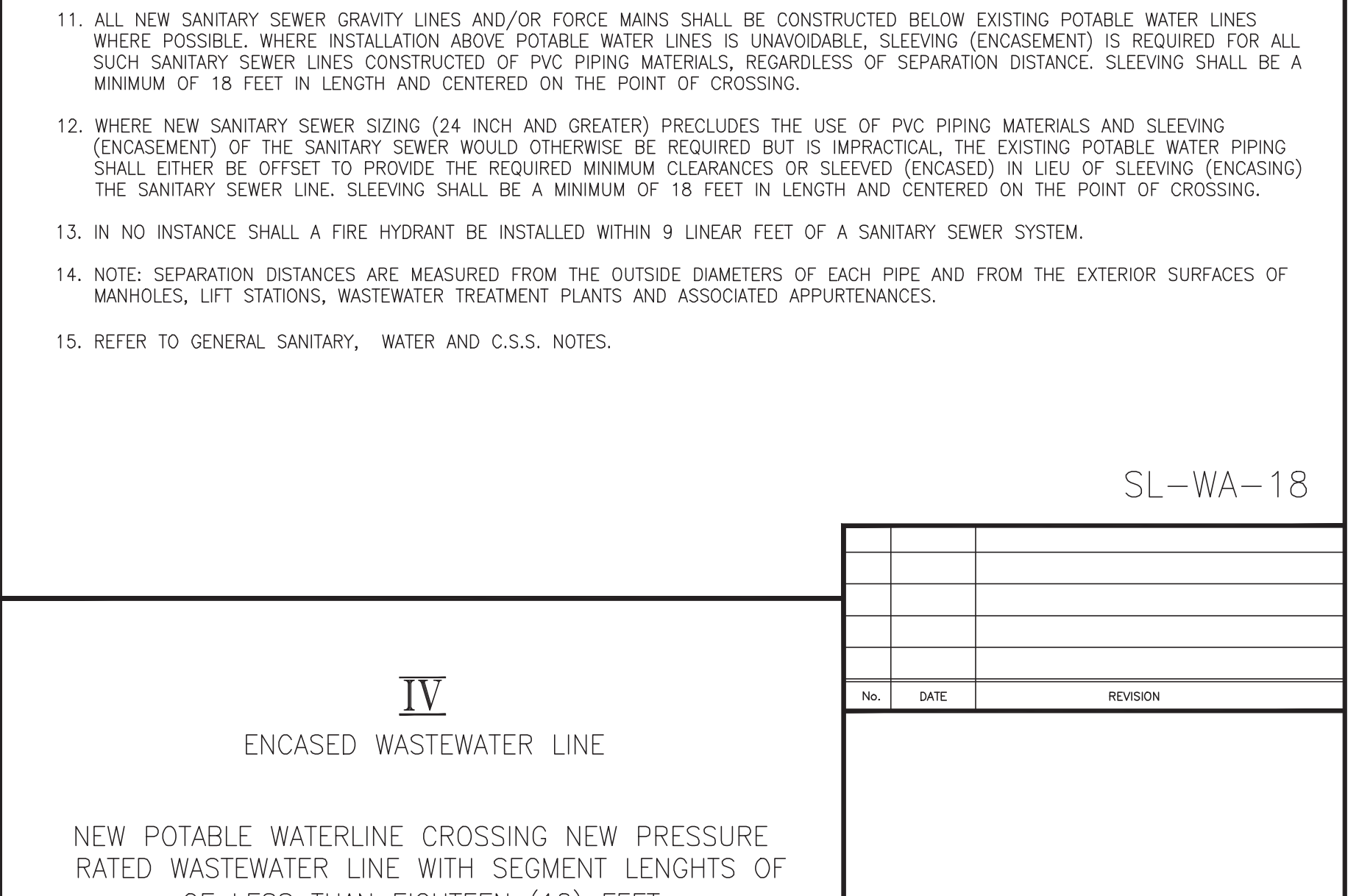
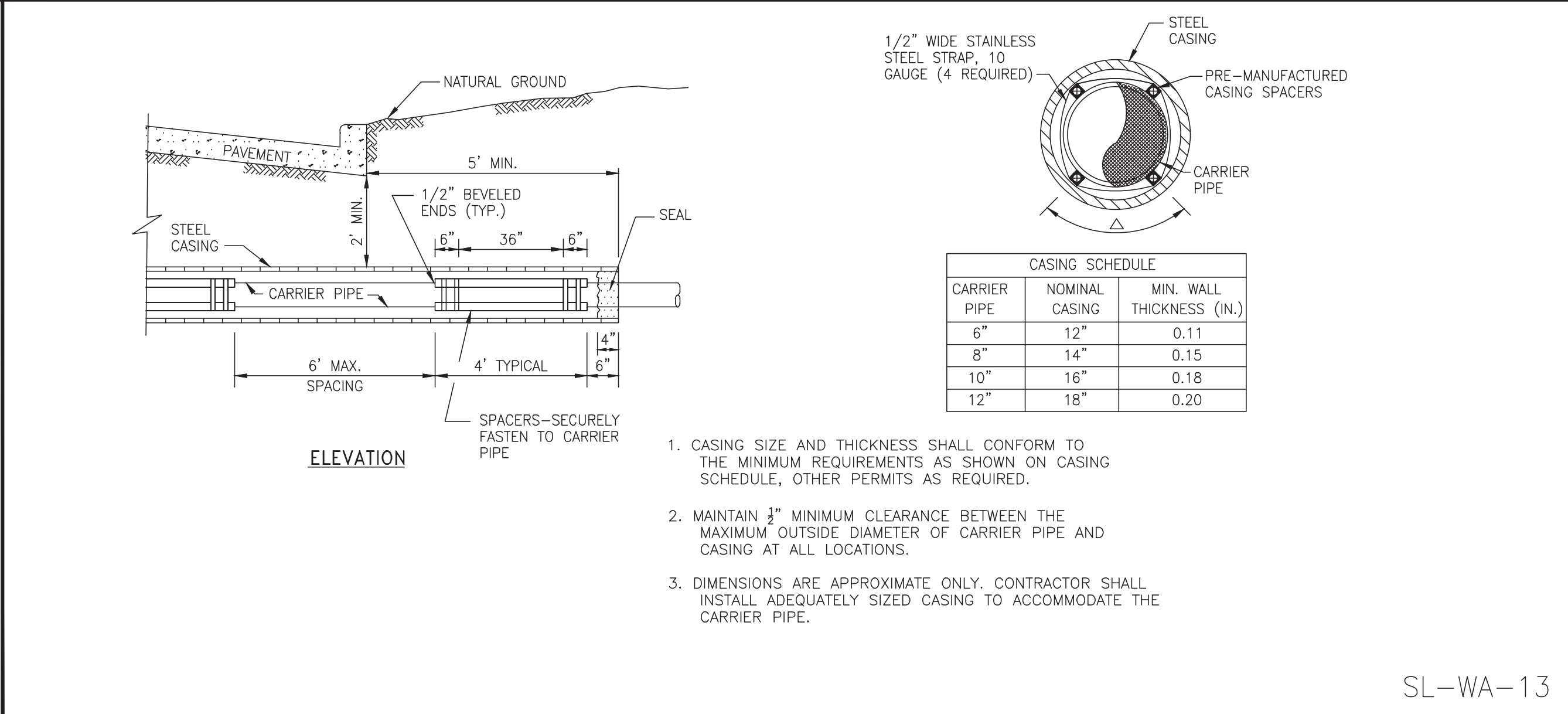
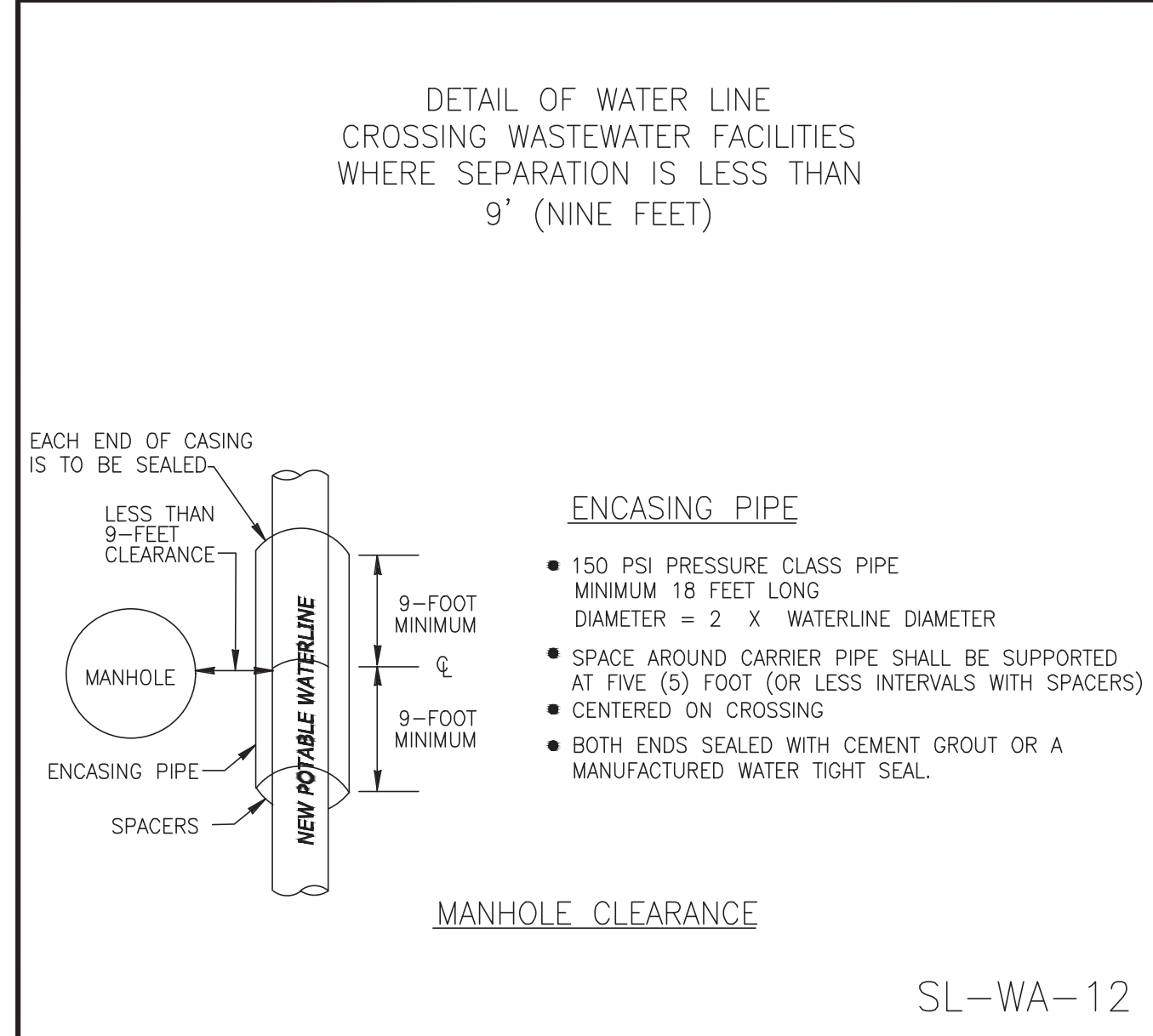
PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

**WATER LINE CONSTRUCTION DETAILS**  
SL-15



- GENERAL NOTES:**
- CONTRACTOR SHALL CONTACT CITY OF SUGAR LAND ENGINEERING DEPARTMENT AT (281) 275-2780 IF WET SAND OR OTHER UNSTABLE SOIL CONDITIONS, HIGH WATER TABLE AND/OR UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED.
  - SHOULD A CONFLICT ARISE BETWEEN INFORMATION DEPICTED ON APPROVED CONSTRUCTION DRAWINGS AND INFORMATION INCLUDED IN PROJECT SPECIFICATIONS, CITY OF SUGAR LAND DESIGN STANDARDS SHALL GOVERN.
  - ALL NEW POTABLE WATER LINES AND SANITARY SEWER FORCE MAINS SHALL BE BEDDED IN COMPACTED BANK SAND A MINIMUM OF 6 INCHES BELOW, ABOVE AND TO EITHER SIDE OF SUCH PIPING.
  - ALL NEW SANITARY SEWER GRAVITY DRAIN LINES SHALL BE BEDDED IN CEMENT STABILIZED SAND CONFORMING TO THE REQUIREMENTS FOR EITHER CLASS "A" STANDARD BEDDING OR CLASS "A-A" BEDDING AS APPLICABLE. USE OF MODIFIED "A" OR MODIFIED "A-A" BEDDING FOR SANITARY SEWER INSTALLATIONS WHERE WET SAND CONDITIONS ARE ENCOUNTERED AND SEPARATION DISTANCE TO POTABLE WATER LINES IS LESS THAN 9 FEET REQUIRES APPROVAL BY CITY ENGINEER.
  - CEMENT STABILIZED BEDDING SHALL BE A MINIMUM 1.5 SACK PER CUBIC YARD C.S.S., INSTALLED IN MAXIMUM LIFTS OF 8 INCHES AND MECHANICALLY TAMPED TO 95% PROCTOR.
  - WHERE REQUIRED, SLEEVING (ENCASEMENT) OF POTABLE WATER PIPING AND/OR SANITARY SEWER GRAVITY DRAIN LINES AND FORCE MAINS SHALL BE PROVIDED. SUCH SLEEVING (ENCASEMENT) SHALL BE CONSTRUCTED OF APPROVED PIPING MATERIALS HAVING A MINIMUM PRESSURE RATING OF 150 PSI AND ANNUAL SPACES AT EACH END SHALL BE SEALED WITH A MATERIAL APPROVED FOR SUCH USE.
  - ALL NEW POTABLE WATER LINES SHALL BE SLEEVED (ENCASED) WHERE A MINIMUM OF 9 FEET SEPARATION DISTANCE TO EXISTING OR PROPOSED SANITARY SEWER MANHOLE, LIFT STATION OR WASTEWATER TREATMENT PLANT CANNOT BE MAINTAINED. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CLOSEST PROXIMITY.
  - ALL NEW POTABLE WATER LINES SHALL BE SLEEVED (ENCASED) WHERE LESS THAN 2 FEET VERTICAL OR 4 FEET HORIZONTAL CLEARANCE TO EXISTING OR PROPOSED SANITARY SEWER GRAVITY LINES OR FORCE MAINS IS UNAVOIDABLE. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CROSSING. WHERE PIPING IS LAID PARALLEL AND MINIMUM SEPARATION DISTANCES CANNOT BE MAINTAINED, SLEEVING SHALL EXTEND AT LEAST 9 FEET PAST THE POINT WHERE MINIMUM SEPARATION DISTANCES ARE ACHIEVED.
  - ALL NEW POTABLE WATER LINES SHALL BE CONSTRUCTED ABOVE EXISTING OR PROPOSED SANITARY SEWER GRAVITY LINES OR FORCE MAINS WHERE POSSIBLE. WHERE INSTALLATION BENEATH SANITARY SEWER GRAVITY LINES OR FORCE MAINS IS UNAVOIDABLE AT POINTS OF CROSSING, SLEEVING (ENCASEMENT) IS REQUIRED FOR ALL NEW POTABLE WATER LINES CONSTRUCTED OF PVC PIPING MATERIALS, REGARDLESS OF SEPARATION DISTANCE. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CROSSING.
  - ALL NEW SANITARY SEWER GRAVITY LINES AND/OR FORCE MAINS CONSTRUCTED OF PVC PIPING MATERIALS SHALL BE SLEEVED (ENCASED) WHERE LESS THAN 2 FEET VERTICAL OR 4 FEET HORIZONTAL CLEARANCE TO EXISTING POTABLE WATER PIPING CANNOT BE MAINTAINED. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CLOSEST PROXIMITY.
  - ALL NEW SANITARY SEWER GRAVITY LINES AND/OR FORCE MAINS SHALL BE CONSTRUCTED BELOW EXISTING POTABLE WATER LINES WHERE POSSIBLE. WHERE INSTALLATION ABOVE POTABLE WATER LINES IS UNAVOIDABLE, SLEEVING (ENCASEMENT) IS REQUIRED FOR ALL SUCH SANITARY SEWER LINES CONSTRUCTED OF PVC PIPING MATERIALS, REGARDLESS OF SEPARATION DISTANCE. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CROSSING.
  - WHERE NEW SANITARY SEWER SIZING (24 INCH AND GREATER) PRECLUDES THE USE OF PVC PIPING MATERIALS AND SLEEVING (ENCASEMENT) OF THE SANITARY SEWER WOULD OTHERWISE BE REQUIRED BUT IS IMPRACTICAL, THE EXISTING POTABLE WATER PIPING SHALL EITHER BE OFFSET TO PROVIDE THE REQUIRED MINIMUM CLEARANCES OR SLEEVED (ENCASED) IN LIEU OF SLEEVING (ENCASING) THE SANITARY SEWER LINE. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CROSSING.
  - IN NO INSTANCE SHALL A FIRE HYDRANT BE INSTALLED WITHIN 9 LINEAR FEET OF A SANITARY SEWER SYSTEM.
  - NOTE: SEPARATION DISTANCES ARE MEASURED FROM THE OUTSIDE DIAMETERS OF EACH PIPE AND FROM THE EXTERIOR SURFACES OF MANHOLES, LIFT STATIONS, WASTEWATER TREATMENT PLANTS AND ASSOCIATED APPURTENANCES.
  - REFER TO GENERAL SANITARY, WATER AND C.S.S. NOTES.



NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED: DR  
DRAWN: BT  
CHECKED: \_\_\_\_\_  
DATE: \_\_\_\_\_

**B & L**  
BAKER & LAWSON, INC.  
ENGINEERS • PLANNERS • SURVEYORS  
4005 TECHNOLOGY DRIVE, SUITE 1530  
ANGLETON, TEXAS 77515 (979) 849-8681  
REG. NO. F-825

STATE OF TEXAS  
56739  
DOUGLAS B. ROESLER  
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Douglas B. Roessler P.E. 56739

03-03-2023

OWNER:

**RIVERWAY PROPERTIES**  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

**CITY OF SUGAR LAND, TEXAS**  
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

**WATER LINE CROSSING DETAILS**

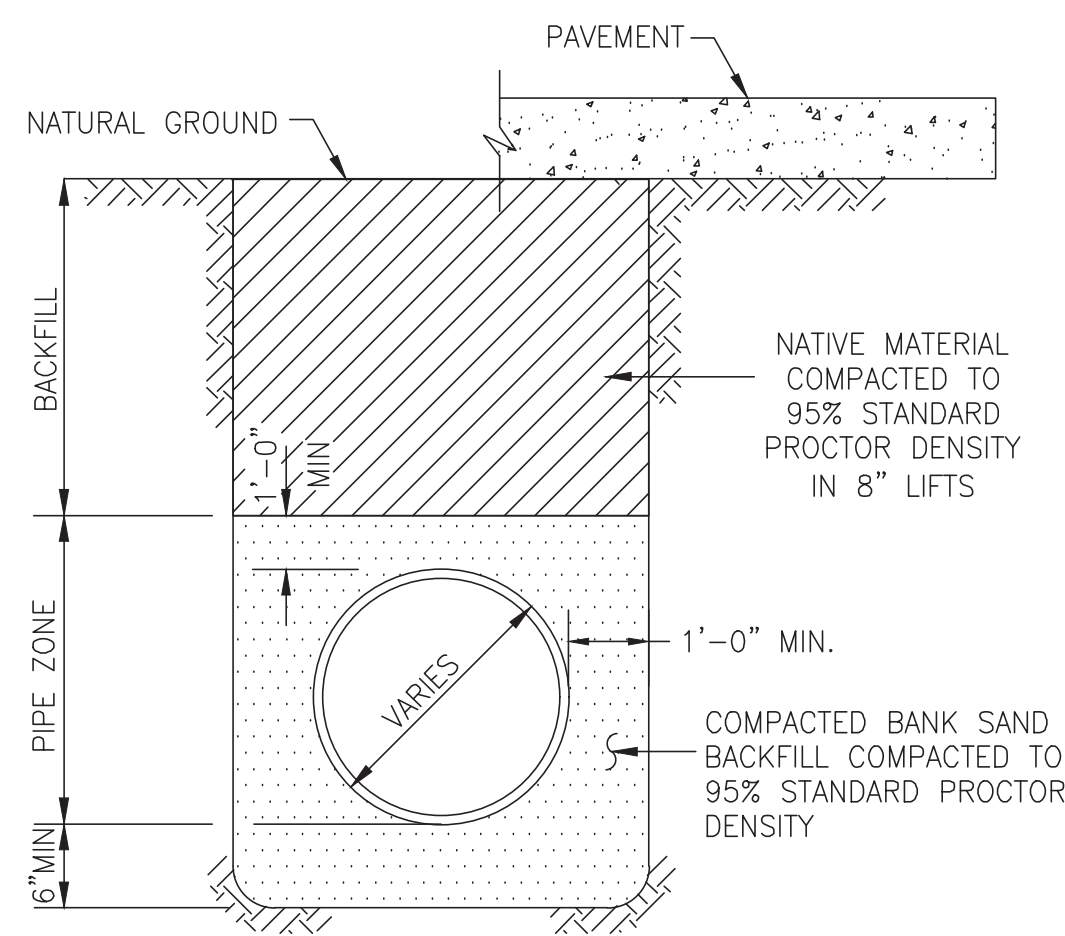
SL-16

SHEET OF

**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

WATER LINE CROSSING DETAILS  
SL-16

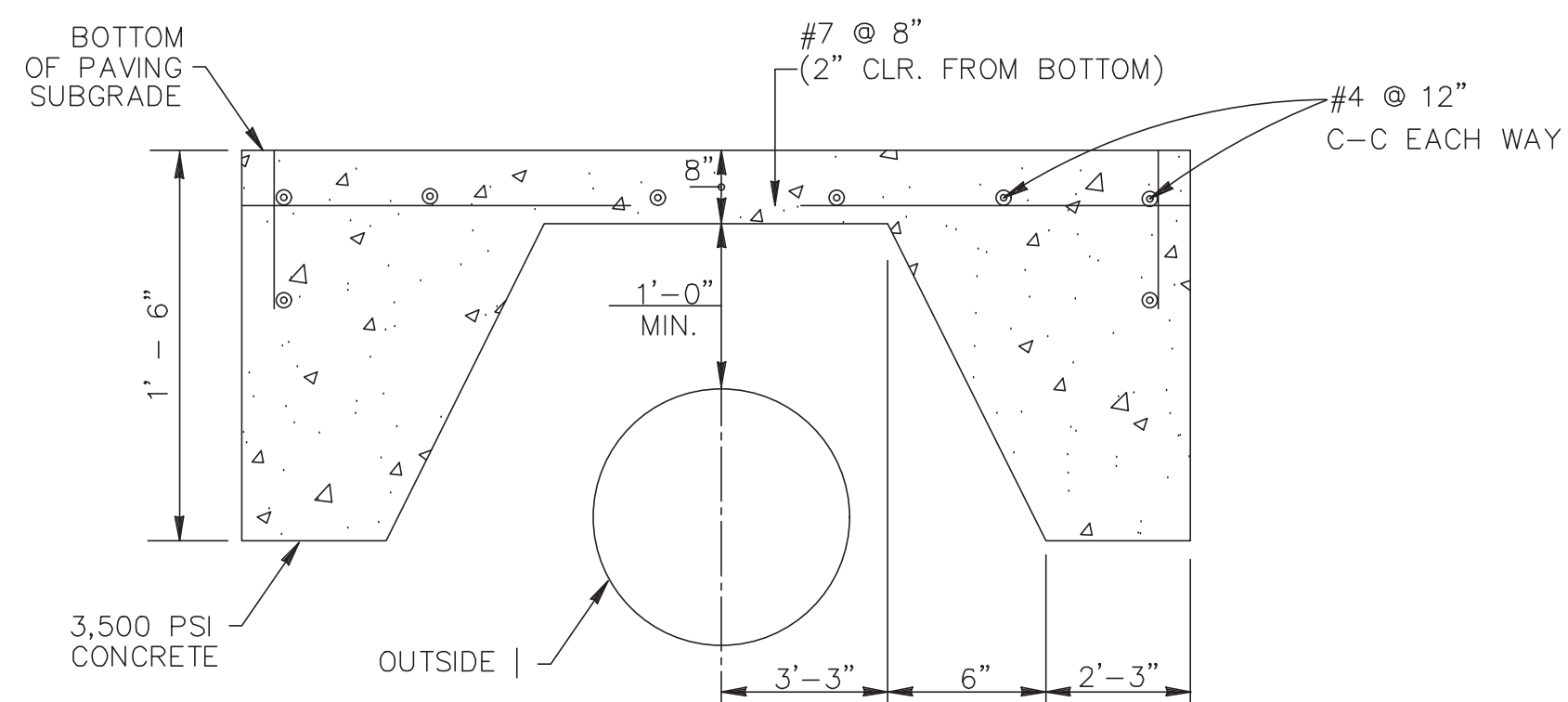
PROJECT NO. 14396



**P.V.C. PIPE BEDDING & BACKFILL**  
N.T.S.  
\*SEE CONSTRUCTION NOTES

**SANITARY FORCE MAIN & WATER LINE  
BEDDING AND BACKFILL**

SL-BB-01



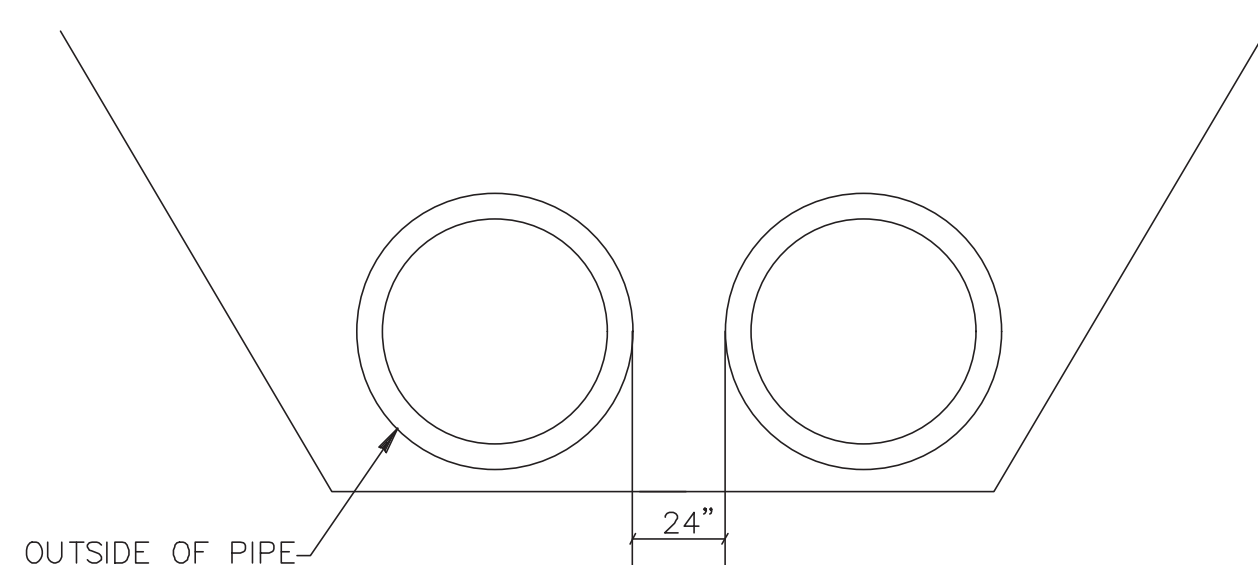
**PROTECTIVE SLAB DETAIL  
ZERO LOAD TRANSFER CONCRETE SLAB**

SL-BB-04

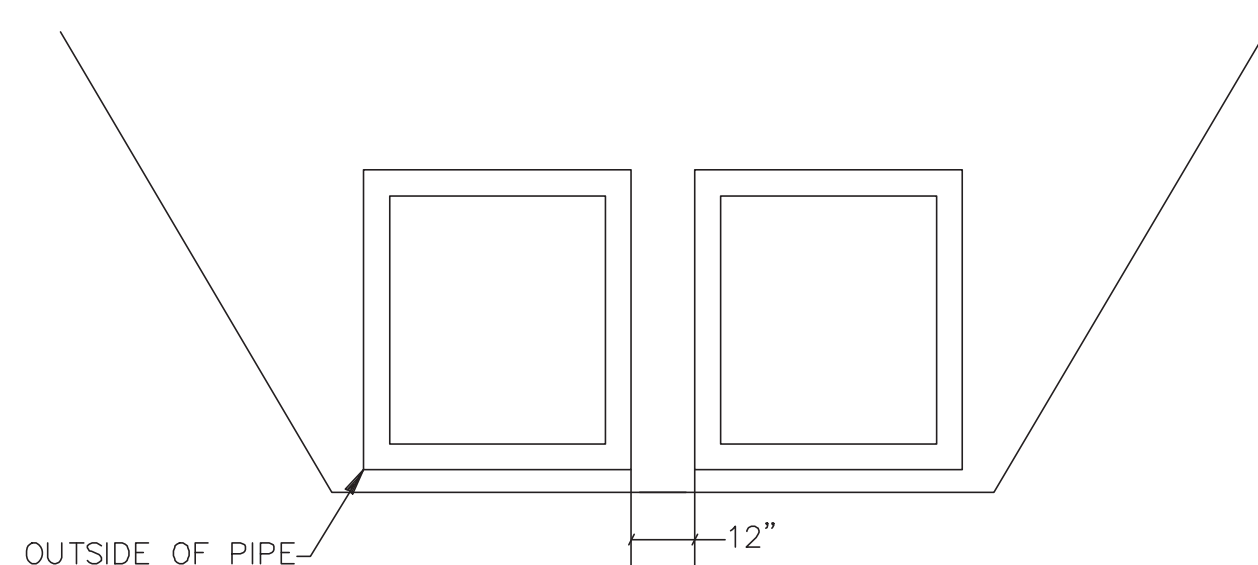
**CONSTRUCTION NOTES**

- CONTRACTOR SHALL CONTACT SUGAR LAND ENGINEERING DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED.
- LIMESTONE AND RECYCLED CONCRETE DIMENSIONS SHOWN ARE TYPICAL BUT MAY BE VARIED BY ORDER OF CITY ENGINEER.
- LIMESTONE OR RECYCLED CONCRETE SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATION No. 248 FLEXIBLE BASE, TYPE A, GRADE 2 AGGREGATE.
- NO BEDDING SHALL BE INSTALLED IN WET CONDITIONS. WHEN WELL POINTING OR IN WET SAND CONDITIONS, MAINTAIN GROUND WATER 1 (FT) BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24-HRS AFTER BEDDING AND BACKFILL IS IN PLACE.
- ALL MATERIALS SHALL BE FROM THE APPROVED PRODUCTS LIST UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER.
- SANITARY SEWER BEDDING FOR WET SAND CONDITIONS SHALL BE AS PER MODIFIED "A".
- ALL SAND BEDDING FOR WATER LINES SHALL BE CLEAN, MECHANICALLY COMPACTED BANK SAND.
- REFER TO: MANHOLE DETAILS, SANITARY, C.S.S., GENERAL, WATER CROSSING, WATER DISTRIBUTION DETAILS AND NOTES.
- ALL BEDDING WILL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- A GEOTECHNICAL REPORT MAY BE REQUIRED TO ANALYZE THE BEARING CAPACITY OF EXISTING SOILS AND MAKE A DETERMINATION IF ADDITIONAL BEDDING AND BACKFILL IS APPROPRIATE.

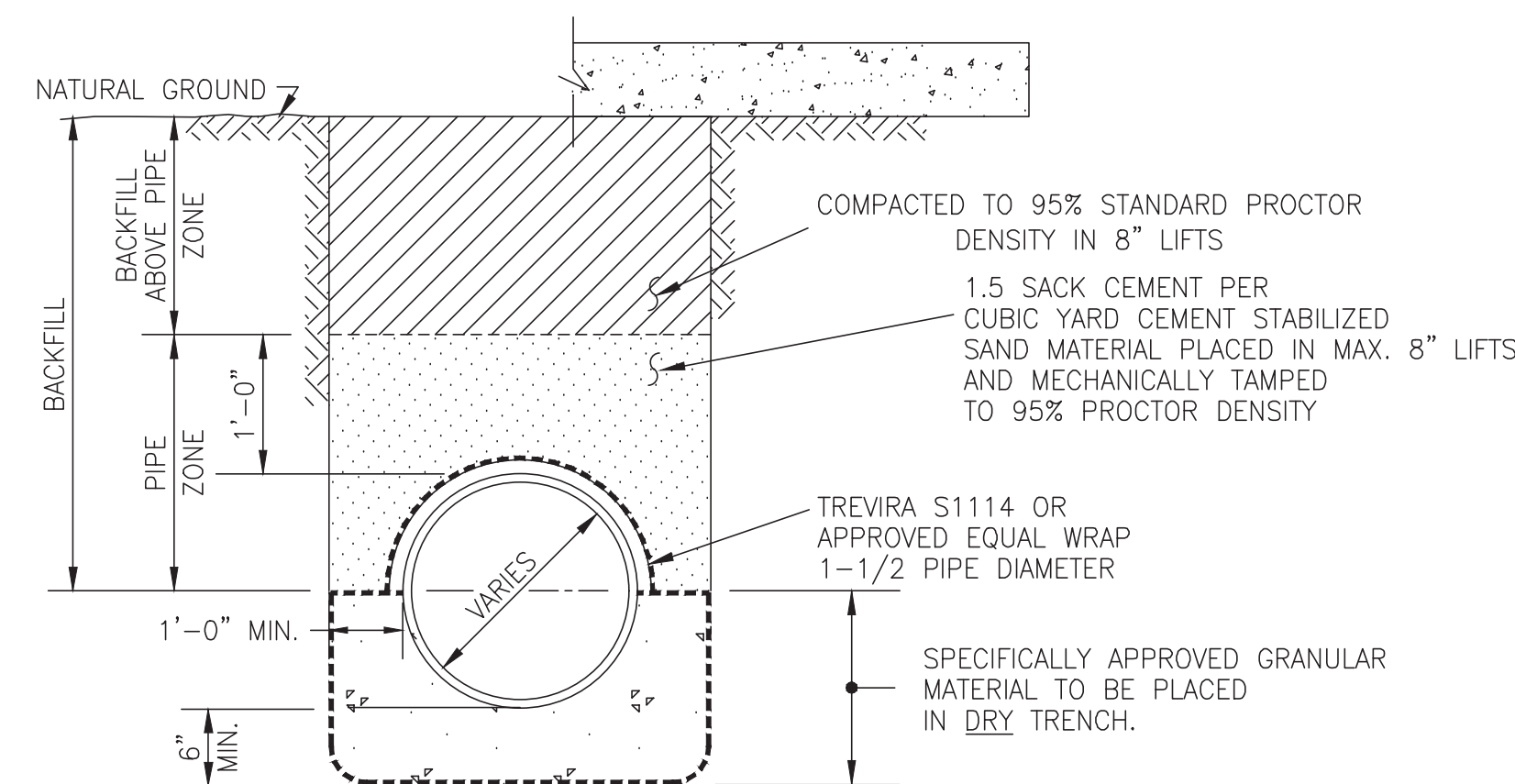
SL-BB-05



**PIPE SEPARATION**



**RCB SEPARATION**



**MODIFIED "A"**  
N.T.S.


NOTE: C.S.S. SHALL BE INSTALLED A MIN. 1' ABOVE TOP OF PIPE.

**SANITARY SEWER  
BEDDING AND BACKFILL**

SL-BB-03

**REFER TO:**

- GENERAL NOTES
- C.S.S. NOTES

No.	DATE	REVISION
SEAL:		
DESIGN ENGINEER: _____ DATE _____		
 CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT		
CONSTRUCTION PLANS FOR:		
WATER LINE, SANITARY SEWER FORCE MAIN BEDDING DETAILS		
JOB No.:	SL-19	SHEET OF
DATE:		
DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
SCALE:		

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	DR
DRAWN	BT
CHECKED	
DATE	

**B & L**  
BAKER & LAWSON, INC.  
ENGINEERS • PLANNERS • SURVEYORS  
4005 TECHNOLOGY DRIVE, SUITE 1530  
ANGLETON, TEXAS 77515 (979) 849-6661  
REG. NO. F-825

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**DOUGLAS B. ROESSLER**  
56739  
LICENSED PROFESSIONAL ENGINEER

*DR* 03-03-2023

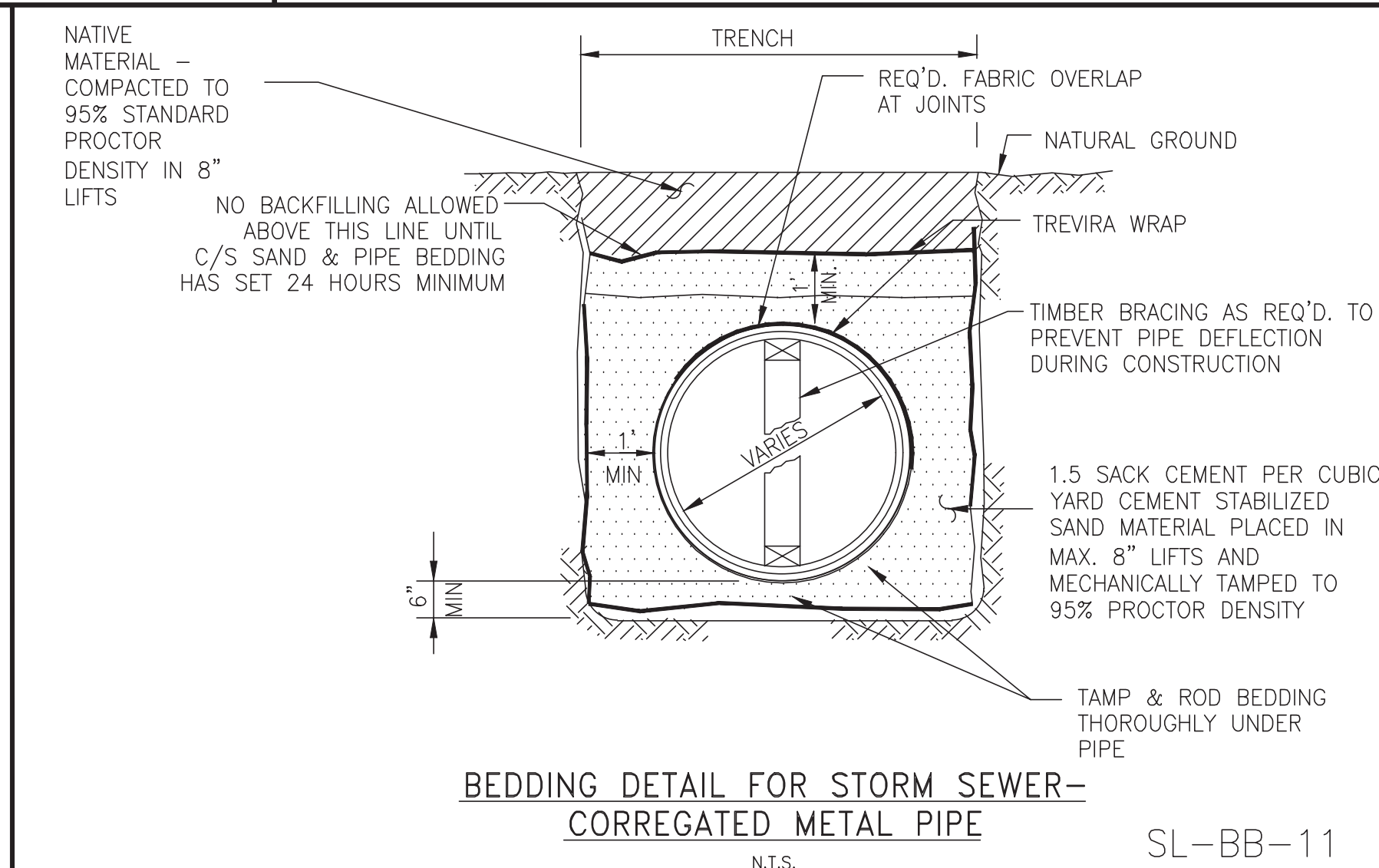
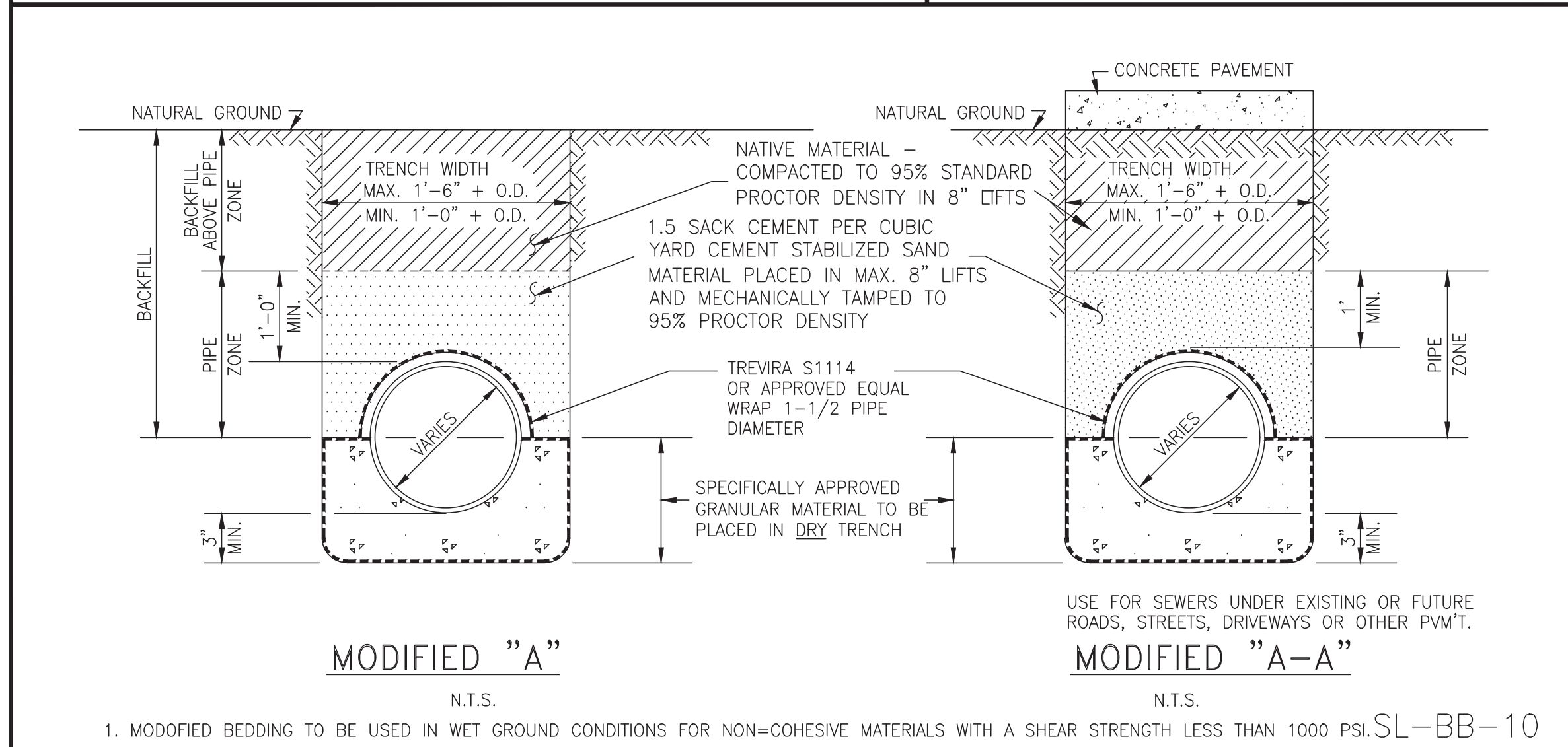
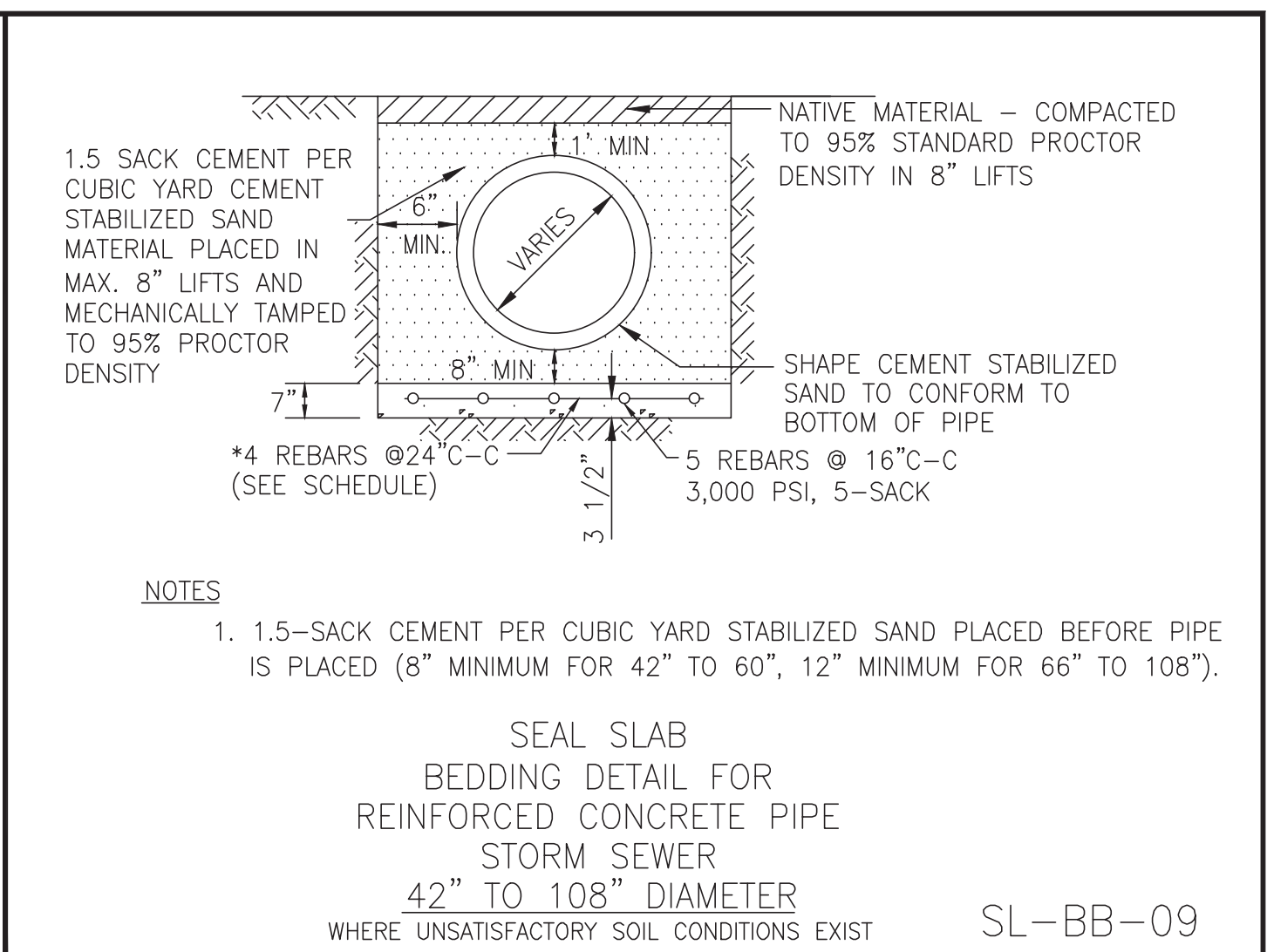
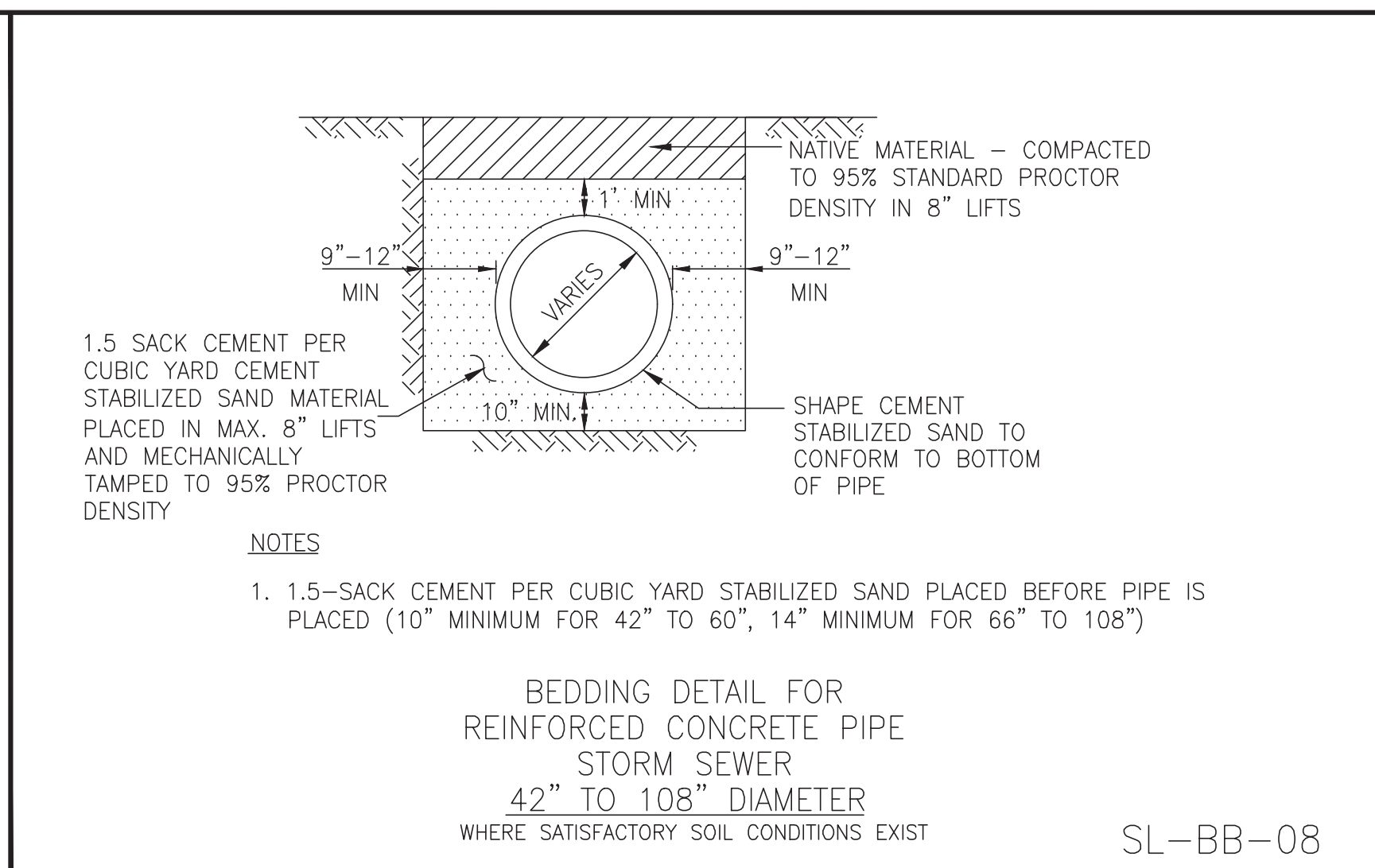
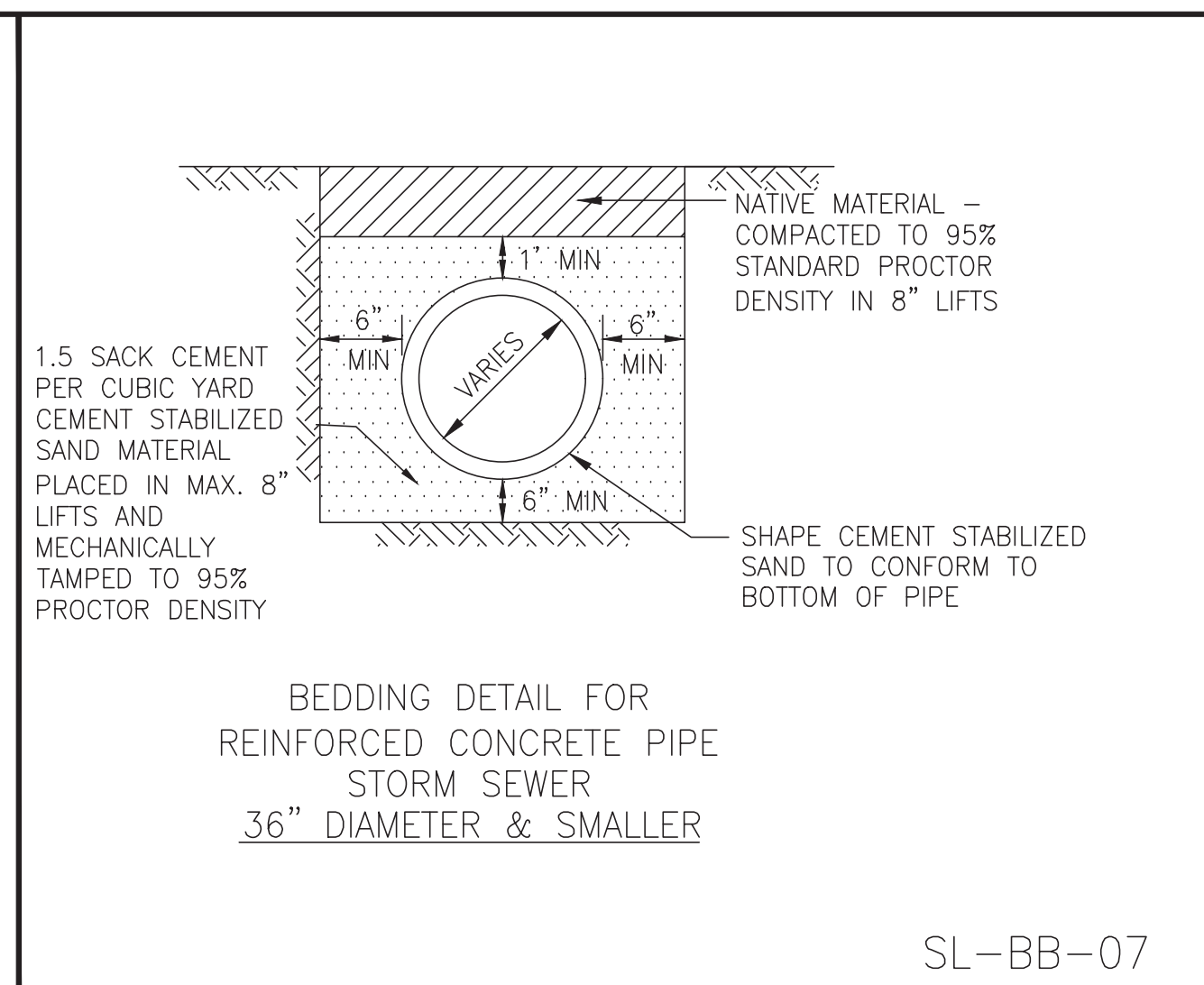
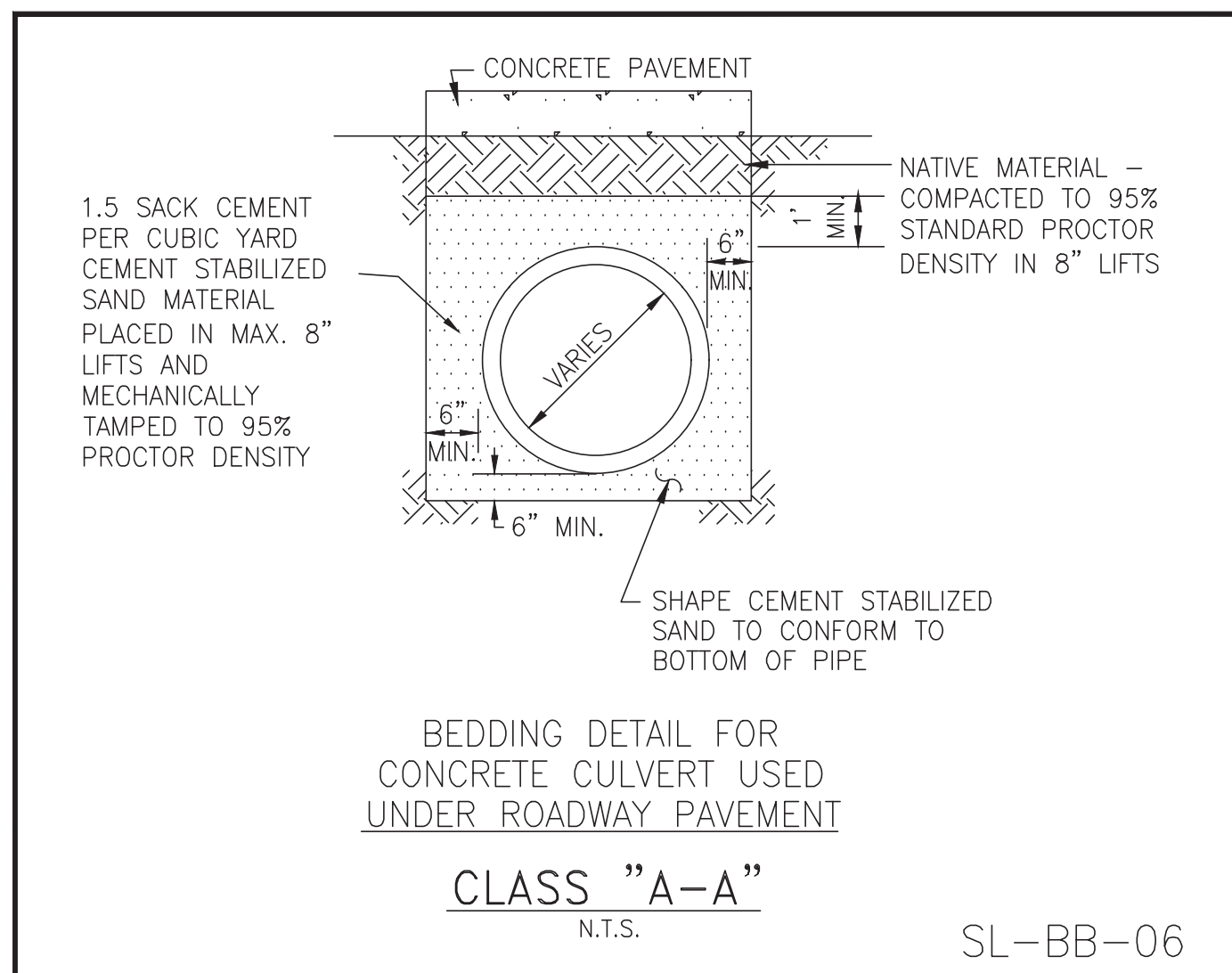
OWNER:  
**RIVERWAY PROPERTIES**  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

WATER LINE, SANITARY SEWER FORCE MAIN BEDDING DETAILS  
SL-19

PROJECT NO. 14396



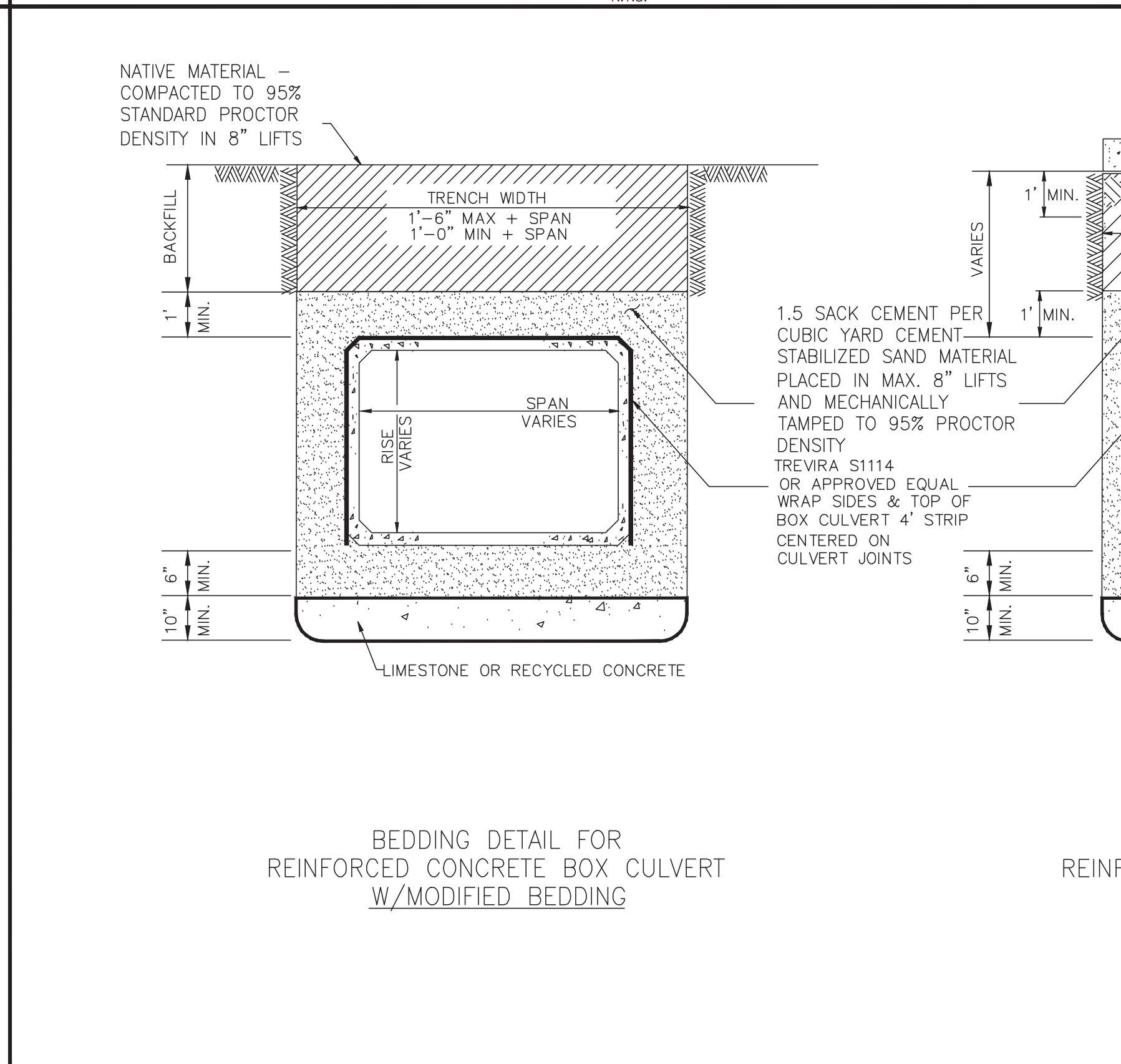
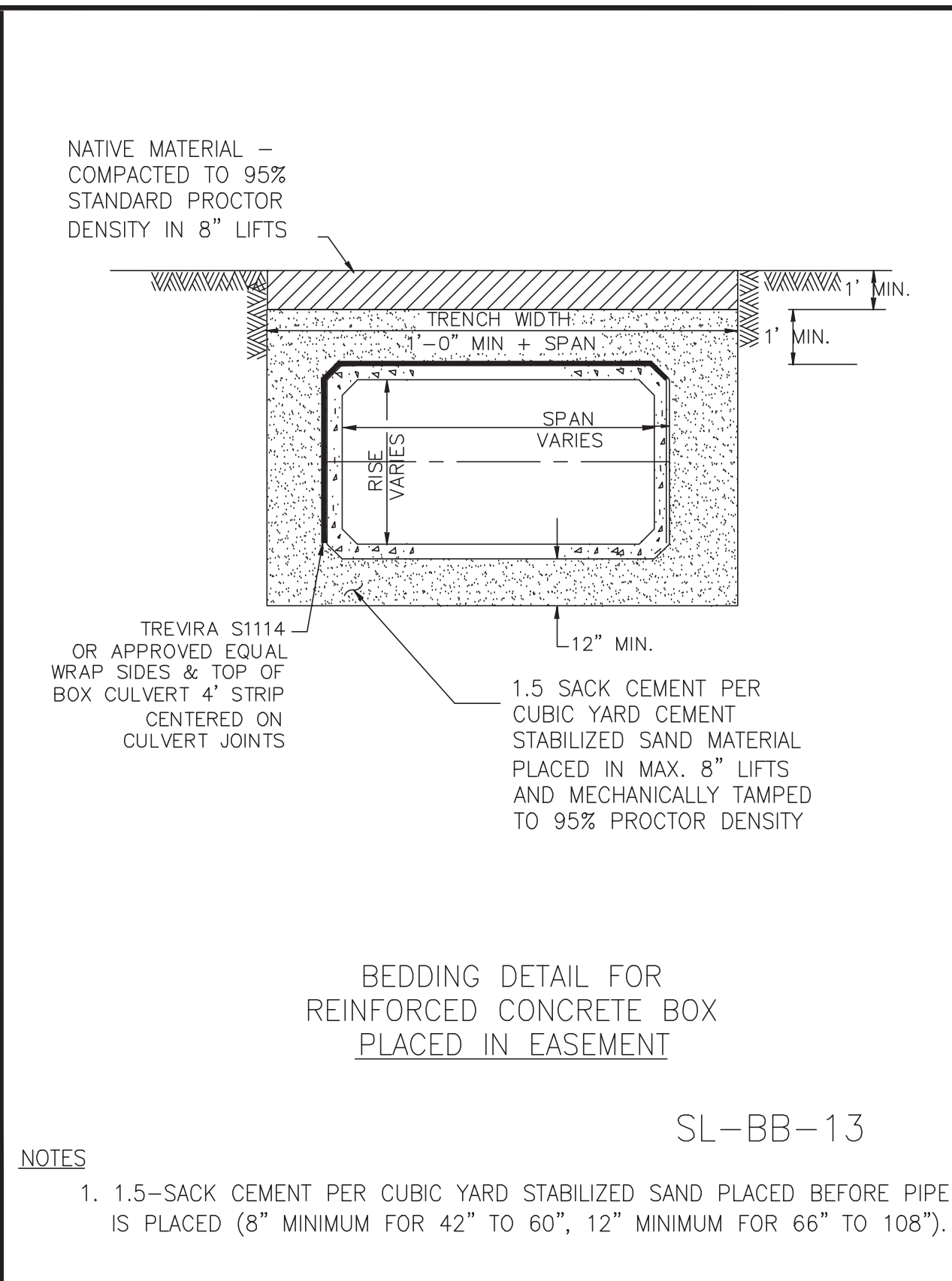
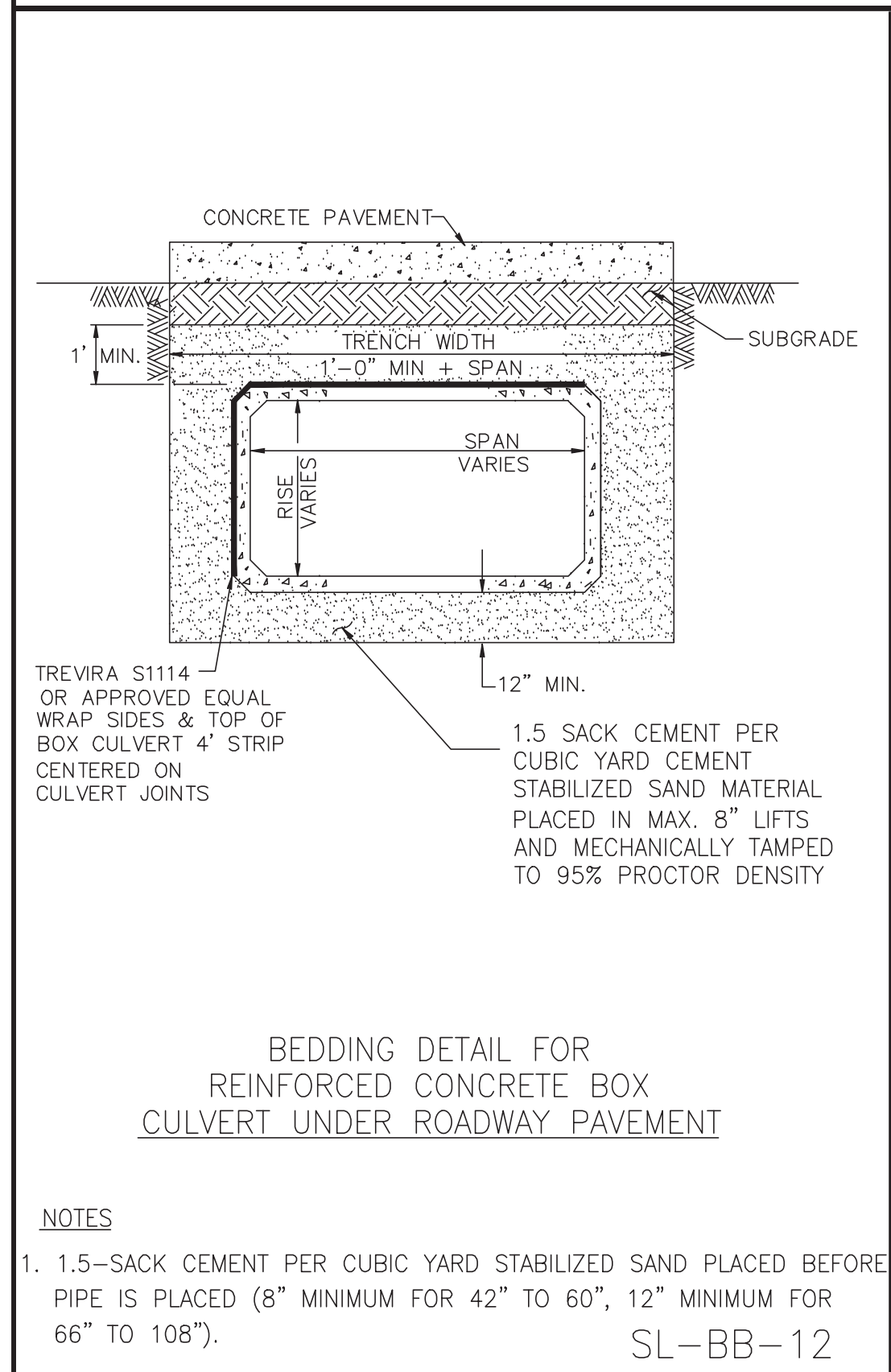
**CONSTRUCTION NOTES**

- CONTRACTOR SHALL CONTACT SUGAR LAND ENGINEERING DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED.
- SPECIFICALLY APPROVED GRANULAR MATERIAL DIMENSIONS SHOWN ARE TYPICAL BUT MAY BE VARIED BY ORDER OF CITY ENGINEER.
- SPECIFICALLY APPROVED GRANULAR MATERIAL SHALL BE IN ACCORDANCE WITH TxDOT SPECIFICATION No. 247 FLEXIBLE BASE, TYPE A, GRADE 2 AGGREGATE.
- NO BEDDING SHALL BE INSTALLED IN WET CONDITIONS. WHEN WELL POINTING OR IN WET SAND CONDITIONS, MAINTAIN GROUND WATER 1' (FT.) BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24-HRS AFTER BEDDING AND BACKFILL IS IN PLACE.
- R.C.P. AND BOX CULVERTS SHALL BE INSTALLED WITH APPROVED GASKETS ONLY.
- MANHOLES SHALL BE PROVIDED WHERE MODIFIED "A" OR MODIFIED "A-A" BEDDING IS USED. STACKS ARE NOT ALLOWED.
- REFER TO: MANHOLE DETAILS, INLETS, OUTFALL AND END TREATMENT DETAILS, C.S.S., GENERAL NOTES, AND STORM NOTES.
- SPECIFIC DESIGNS MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER FOR MANHOLE ACCESS TO BOX CULVERTS AS REQUIRED.
- ALL BACKFILL WITHIN THE R.O.W. SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- A GEOTECHNICAL REPORT MAY BE REQUIRED TO ANALYZE THE BEARING CAPACITY OF EXISTING SOILS AND MAKE A DETERMINATION IF ADDITIONAL BEDDING AND BACKFILL IS APPROPRIATE.

**TYPICAL SEAL SLAB BAR SCHEDULE (OR AS DIRECTED BY ENGINEER)**

PIPE SIZE	LGT #4 BARS	NO LONGIT #5 BARS
42"	5'4"	5
48"	6'8"	6
54"	6'8"	6
60"	8'0"	7
66"	8'0"	7
72"	9'4"	8
78"	9'4"	8
84"	9'4"	8
90"	10'8"	9
96"	10'8"	9
102"	12'0"	10
108"	12'0"	10

SL-BB-15



**BEDDING DETAIL FOR REINFORCED CONCRETE BOX CULVERT UNDER ROADWAY PAVEMENT**  
N.T.S. SL-BB-14

**REVISIONS**

No.	DATE	REVISION

DESIGN ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

**CITY OF SUGAR LAND, TEXAS**  
ENGINEERING DEPARTMENT

**CONSTRUCTION PLANS FOR:**  
**STORM SEWER PIPE BEDDING AND BACKFILL DETAILS**

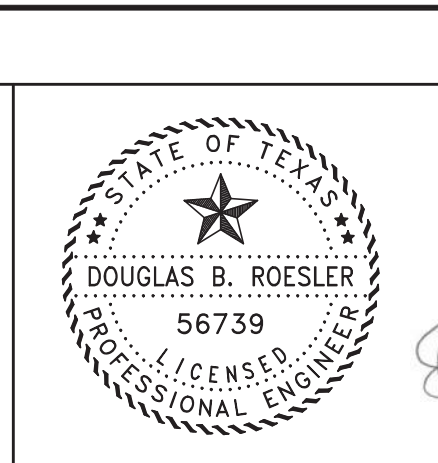
JOB No.: \_\_\_\_\_  
DATE: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
SCALE: \_\_\_\_\_

SL-20 SHEET OF

**REVISIONS**

NO.	DATE	DESCRIPTION	APPROVED

DESIGNED DR  
DRAWN BT  
CHECKED  
DATE



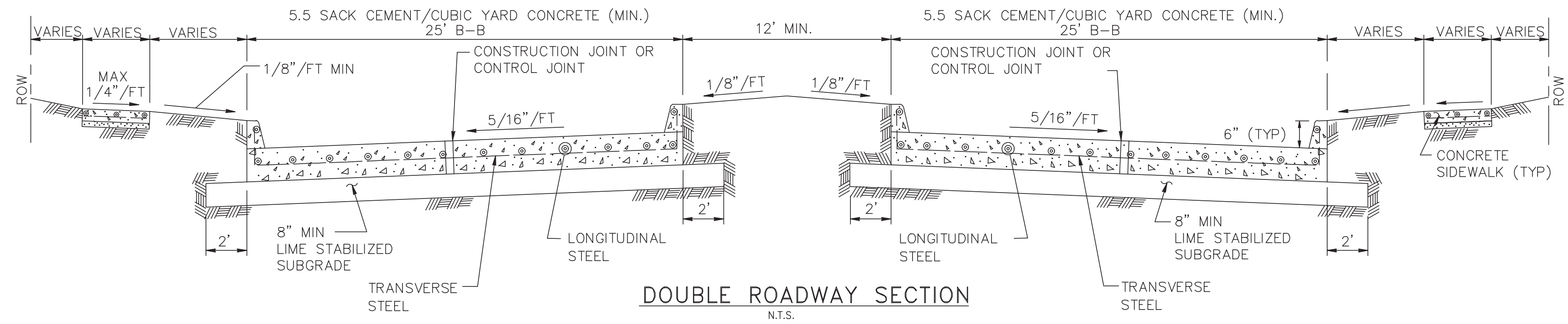
OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

**STORM SEWER PIPE BEDDING AND BACKFILL DETAILS**  
**SL-20**

PROJECT NO. 14396

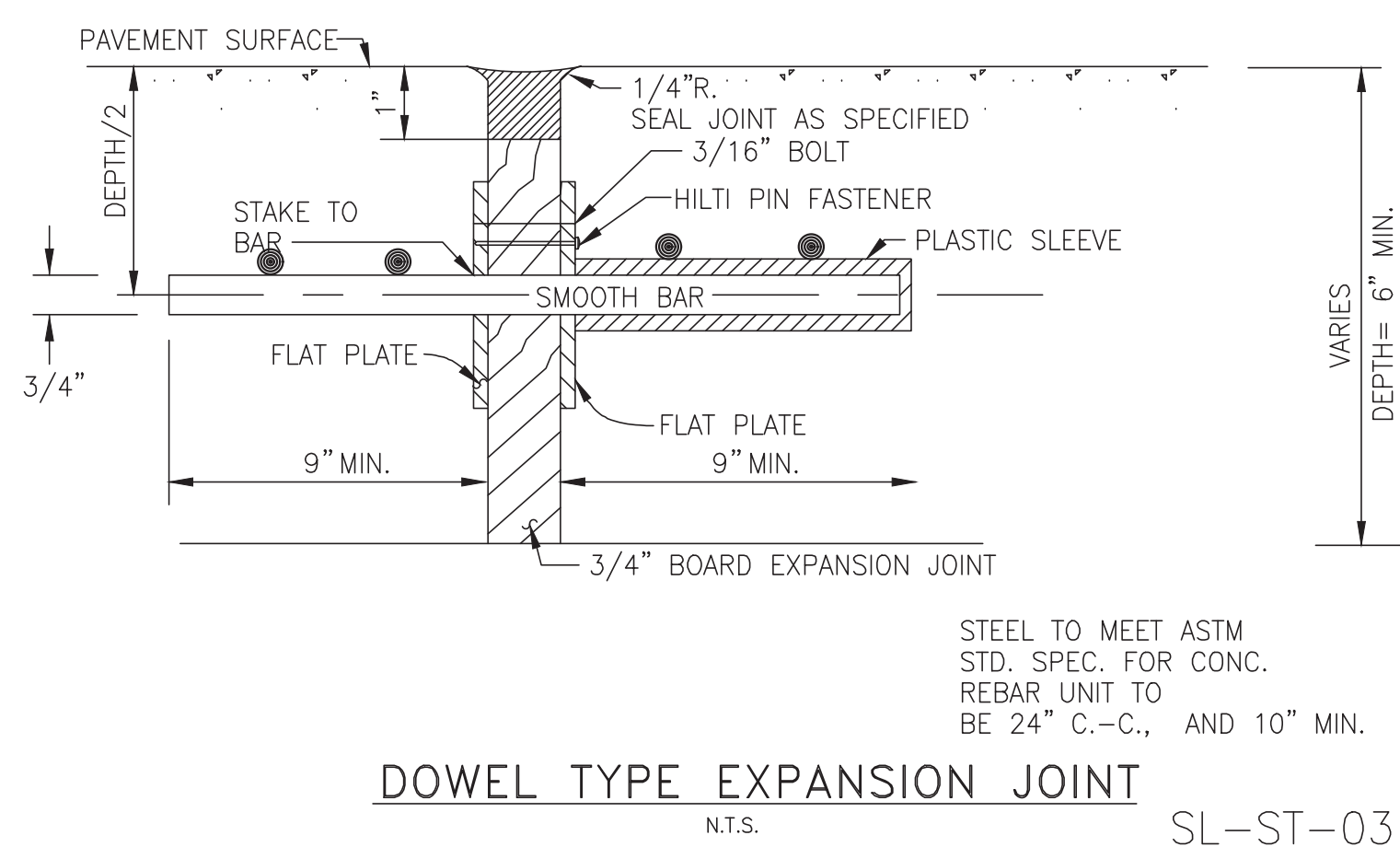


SL-ST-01

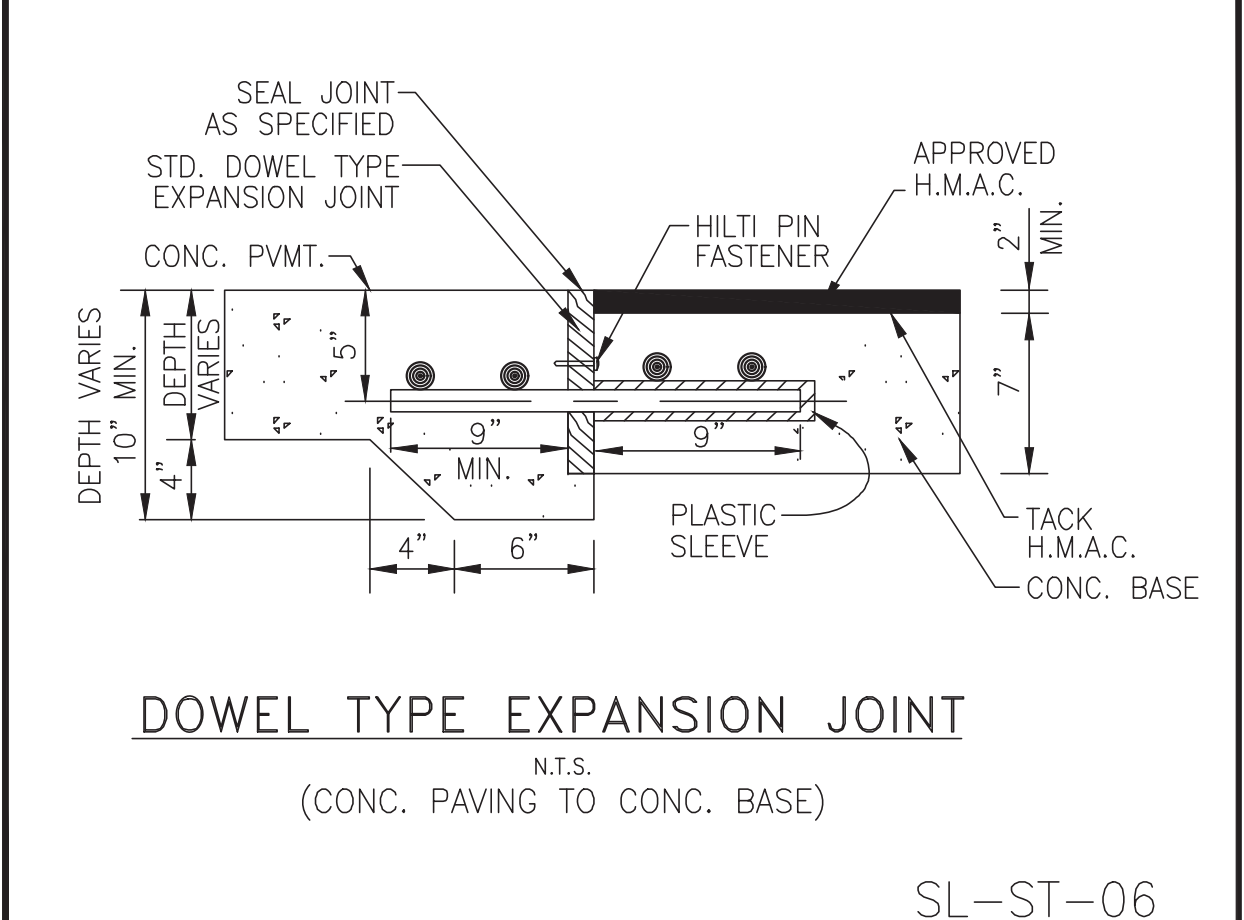
**CONSTRUCTION NOTES:**

- 6 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 24 INCHES C-C, E.W. IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR LOCAL STREETS
- 7 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 18 INCHES C-C, IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR COLLECTOR STREETS
- EIGHT (8) INCH, 5.5 SK, 3500 PSI @ 28 DAYS, REINFORCED WITH #4 18" C.C. EACH WAY IS THE MINIMUM ACCEPTABLE FOR ARTERIAL STREETS.
- HARD AGGREGATE IS NOT ALLOWED IN STREET PAVEMENT MIX. ADMIXTURES REQUIRE CITY OF SUGAR LAND PUBLIC WORKS DEPARTMENT APPROVAL.
- TRANSVERSE EXPANSION JOINTS SHALL BE PLACED AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY AND ALL INTERSECTION CURB RETURN POINTS. MAXIMUM SPACING SHALL BE 200' AND BE SEALED WITH SEALANT CONFORMING TO TXDOT ITEM 360 (& ITEM 438) AND TXDOT DMS-6310, CLASS-2.
- TRANSVERSE CONTROL JOINTS ARE REQUIRED AT MAXIMUM SPACING OF 20'-0" C-C, AND VERTICAL CURB JOINTS TO BE SEALED WITH SPECIAL JOINT SEALANT ASTM-D-1190-74 OR AASHTO-M173-60 FOR PAVEMENT 8" THICK AND GREATER. (ELASTOMERIC TYPE HOT Poured)
- PAVEMENT FINISH SHALL BE BAKER BROOM FINISH. CURING COMPOUND REQUIRED ON ALL CONCRETE.
- STORM WATER POLLUTION PROTECTION SHALL BE DESIGNED, CONSTRUCTED, MAINTAINED AND SHALL BE IN TOTAL COMPLIANCE WITH THE STORM QUALITY MANUAL OF THE CITY OF SUGAR LAND. CITY ENGINEER'S APPROVAL.
- REFER TO GENERAL, C.S.S., AND PAVEMENT NOTES.

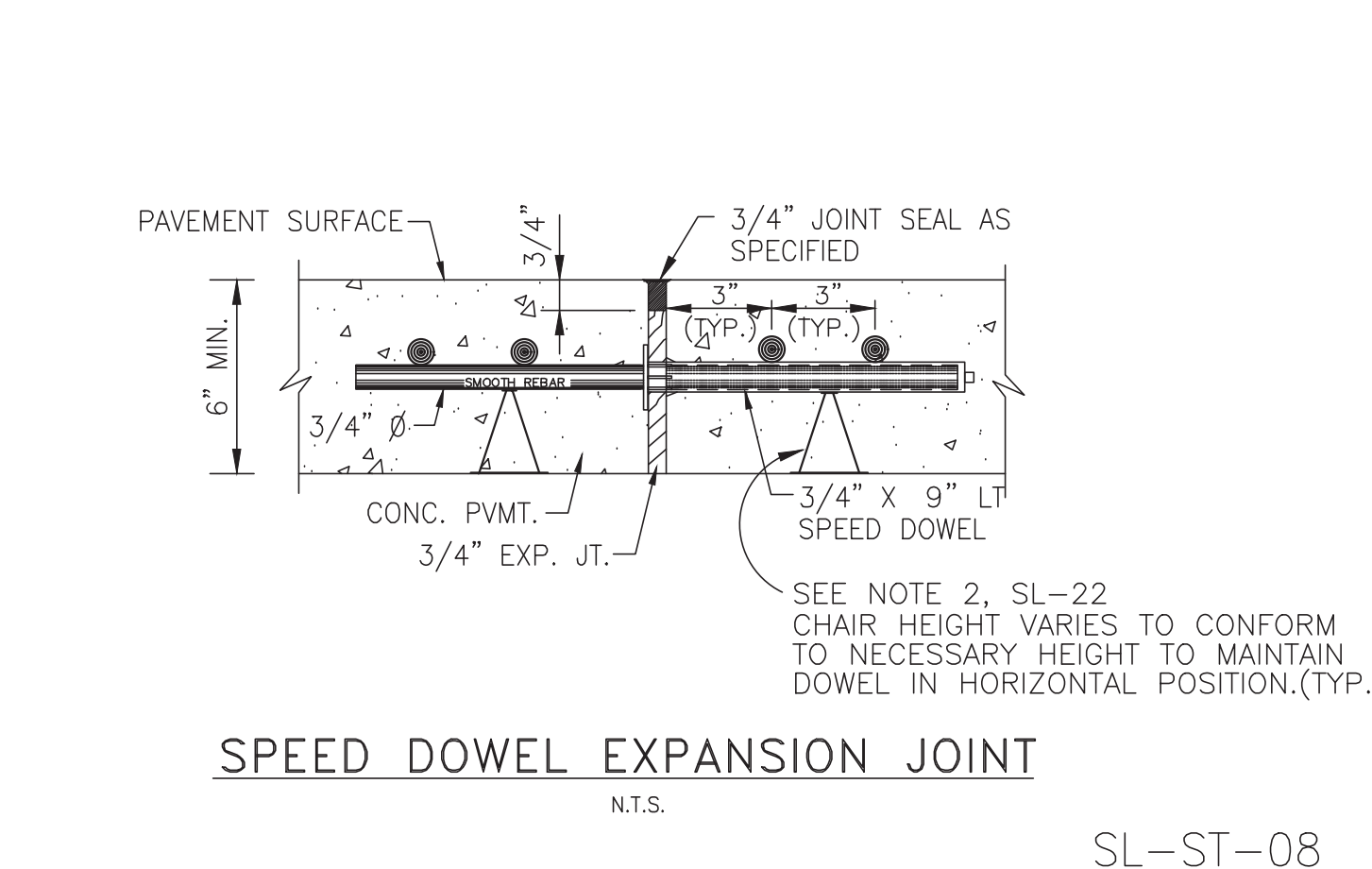
SL-ST-12



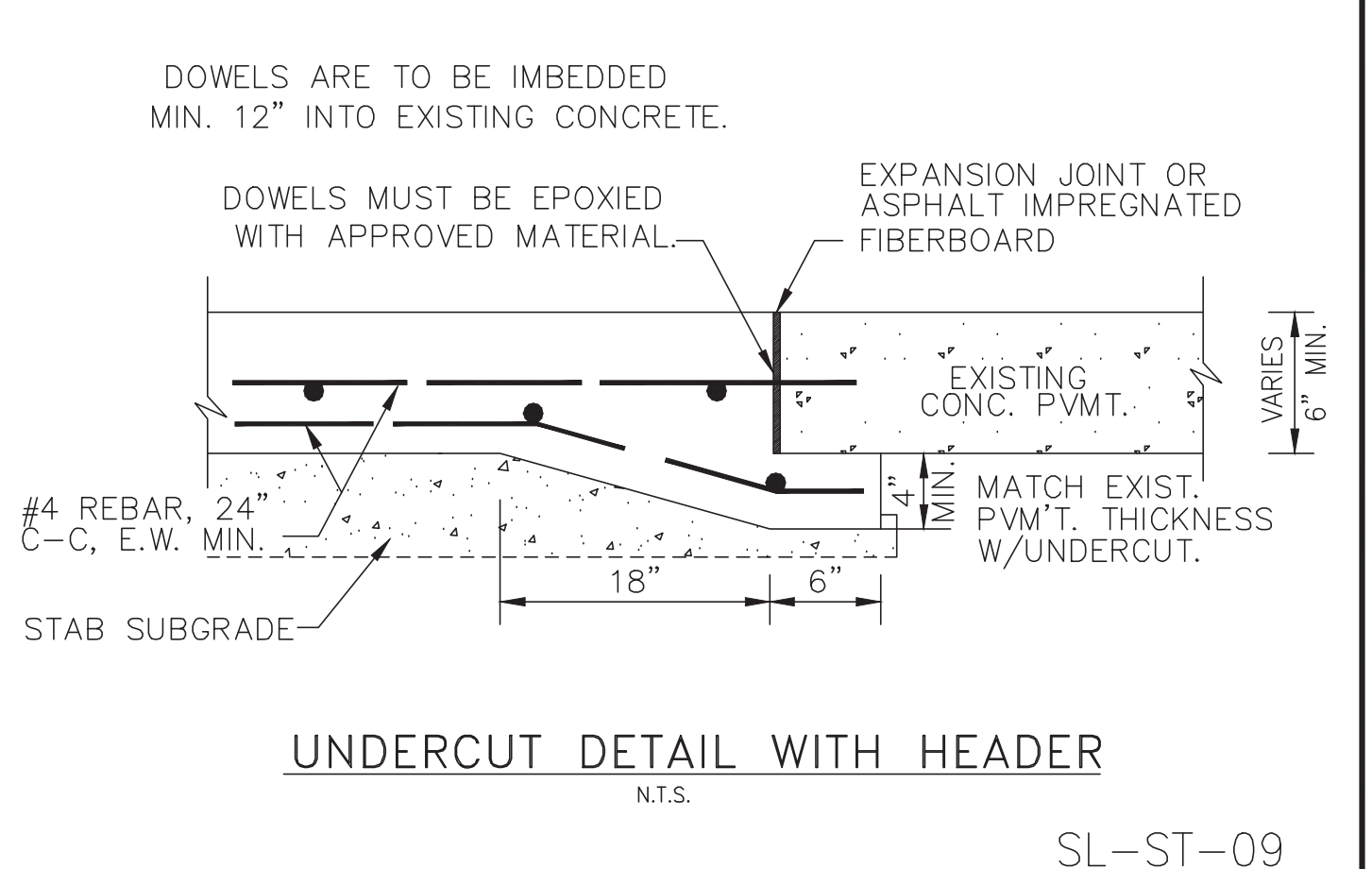
DOWEL TYPE EXPANSION JOINT N.T.S. SL-ST-03



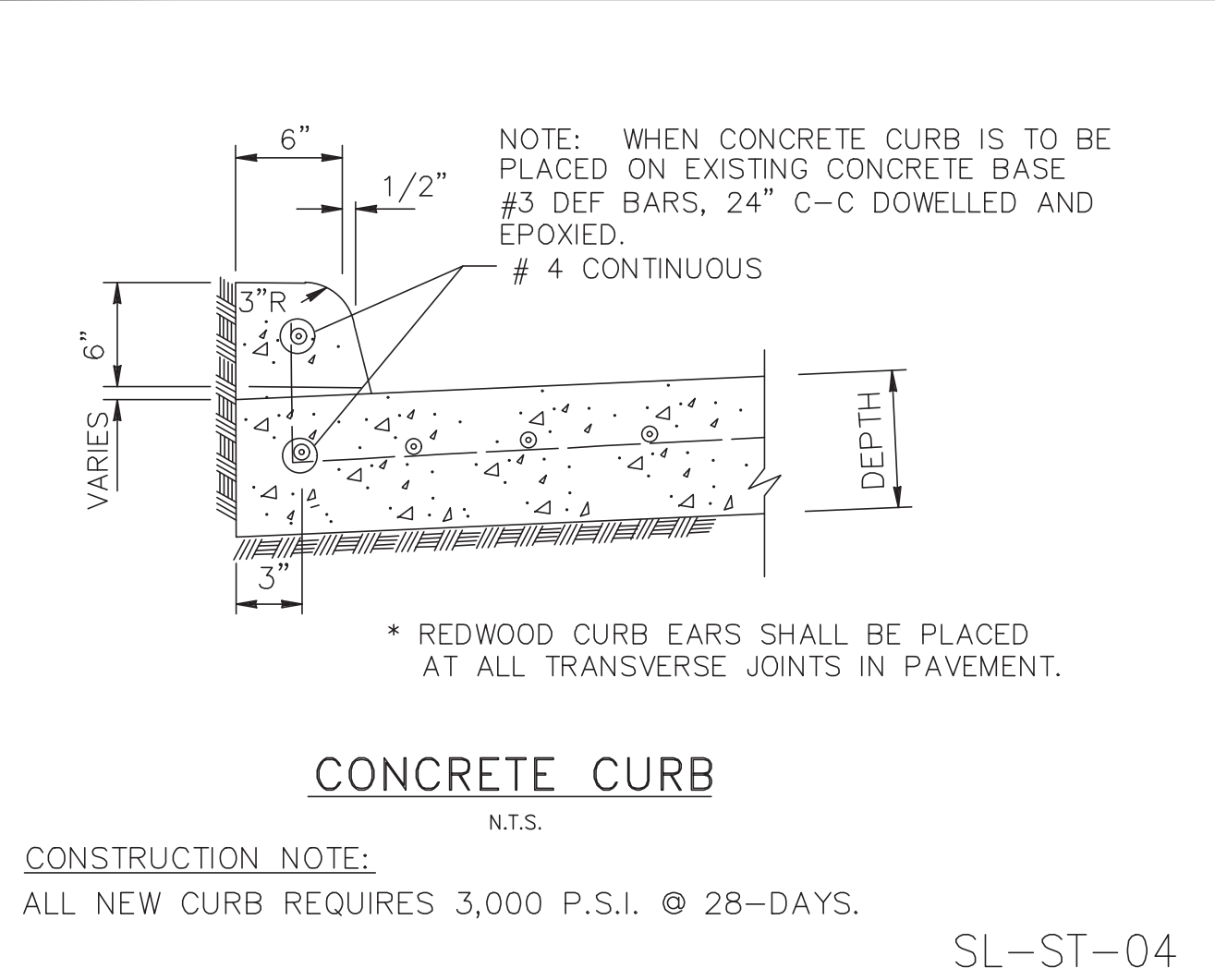
DOWEL TYPE EXPANSION JOINT (CONC. PAVING TO CONC. BASE) N.T.S. SL-ST-06



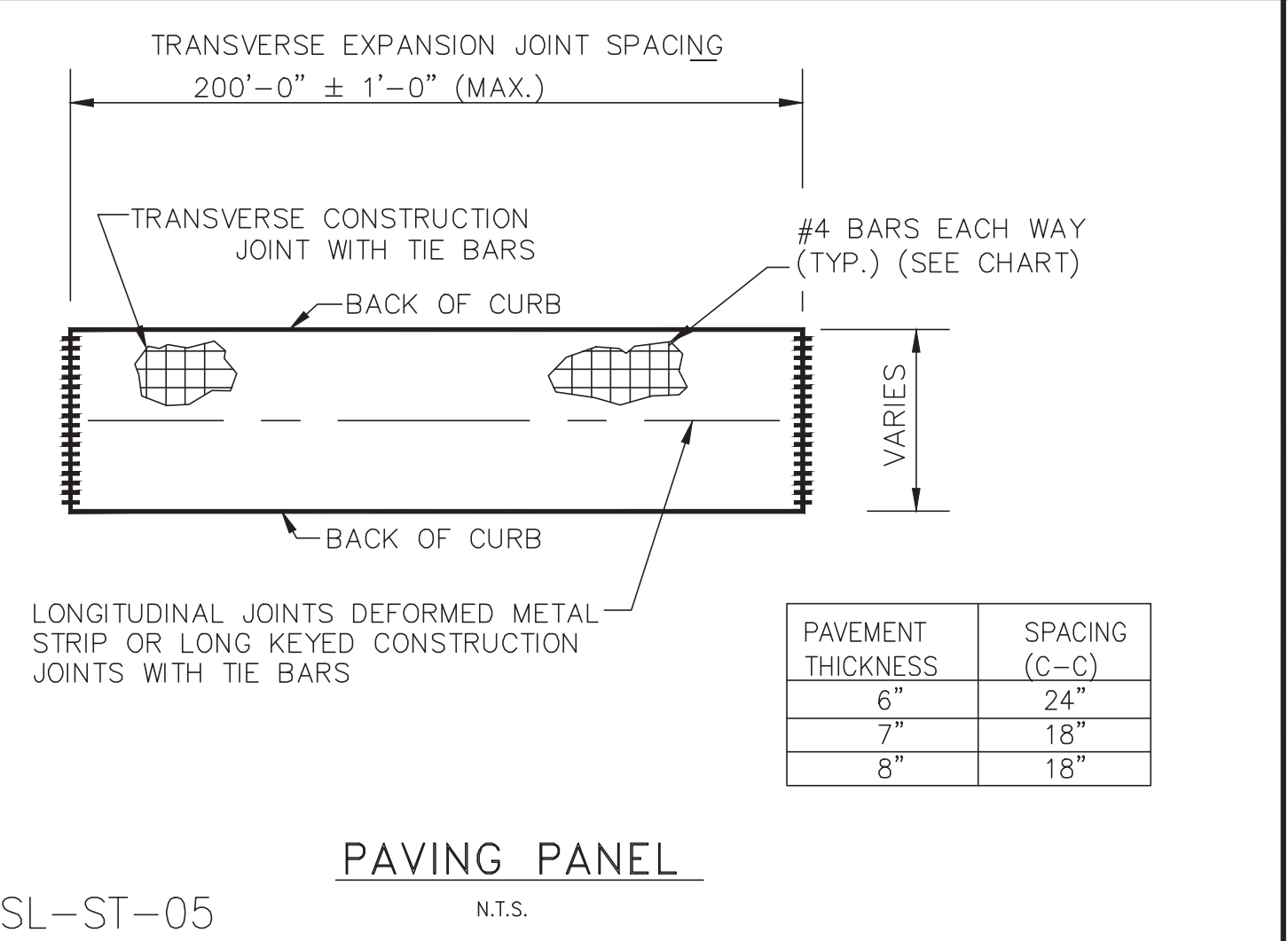
SPEED DOWEL EXPANSION JOINT N.T.S. SL-ST-08



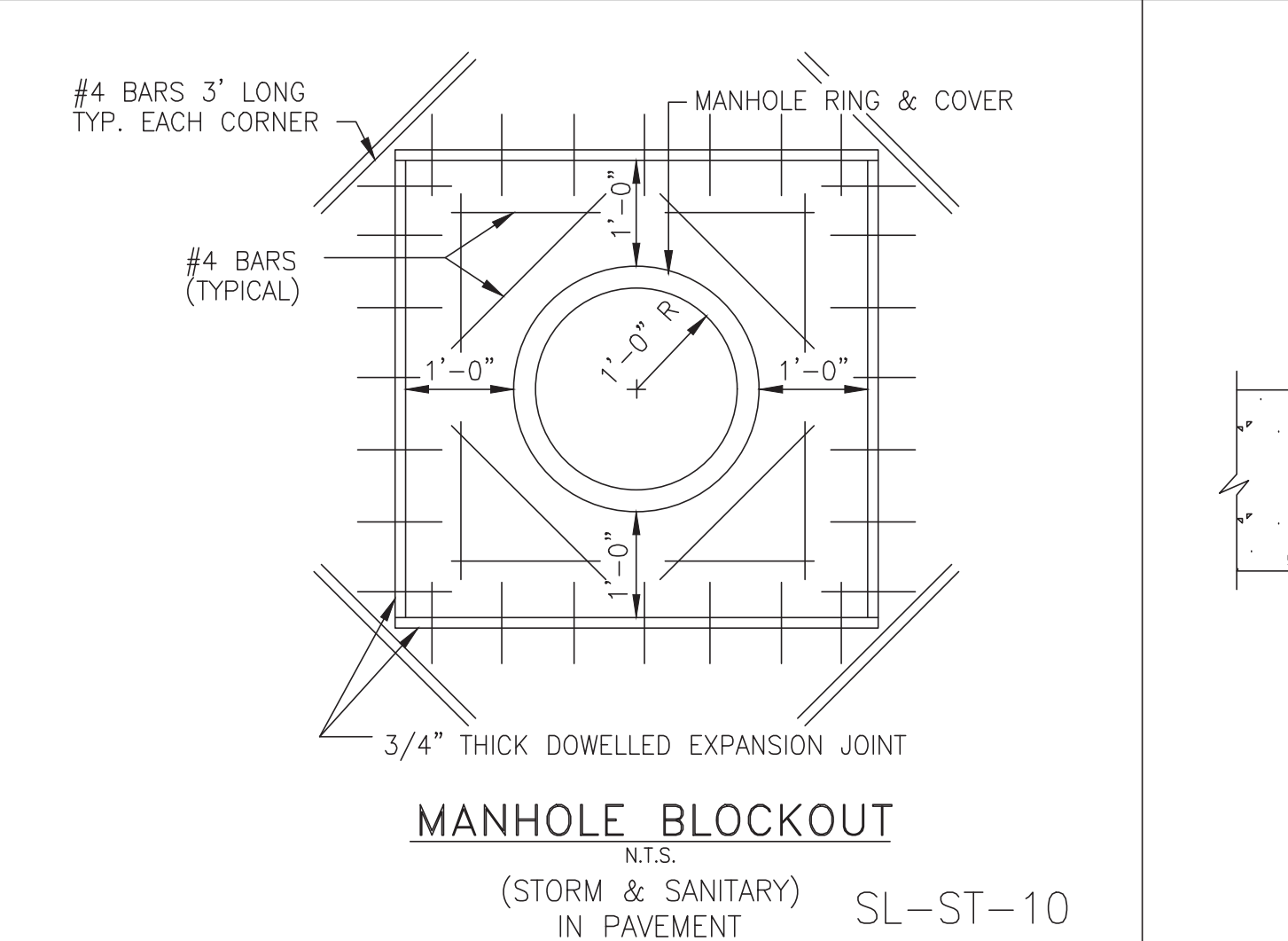
UNDERCUT DETAIL WITH HEADER N.T.S. SL-ST-09



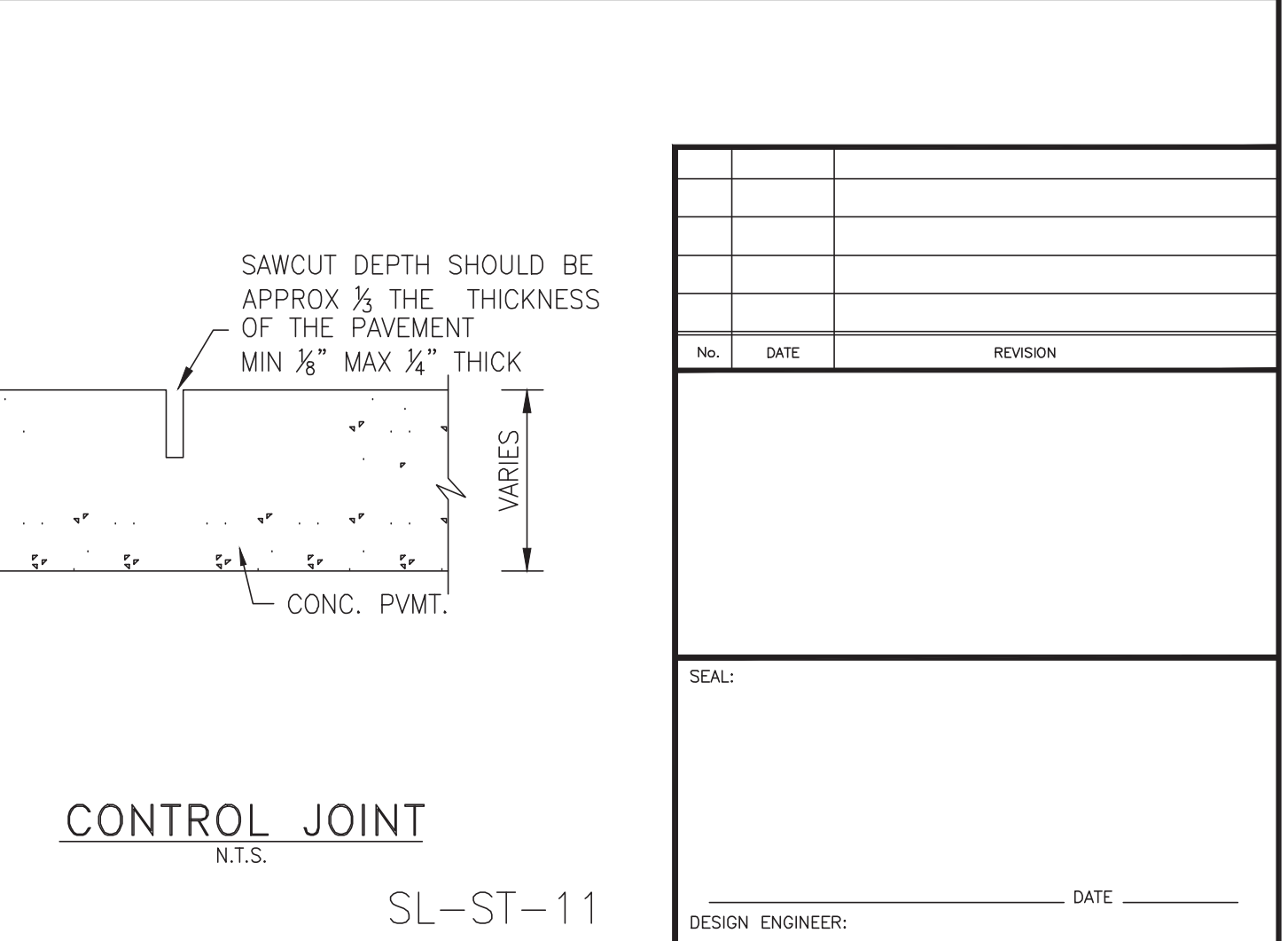
CONCRETE CURB N.T.S. SL-ST-04



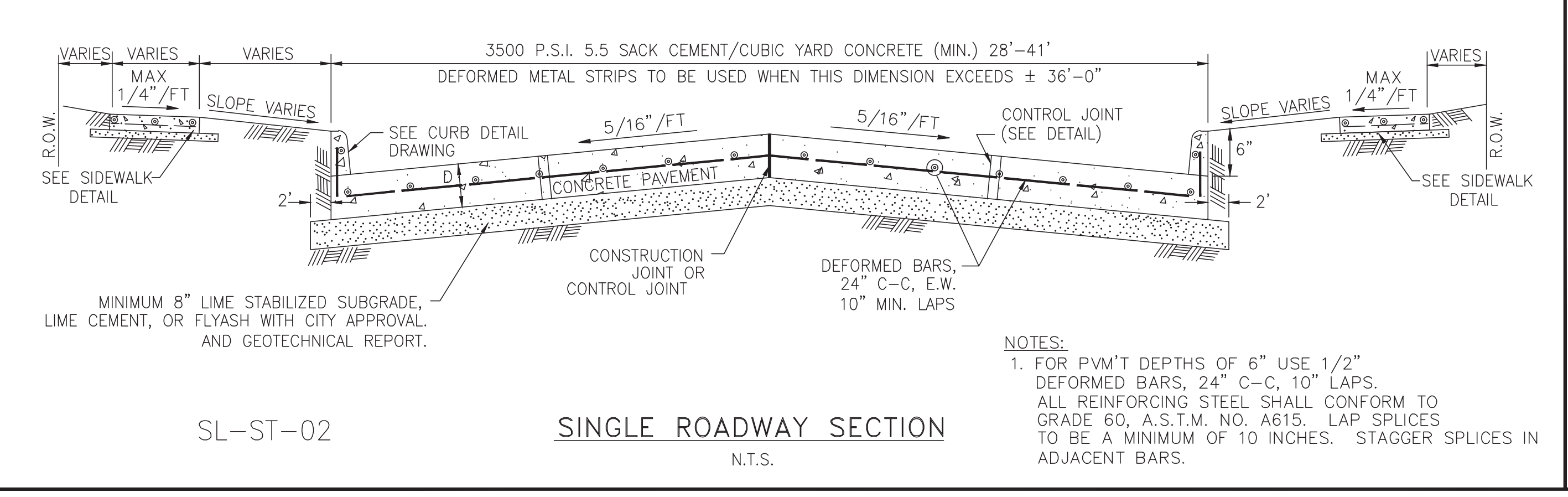
PAVING PANEL N.T.S. SL-ST-05



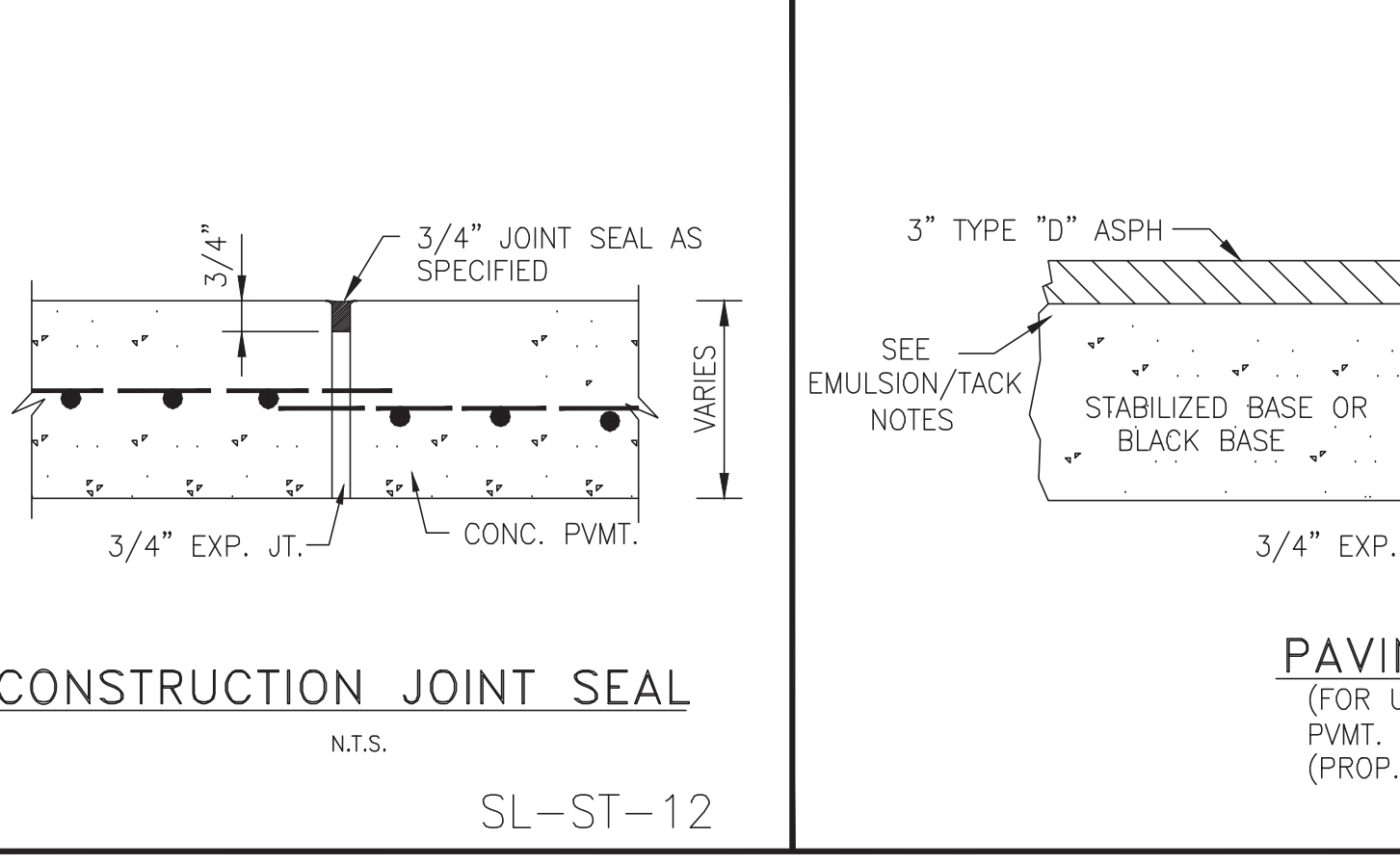
MANHOLE BLOCKOUT N.T.S. (STORM & SANITARY) IN PAVEMENT SL-ST-10



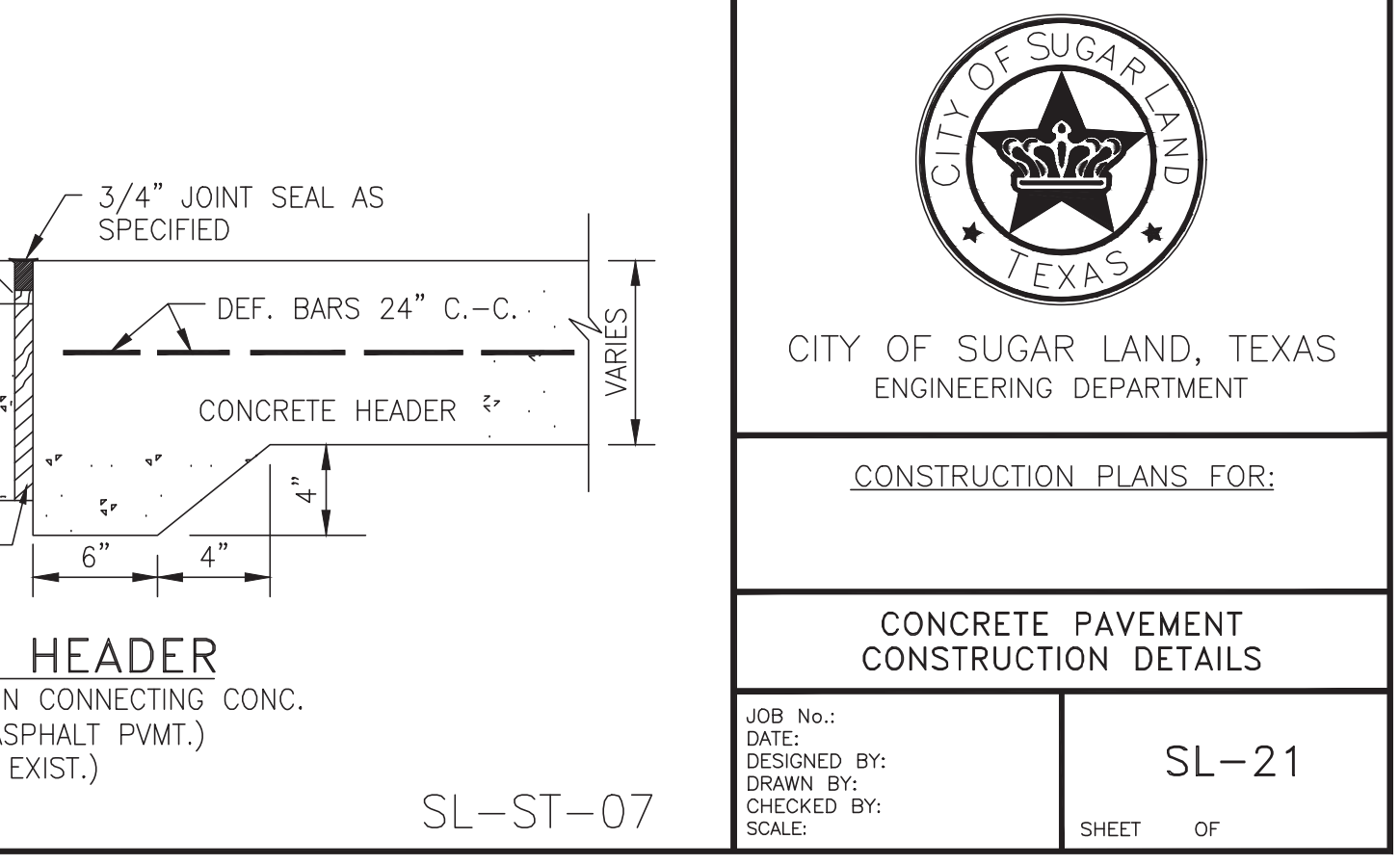
CONTROL JOINT N.T.S. SL-ST-11



SINGLE ROADWAY SECTION N.T.S. SL-ST-02



CONSTRUCTION JOINT SEAL N.T.S. SL-ST-12



PAVING HEADER (FOR USE IN CONNECTING CONC. P.V.M.T. TO ASPHALT P.V.M.T.) (PROP. OR EXIST.) SL-ST-07

No.	DATE	REVISION

DESIGN ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

CITY OF SUGAR LAND, TEXAS  
 ENGINEERING DEPARTMENT  
 CONSTRUCTION PLANS FOR:  
**CONCRETE PAVEMENT CONSTRUCTION DETAILS**  
 JOB No.: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 SCALE: \_\_\_\_\_

SL-21 SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

BAKER & LAWSON, INC.  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-8681  
 REG. NO. F-825

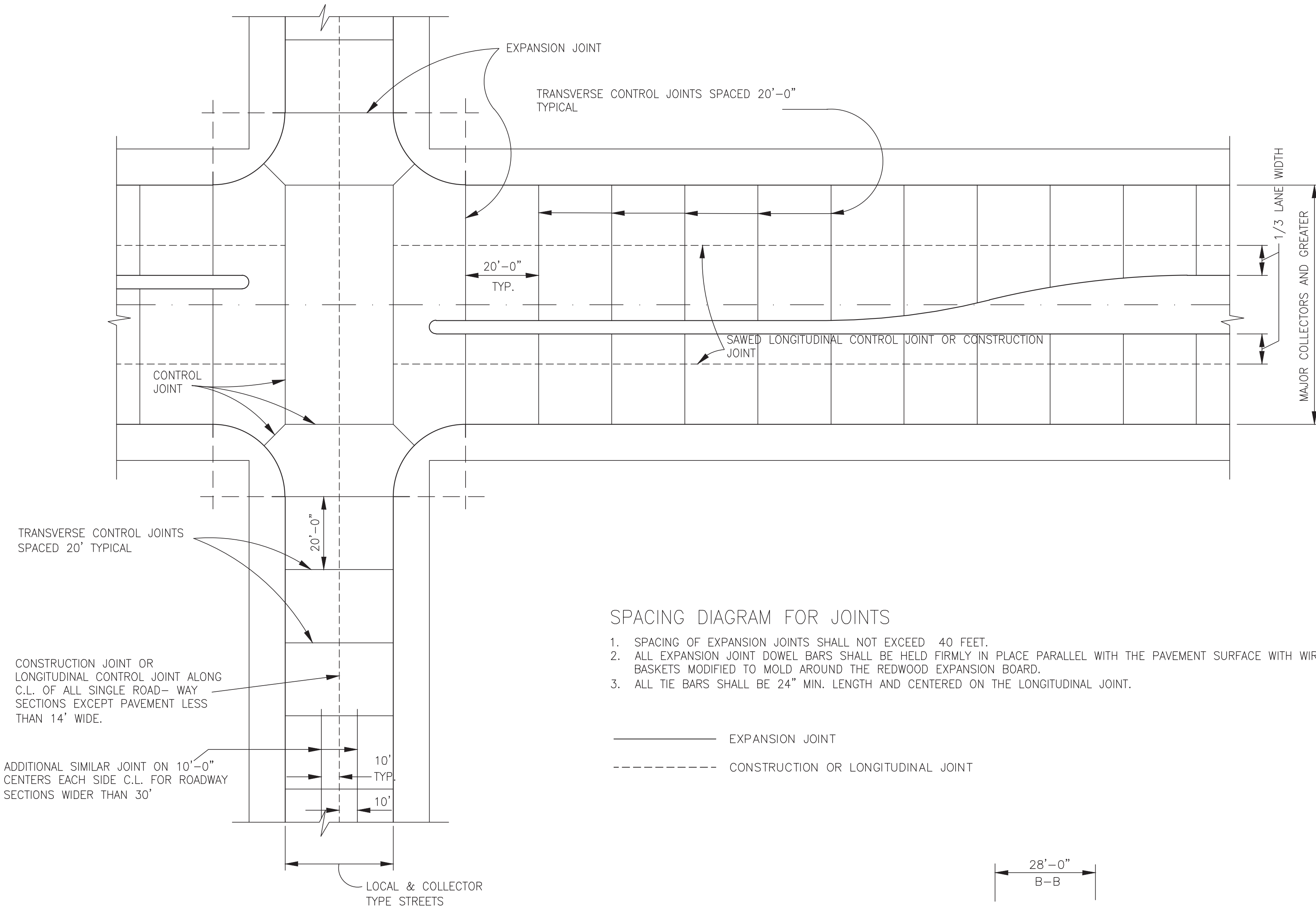
The seal appearing on this document was authorized by Douglas B. Roessler P.E. 56739  
 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
 6115 SKYLINE DR. STE A.  
 HOUSTON, TEXAS 77057

PLAN: \_\_\_\_\_  
 PROFILE: \_\_\_\_\_  
 HORIZONTAL: \_\_\_\_\_  
 VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
 SECTIONS 3 & 4  
 A 35.620 AC, 145-LOT SUBDIVISION  
 ANGLETON, TEXAS 77515

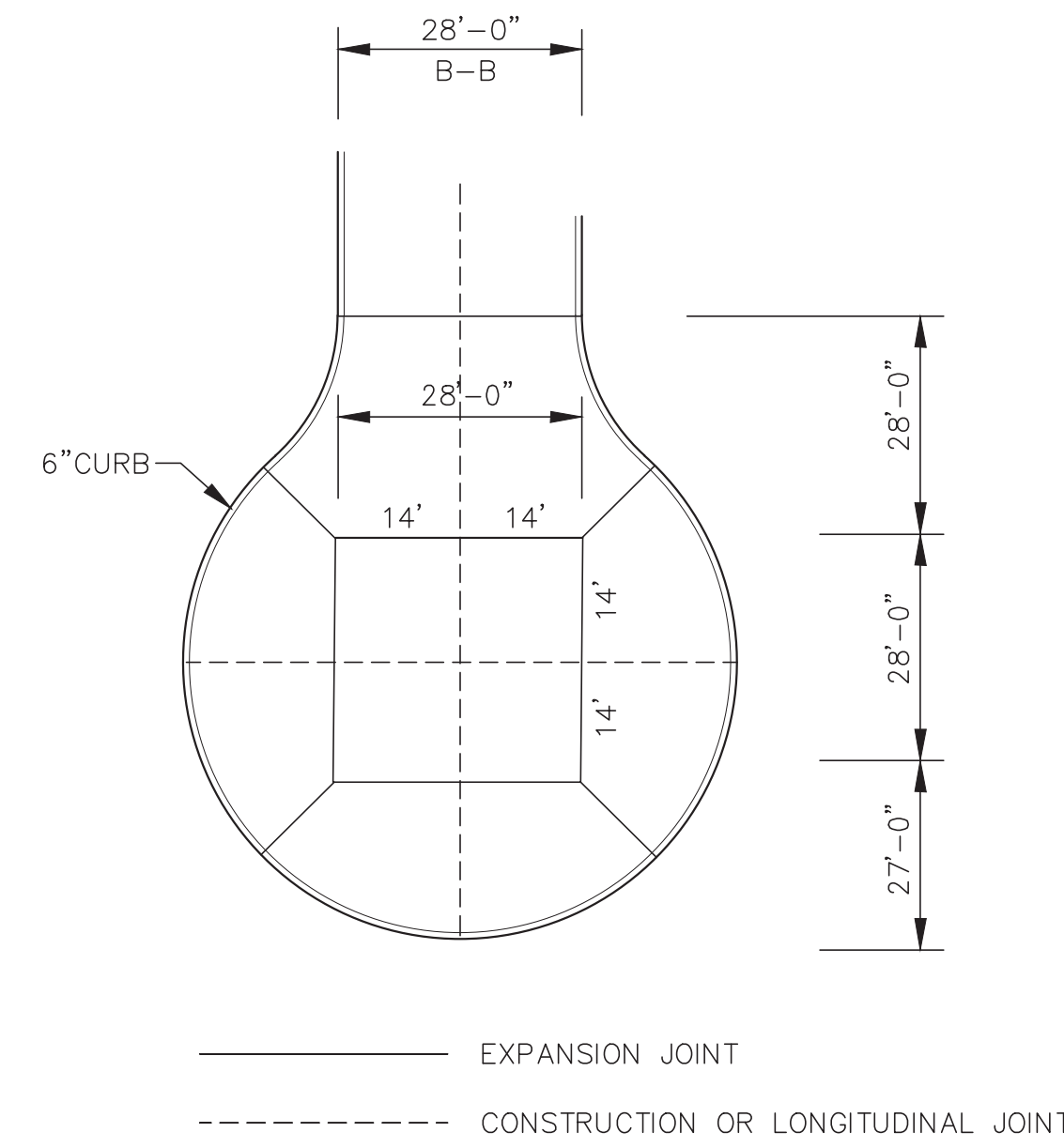
CONCRETE PAVEMENT CONSTRUCTION DETAILS  
 SL-21  
 PROJECT NO. 14396




**SPACING DIAGRAM FOR JOINTS**

1. SPACING OF EXPANSION JOINTS SHALL NOT EXCEED 40 FEET.
2. ALL EXPANSION JOINT DOWEL BARS SHALL BE HELD FIRMLY IN PLACE PARALLEL WITH THE PAVEMENT SURFACE WITH WIRE BASKETS MODIFIED TO MOLD AROUND THE REDWOOD EXPANSION BOARD.
3. ALL TIE BARS SHALL BE 24" MIN. LENGTH AND CENTERED ON THE LONGITUDINAL JOINT.

————— EXPANSION JOINT  
 - - - - - CONSTRUCTION OR LONGITUDINAL JOINT



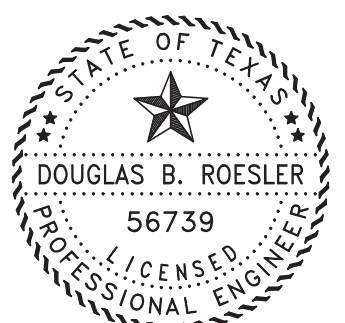
TYPICAL JOINT LAYOUT FOR CUL-DE-SAC

No.	DATE	REVISION
SEAL:		
DESIGN ENGINEER: _____ DATE _____		
 CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT		
CONSTRUCTION PLANS FOR:		
CONCRETE PAVEMENT CONSTRUCTION DETAILS		
JOB No.:	DATE:	SL-22
DESIGNED BY:	DRAWN BY:	CHECKED BY:
SCALE:	SHEET OF	

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
 DRAWN BT  
 CHECKED \_\_\_\_\_  
 DATE \_\_\_\_\_

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 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6661  
 REG. NO. F-825

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 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

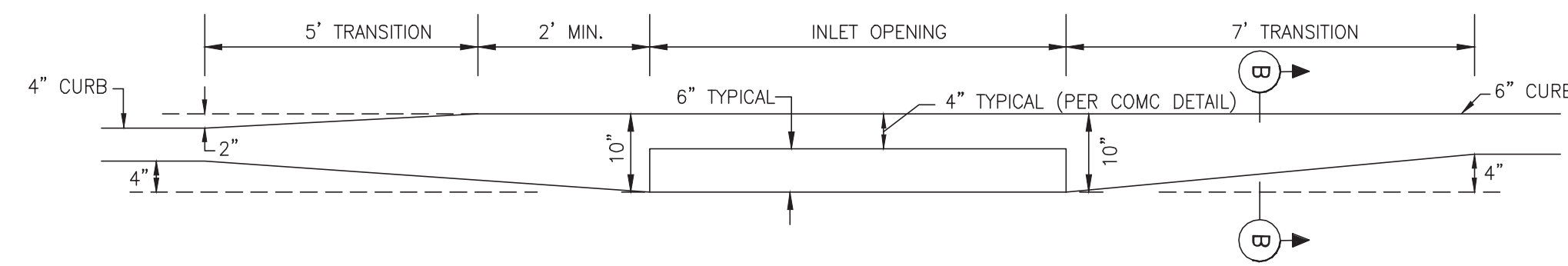
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 PROFILE: \_\_\_\_\_  
 HORIZONTAL: \_\_\_\_\_  
 VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

CONCRETE PAVEMENT  
 CONSTRUCTION DETAILS  
 SL-22

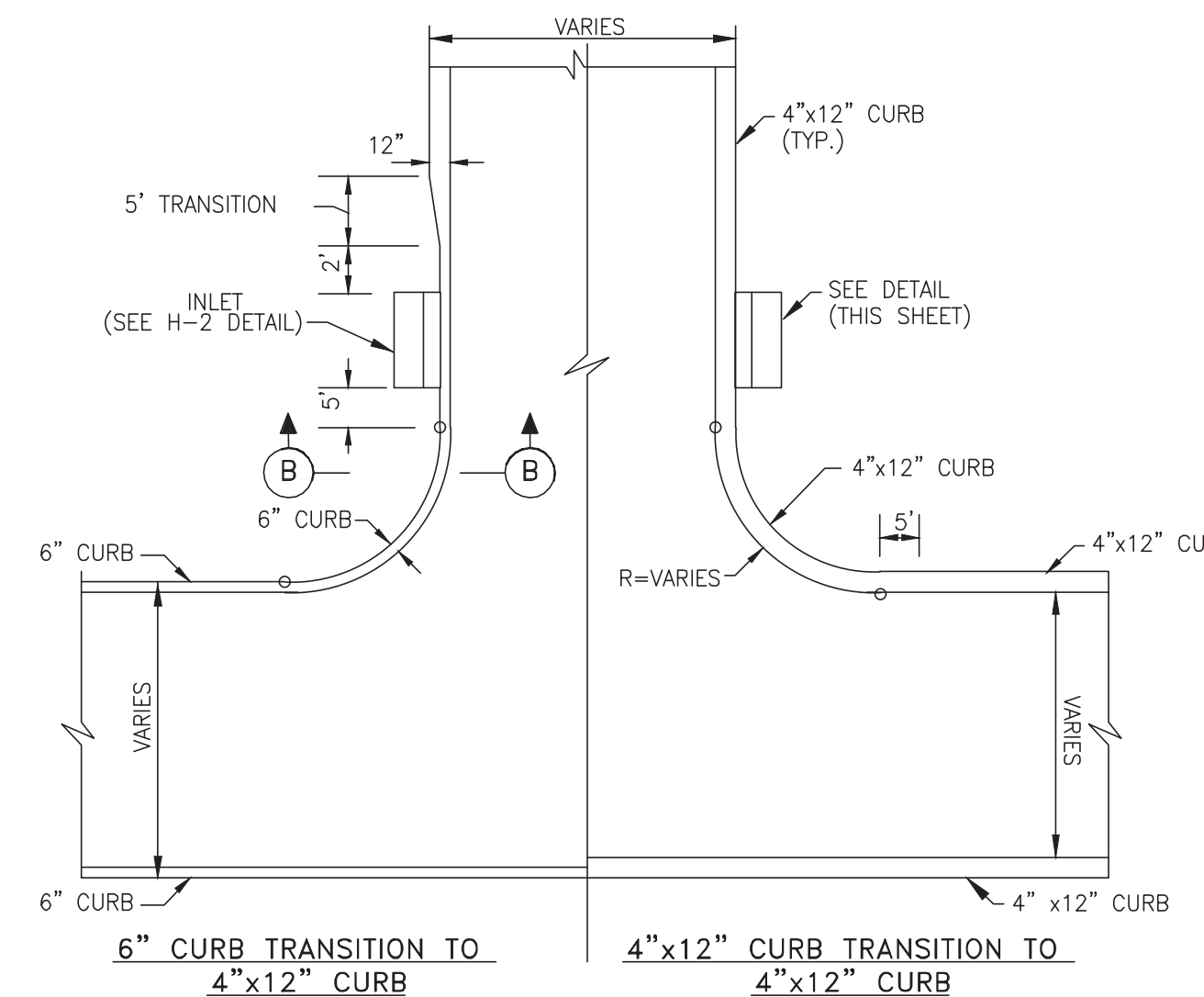
PROJECT NO. 14396





TYPICAL CURB TRANSITION FOR INLET INSTALLATION

SL-ST-13



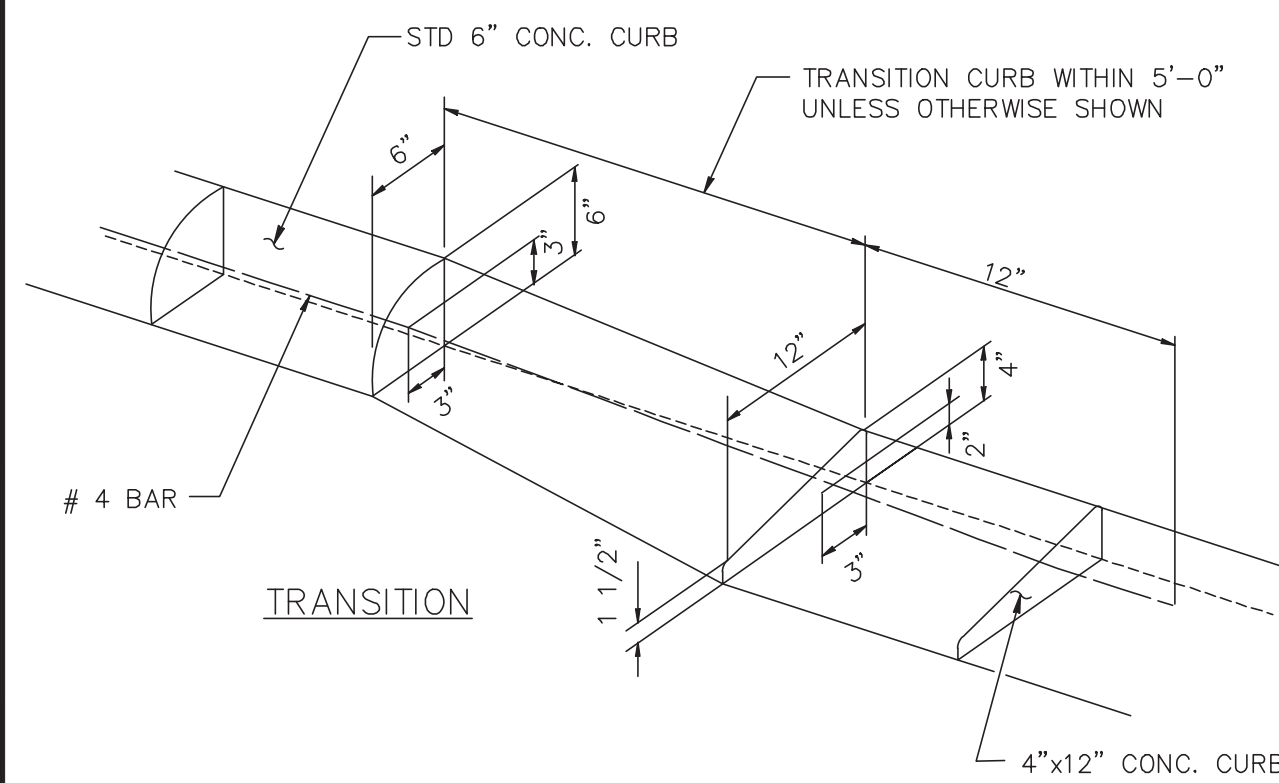
TYPICAL 4"X12" CURB W/INLET TRANSITION FOR CURB RETURNS

SL-ST-14

CONSTRUCTION NOTES:

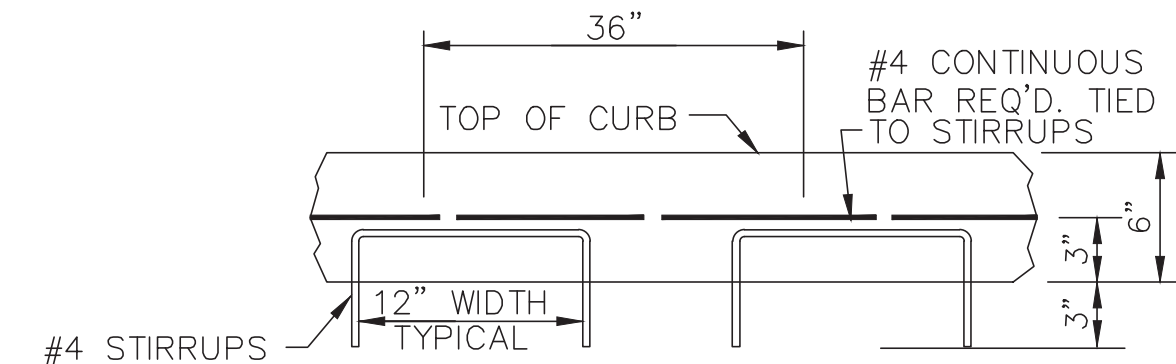
- 6 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 24 INCHES C-C, E.W. IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR RESIDENTIAL STREETS.
- 7 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 24 INCHES C-C, IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR COLLECTOR STREETS
- EIGHT (8) INCH, 5.5 SK, 3500 PSI @ 28 DAYS, REINFORCED WITH #4 18" C.C. EACH WAY IS THE MINIMUM ACCEPTABLE FOR ARTERIAL STREETS.
- TRANSVERSE EXPANSION JOINTS SHALL BE PLACED AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY AND ALL INTERSECTION CURB RETURN POINTS. MAXIMUM SPACING SHALL BE 200' AND BE SEALED CONFORMING TO TXDOT ITEM 360 (& ITEM 438) AND TXDOT DMS-6310, CLASS-2.
- TRANSVERSE CONTROL JOINTS ARE REQUIRED AT MAXIMUM SPACING OF 20'-0" C-C, AND VERTICAL CURB JOINTS TO BE SEALED WITH SPECIAL JOINT SEALANT ASTM-D-1190-74 OR AASHTO-M173-60 FOR PAVEMENT 8" THICK AND GREATER. (ELASTONETRIC TYPE HOT Poured)
- PAVEMENT FINISH SHALL BE BAKER BROOM FINISH. CURING COMPOUND ON ALL CONCRETE.
- STORM WATER POLLUTION PROTECTION SHALL BE DESIGNED, CONSTRUCTED, MAINTAINED AND SHALL BE IN TOTAL COMPLIANCE WITH THE STORM WATER QUALITY MANUAL OF THE CITY OF SUGAR LAND.
- UNSTABLE SUBGRADE SHALL BE EXCAVATED AND REPLACED WITH CEMENT STABILIZED SAND.
- USE 1"x2" REDWOOD STAKES FOR HEADERS.
- EDGE ALL SIDES WITH EDGING TOOL.
- DOWEL SHALL BE 3/4" DIAMETER, WITH MINIMUM 8" PENETRATION (BOTH SIDES).
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF SUGAR LAND OF ANY BIRDBATH PROBLEMS PRIOR TO CONSTRUCTION OF DRIVEWAY.
- REFER TO GENERAL, C.S.S., AND PAVEMENT NOTES.
- 1.0 LBS. OF APPROVED POLYPROPYLENE FIBER MESH PER C/Y IN 4"X12" CURBS REQUIRED.

SL-ST-20



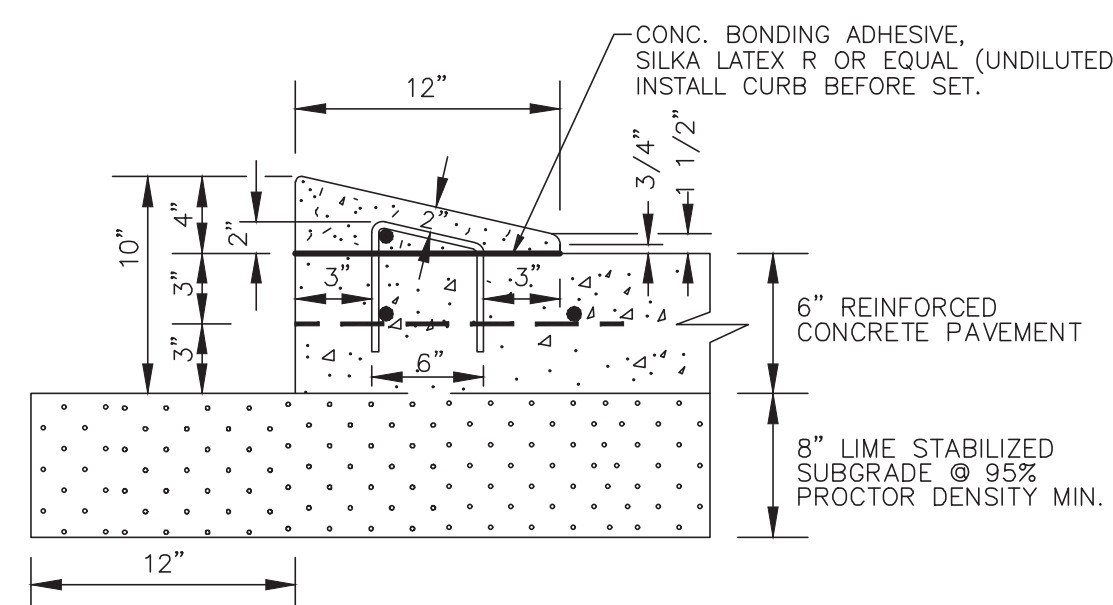
TYPICAL CURB TRANSITION

SL-ST-15



TYPICAL CONCRETE CURB REINFORCING

SL-ST-16

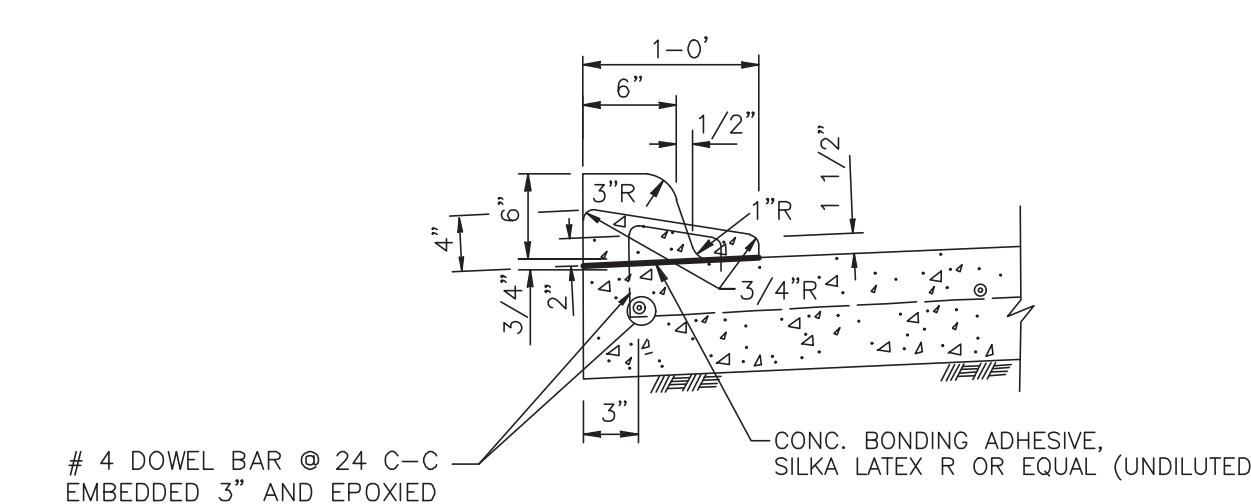


4"X12" MOUNTABLE CONCRETE CURB

NOTES:

- 1.0 LBS. OF APPROVED NON-METALLIC FIBER MESH PER C/Y IN 4"X12" CURBS.
- #3 RE-BAR STIRRUPS TO BE PLACED AT INTERVALS OF 2' (FT) C-C.
- #4 RE-BAR LONGITUDINAL SHALL BE TIED TO EACH STIRRUP
- MOUNTABLE CURB ONLY ALLOWED ON < 41' (FT), UNDIVIDED, RESIDENTIAL ROADWAYS WITHIN SUBDIVISIONS.

SL-ST-17



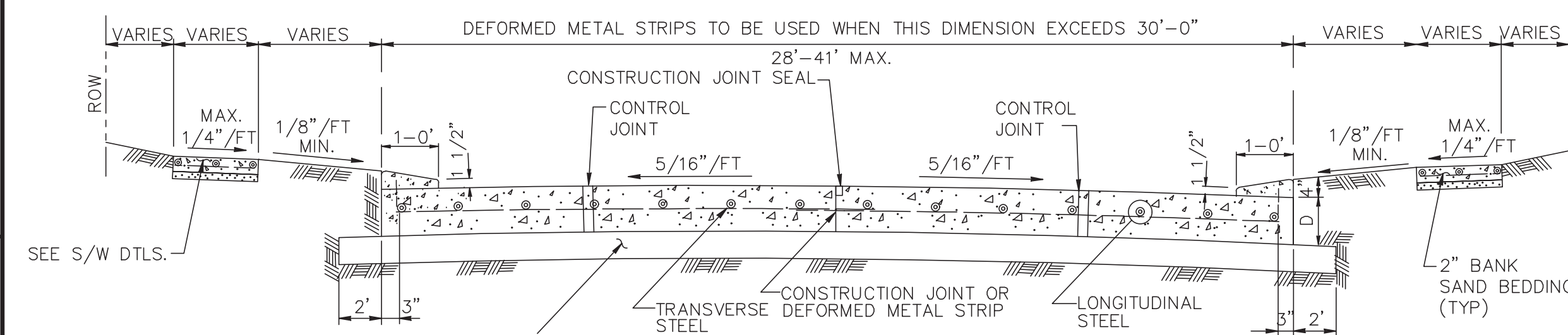
4-INCH x 12-INCH TRANSITION CURB

SL-ST-18

4"X12" MOUNTABLE CONCRETE CURB AND TRANSITION CURB NOTES:

- 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6-INCH CONCRETE CURB OR 4-INCH x 12-INCH CONCRETE CURB AS NOTED ON PLANS.
- ALL 4-INCH x 12-INCH CONCRETE CURBS TO BE POURED SEPARATE FROM PROPOSED CONCRETE PAVEMENT.
- TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH x 12-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 5 FEET (TYP.), UNLESS OTHERWISE SHOWN. REINFORCING STEEL AS SHOWN IN "4-INCH x 12-INCH TRANSITION CURB" DETAIL IS TO BE INSTALLED.

SL-ST-20



TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH 4"X12" CURB

\* SEE 4" x 12" MOUNTABLE CURB DETAIL (THIS SHEET)

SL-ST-19

No.	DATE	REVISION

DESIGN ENGINEER: \_\_\_\_\_ DATE \_\_\_\_\_



CITY OF SUGAR LAND, TEXAS  
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

RESIDENTIAL CURB CONSTRUCTION DETAILS

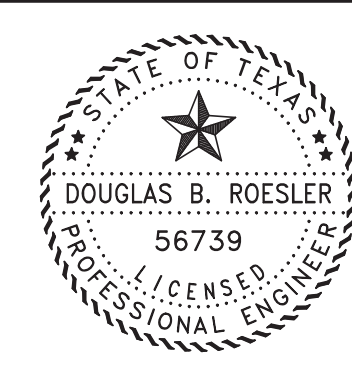
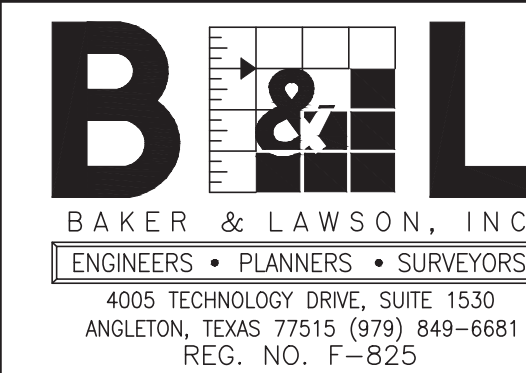
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DATE: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
SCALE: \_\_\_\_\_

SL-23

SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

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DATE \_\_\_\_\_



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03-03-2023

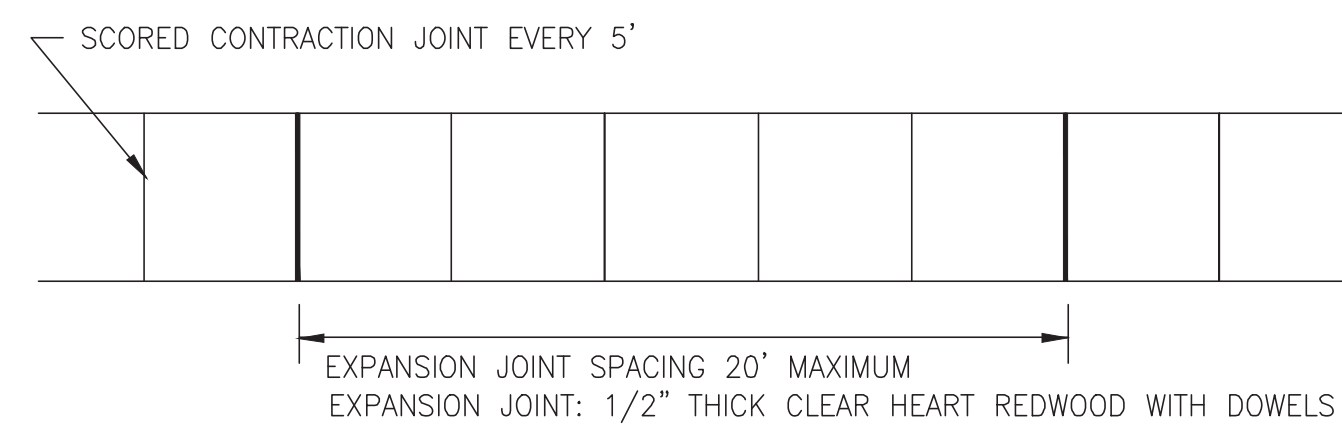
OWNER:  
RIVERWAY PROPERTIES  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

RIVERWOOD RANCH SUBDIVISION  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

RESIDENTIAL CURB CONSTRUCTION DETAILS  
SL-23

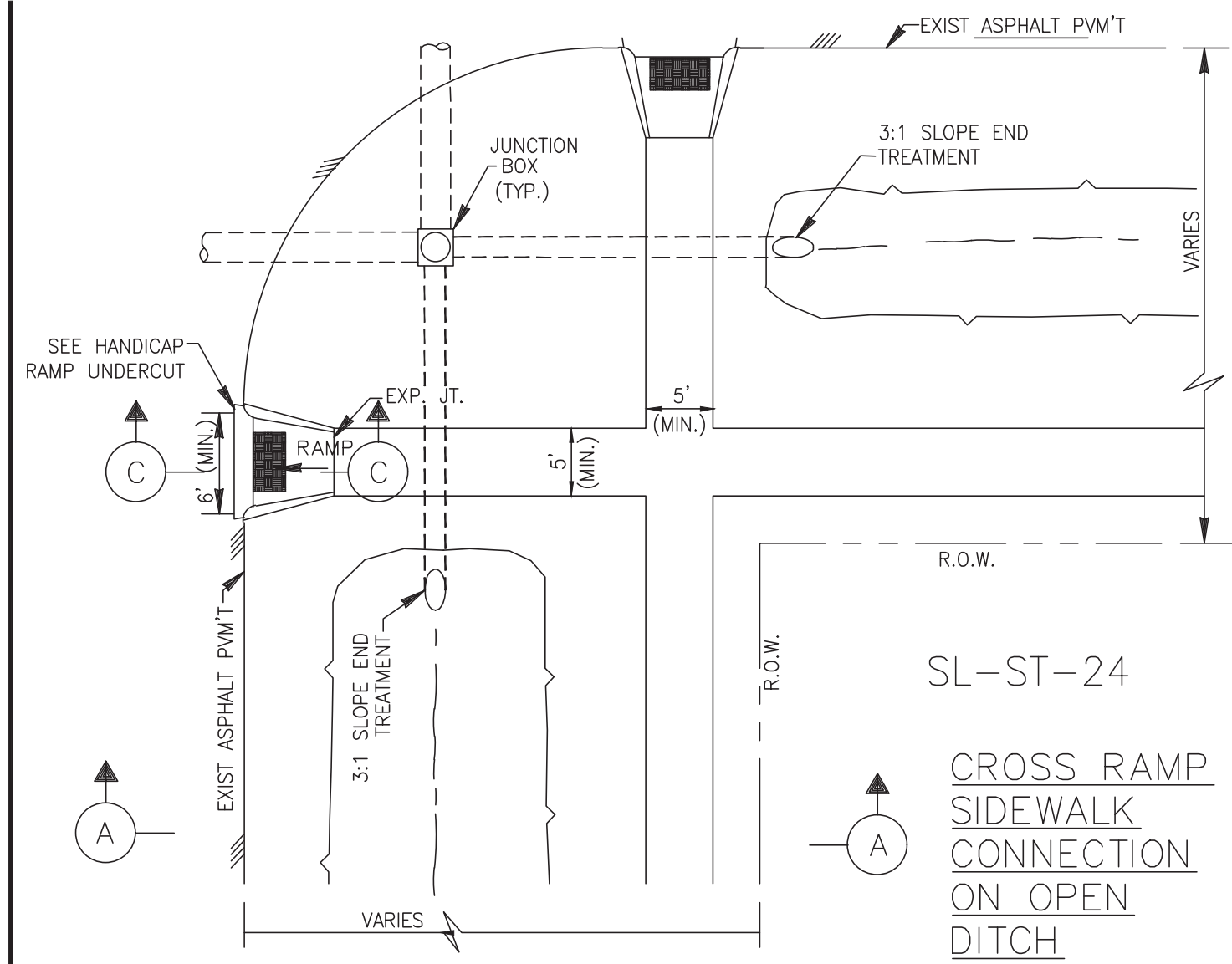
PROJECT NO. 14396



SIDEWALK JOINT DETAILS

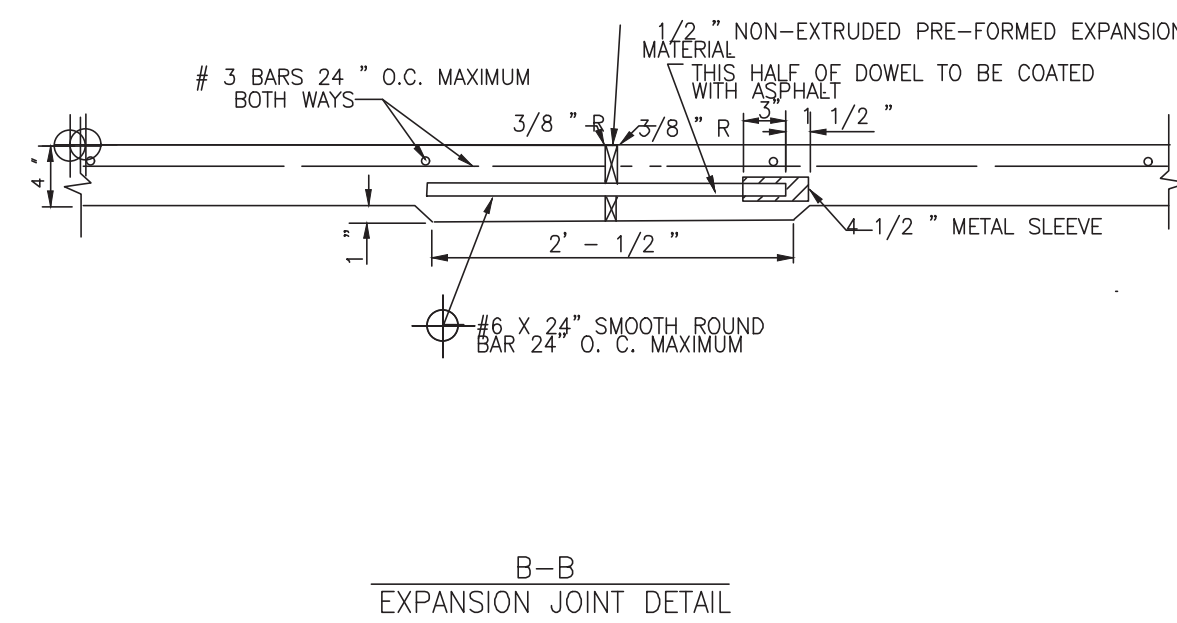
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SL-ST-23



SL-ST-24

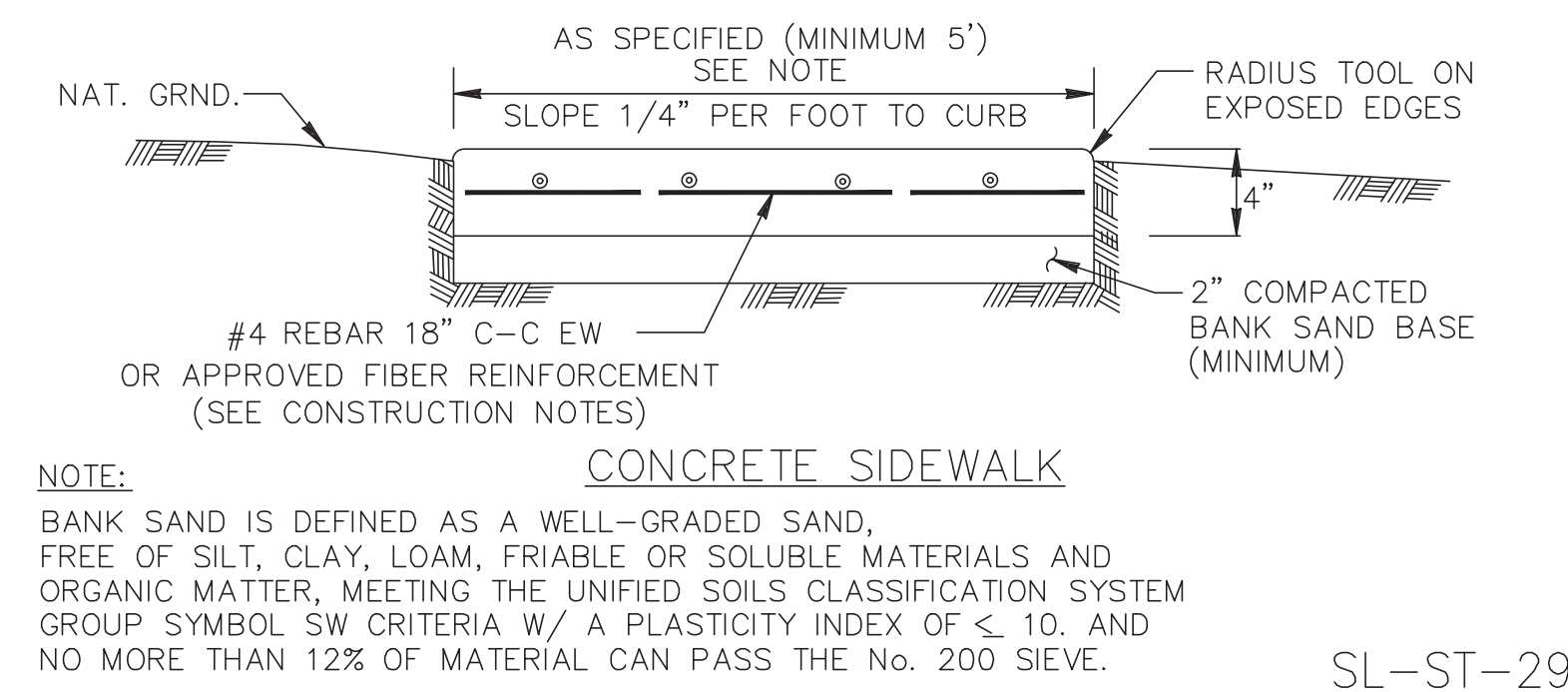
CROSS RAMP  
SIDEWALK  
CONNECTION  
ON OPEN  
DITCH



B-B  
EXPANSION JOINT DETAIL

- NOTES:
- EXISTING CURB AND GUTTER TO BE SAW CUT, REMOVED AND REPLACED. DOWEL STEEL FOR MINIMUM REINFORCING OVERLAP OF 10 INCHES (10") DOWELS SHALL BE EIGHTEEN INCHES (18") LONG AND EPOXIED A MINIMUM OF (8") EIGHT INCHES INTO EXISTING PAVEMENT.
  - IF SIDEWALKS ARE NEITHER EXISTING NOR PROPOSED WHERE WHEELCHAIR RAMP ACCESS IS REQUIRED, CONCRETE SIDEWALKS SURFACE 4 1/2" THICK SHALL BE INSTALLED TO PROVIDE ACCESS TO THE PEDESTRIAN PUSH BUTTONS.
  - DETECTABLE WARNINGS REQUIRED BY T.A.S. SECTIONS 4.1 AND 4.7 SHALL COMPLY WITH T.A.S. SECTION 4.29
  - THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACE SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE.
  - DETECTABLE WARNING SURFACE SHALL COVER THE ENTIRE WIDTH AND DEPTH OF RAMP.
  - DETECTABLE WARNINGS SHALL BE INSTALLED WITH PAVERS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
  - CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-935, C-33, AND SHALL BE PLACED IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN THE PLANS.
  - CONCRETE PAVER UNITS SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS. DOMES SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.
  - CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR THAT PROVIDES A LIGHT REFLECTIVE THAT SIGNIFICANTLY CONTRASTS WITH THE ADJACENT SURFACES INCLUDE SIDE FLARES.
  - CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY, AND ANY CUT UNIT SHALL NOT BE LESS THAN 25% OF A FULL UNIT.

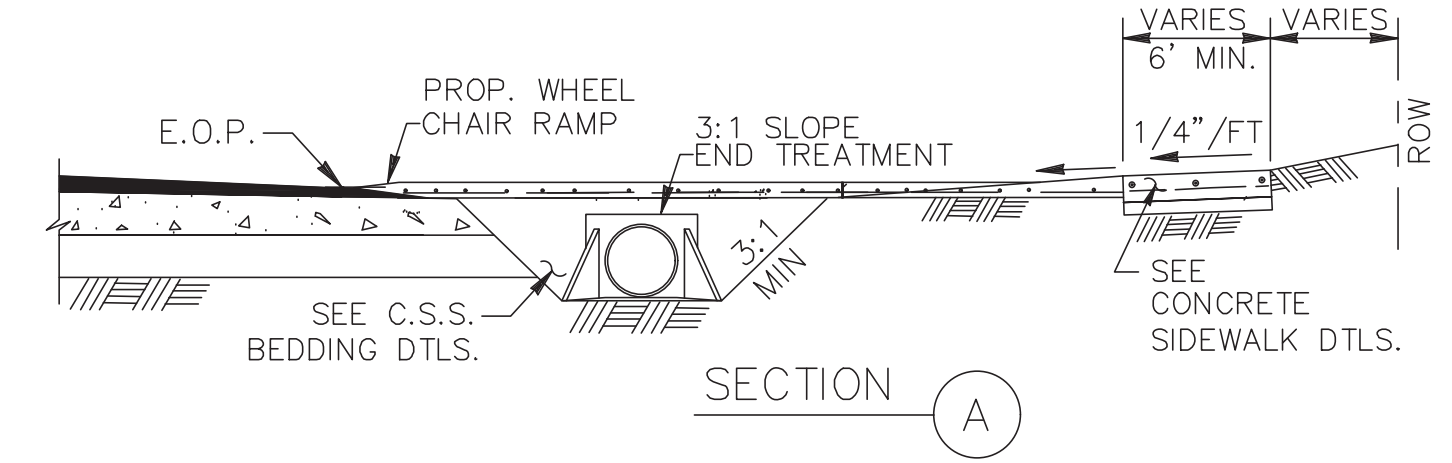
- CONSTRUCTION NOTES:
- THE MAXIMUM WIDTH BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 20'-0"
  - EXPANSION JOINT IS TO BE 1/2" THICK CLEAR HEART REDWOOD WITH DOWELS.
  - SCORED CONTRACTION JOINTS SHALL BE EVERY 5' OR EQUAL TO WIDTH OF SIDEWALK.
  - ALL EARTHEN AREAS ARE TO BE SODDED UNLESS SHOWN OTHERWISE ON DRAWINGS.
  - 4 INCH, 5 SACK CEMENT PER CUBIC YARD CONCRETE, 3000 PSI. REINFORCED CONCRETE WITH #3 BARS, 18 INCHES C-C, FOR SIDEWALKS, #4 BARS 18" C-C FOR WHEEL CHAIR RAMPS IS THE MINIMUM ACCEPTED. MINIMUM 3 LONGITUDINAL BARS, FIBER REINFORCING SIDEWALKS-STEEL AND POLYPROPYLENE BLENDED FIBER REINFORCEMENT SYSTEM SUCH AS NOVOMESH #3 AS MANUFACTURED BY S.I. CONCRETE SYSTEMS (OR PRE-APPROVED EQUAL) MAY BE USED AS AN ALTERNATE TO CONVENTIONAL REBAR REINFORCING AT A DOSAGE RATE OF 24 LBS. PER CUBIC YARD OF CONCRETE.
  - USE RADIUS TOOL ON ALL EXPOSED EDGES.
  - TOP OF THE SIDEWALK ELEVATION TO BE TOP OF CURB.
  - MEMBRANE CURING COMPOUND IS REQUIRED AS DESCRIBED IN ITEM 526 IN THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
  - REFER TO GENERAL NOTES AND CONCRETE/PAVING NOTES.
  - SIDEWALK EXPANSION JOINTS SHALL CONFORM TO STREET EXPANSION JOINT STANDARDS.



CONCRETE SIDEWALK

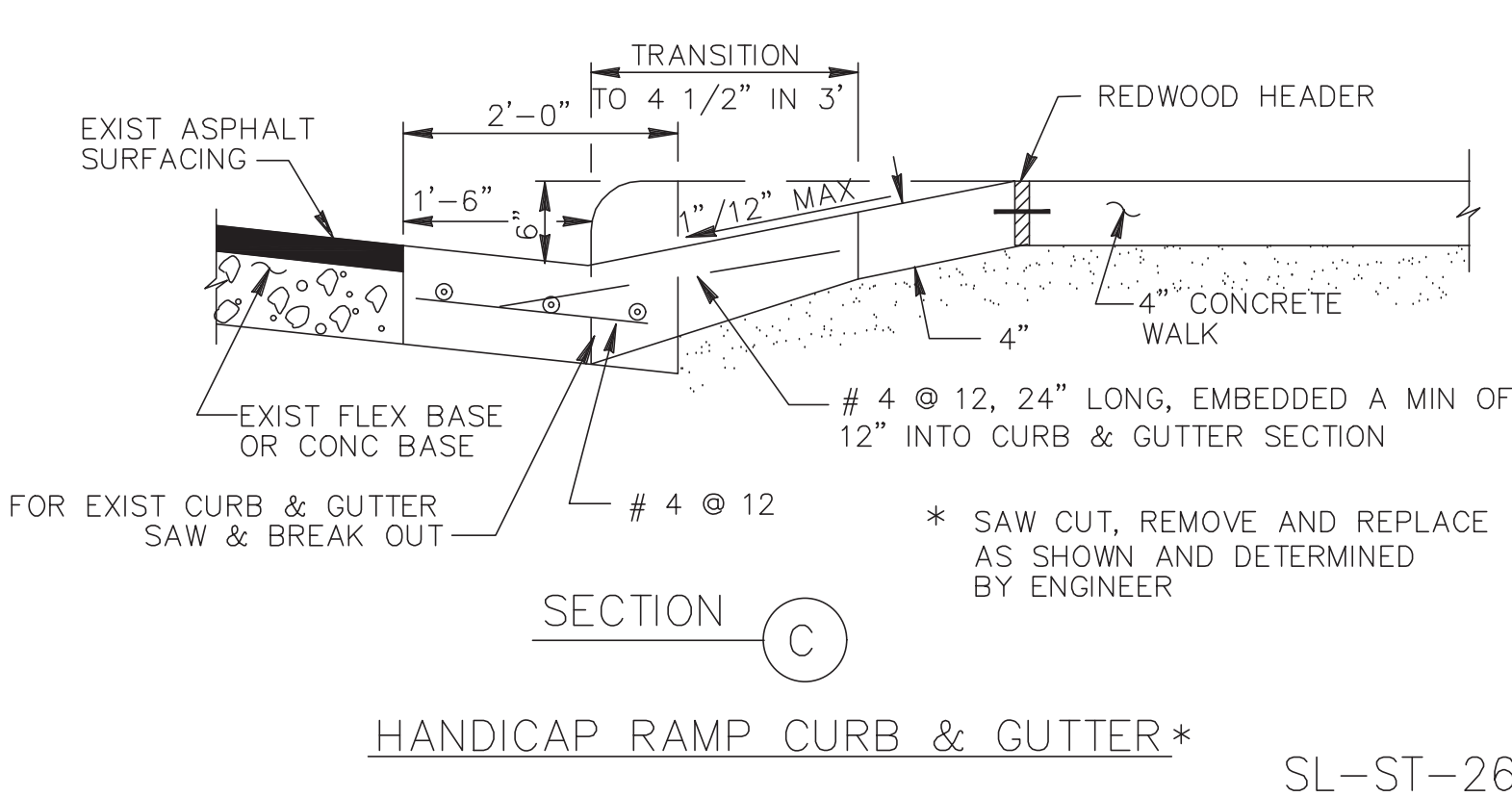
NOTE:  
BANK SAND IS DEFINED AS A WELL-GRADED SAND, FREE OF SILT, CLAY, LOAM, FRIABLE OR SOLUBLE MATERIALS AND ORGANIC MATTER, MEETING THE UNIFIED SOILS CLASSIFICATION SYSTEM GROUP SYMBOL SW CRITERIA W/ A PLASTICITY INDEX OF < 10, AND NO MORE THAN 12% OF MATERIAL CAN PASS THE No. 200 SIEVE.

SL-ST-29



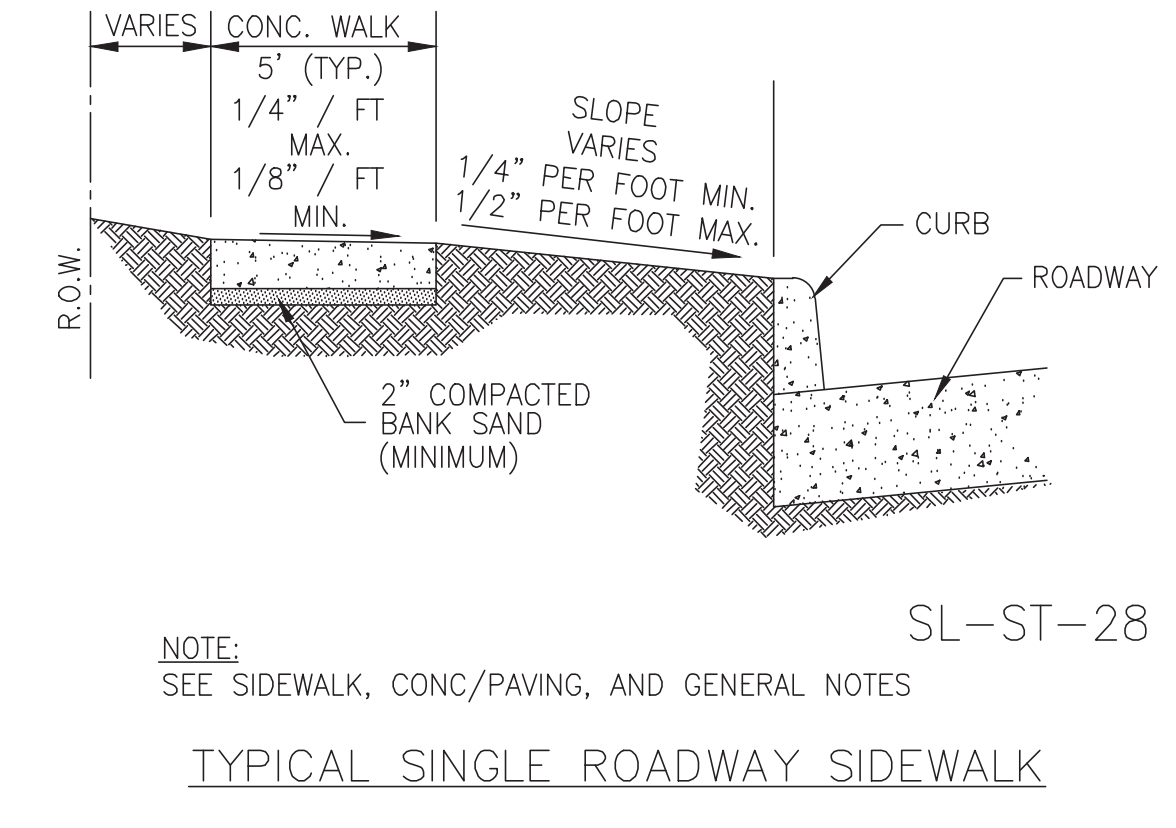
SECTION A

SL-ST-25



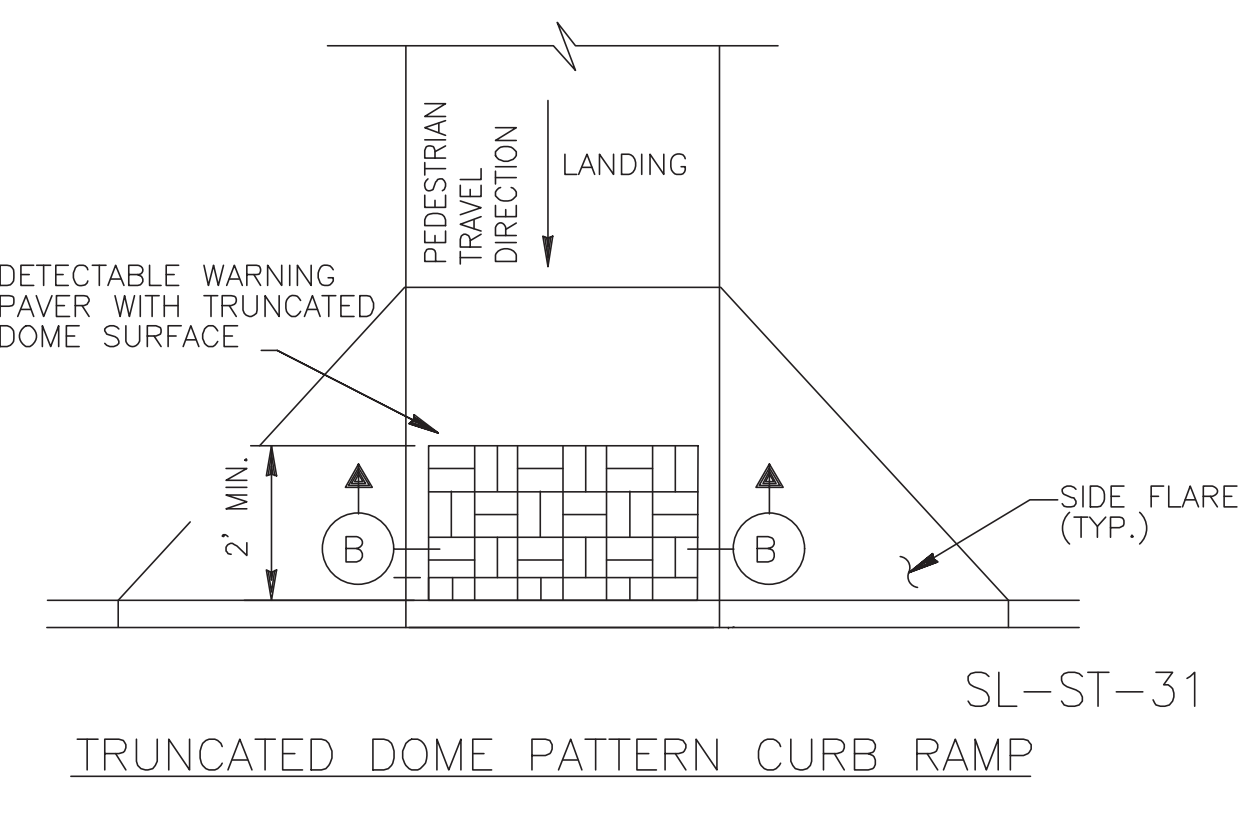
HANDICAP RAMP CURB & GUTTER\*

SL-ST-26



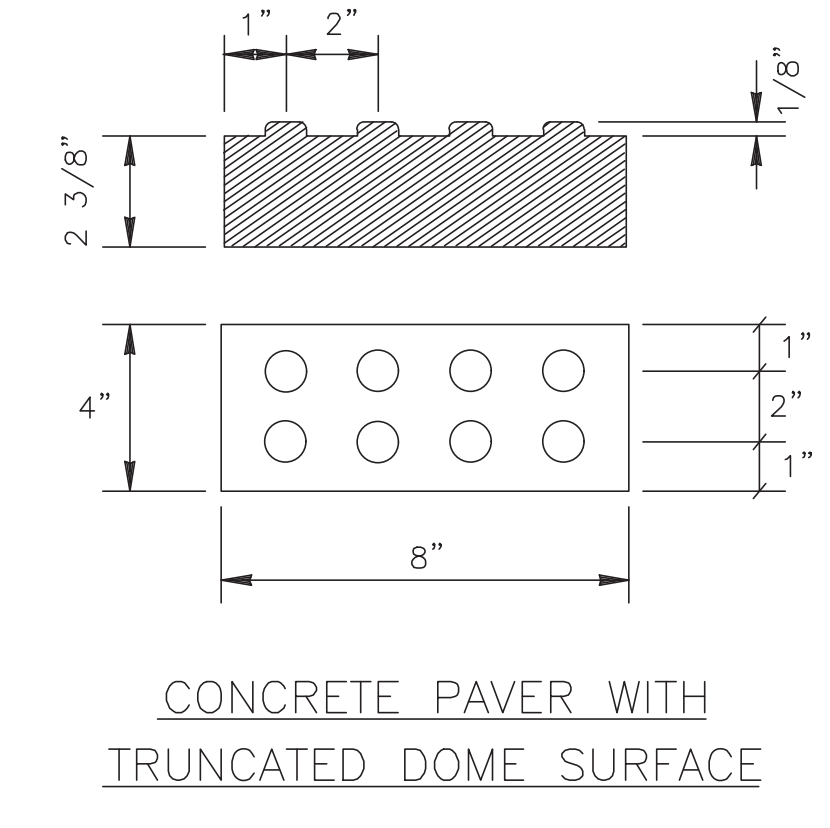
SL-ST-28

TYPICAL SINGLE ROADWAY SIDEWALK



SL-ST-31

TRUNCATED DOME PATTERN CURB RAMP



CONCRETE PAVER WITH TRUNCATED DOME SURFACE

SL-ST-32

NO.	DATE	REVISION

SEAL:

DESIGN ENGINEER: \_\_\_\_\_ DATE \_\_\_\_\_



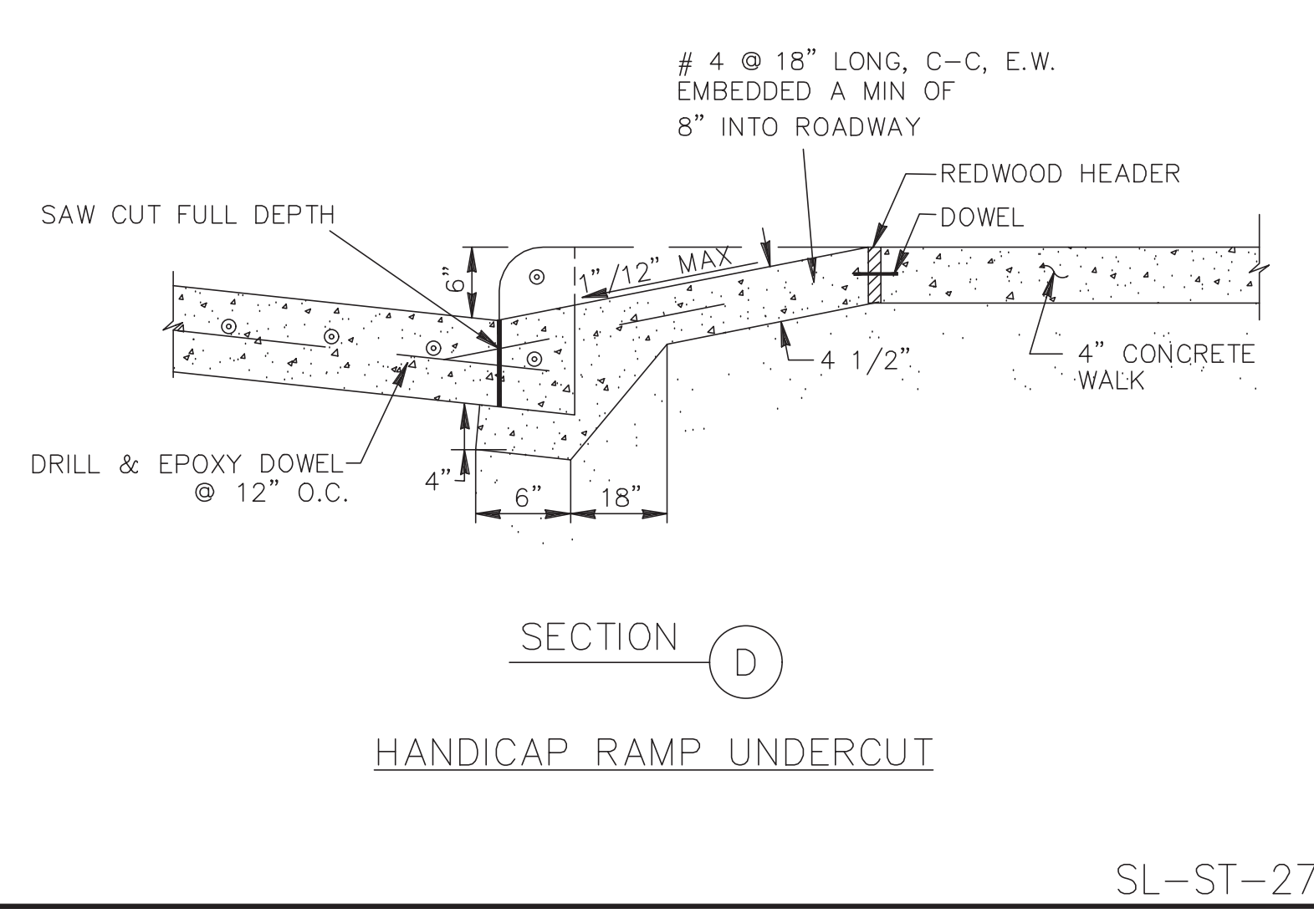
CONSTRUCTION PLANS FOR:

WHEEL CHAIR RAMP & SIDEWALK DETAILS I

JOB No.: \_\_\_\_\_  
DATE: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
SCALE: \_\_\_\_\_

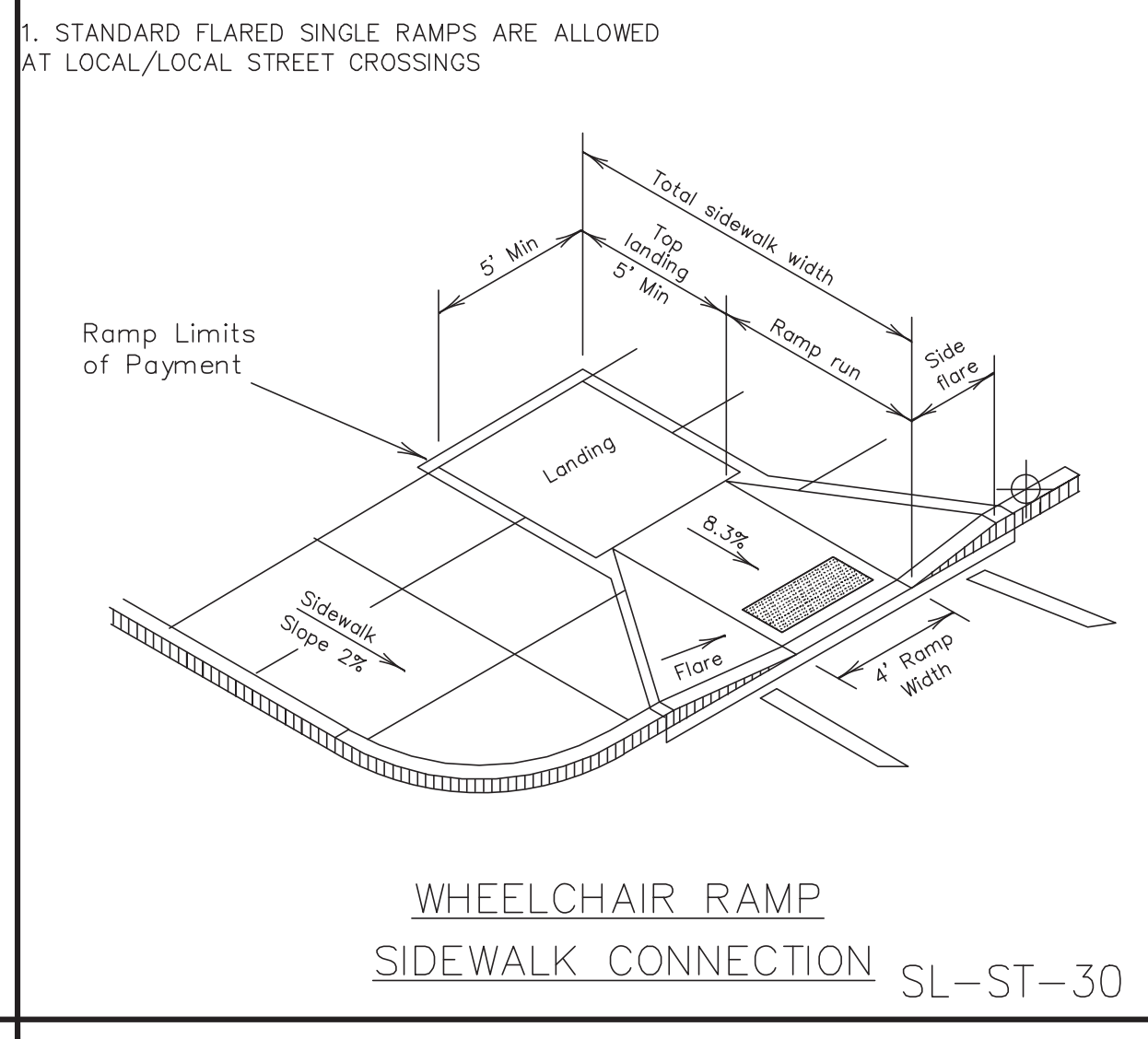
SL-25

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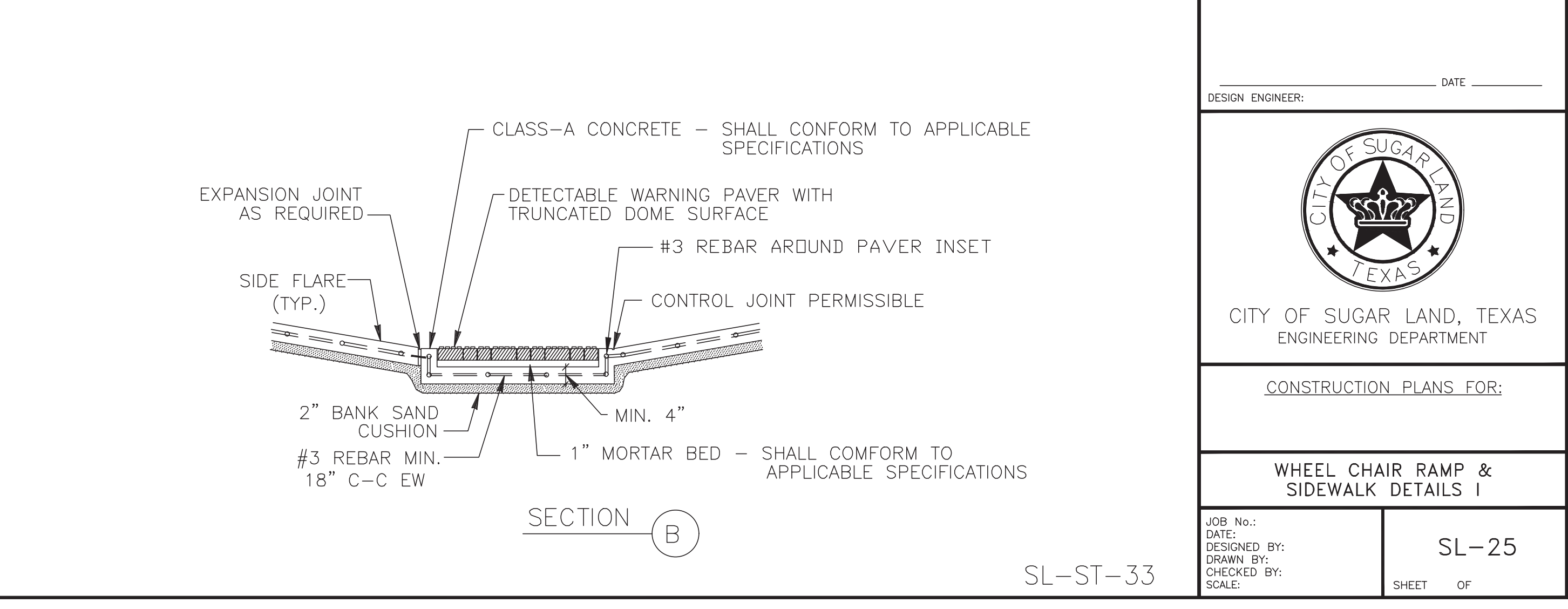
HANDICAP RAMP UNDERCUT

SL-ST-27



WHEELCHAIR RAMP SIDEWALK CONNECTION

SL-ST-30

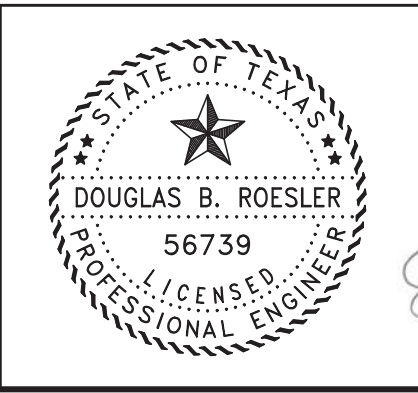
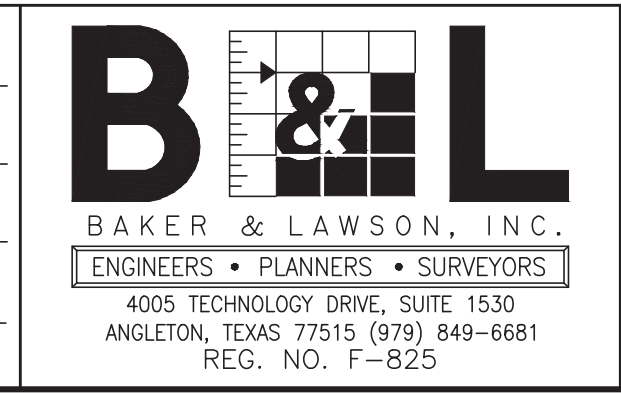


SECTION B

SL-ST-33

NO.	DATE	DESCRIPTION	APPROVED

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OWNER:  
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6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

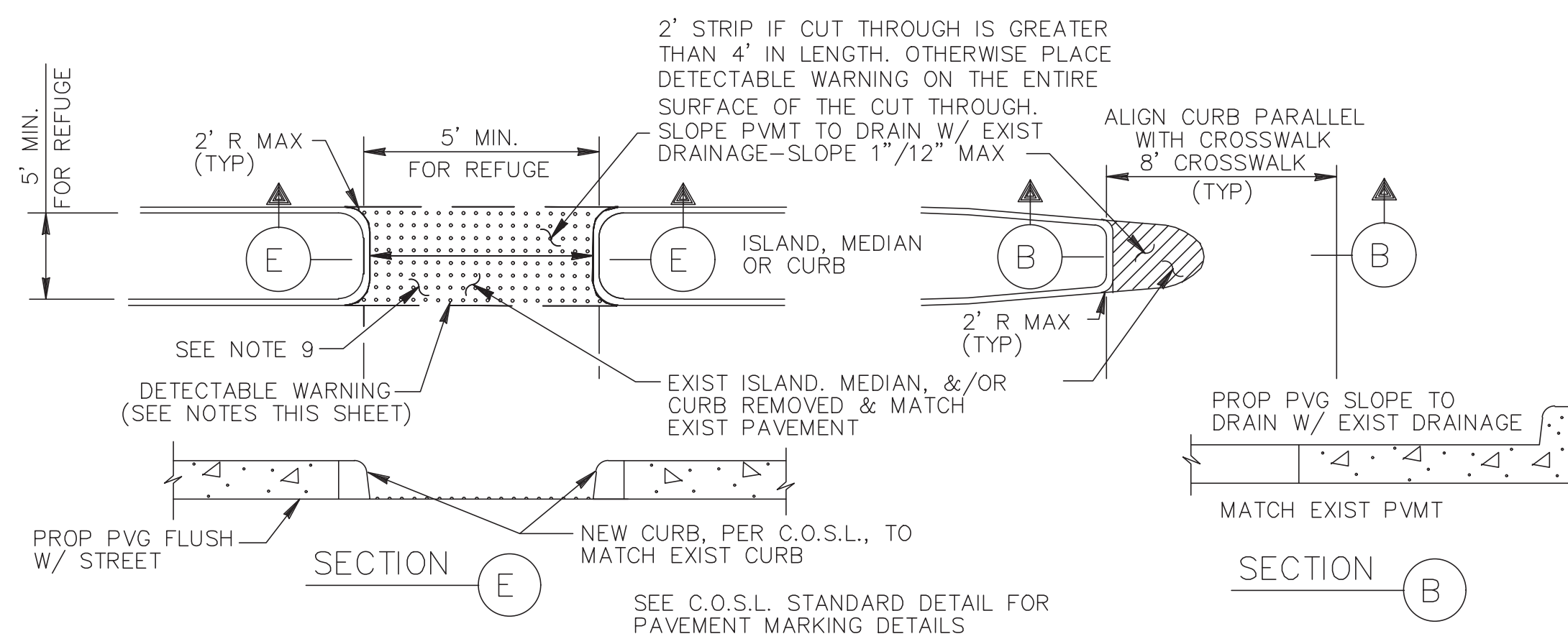
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PROFILE: \_\_\_\_\_  
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**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

WHEEL CHAIR RAMP & SIDEWALK DETAILS I  
SL-25

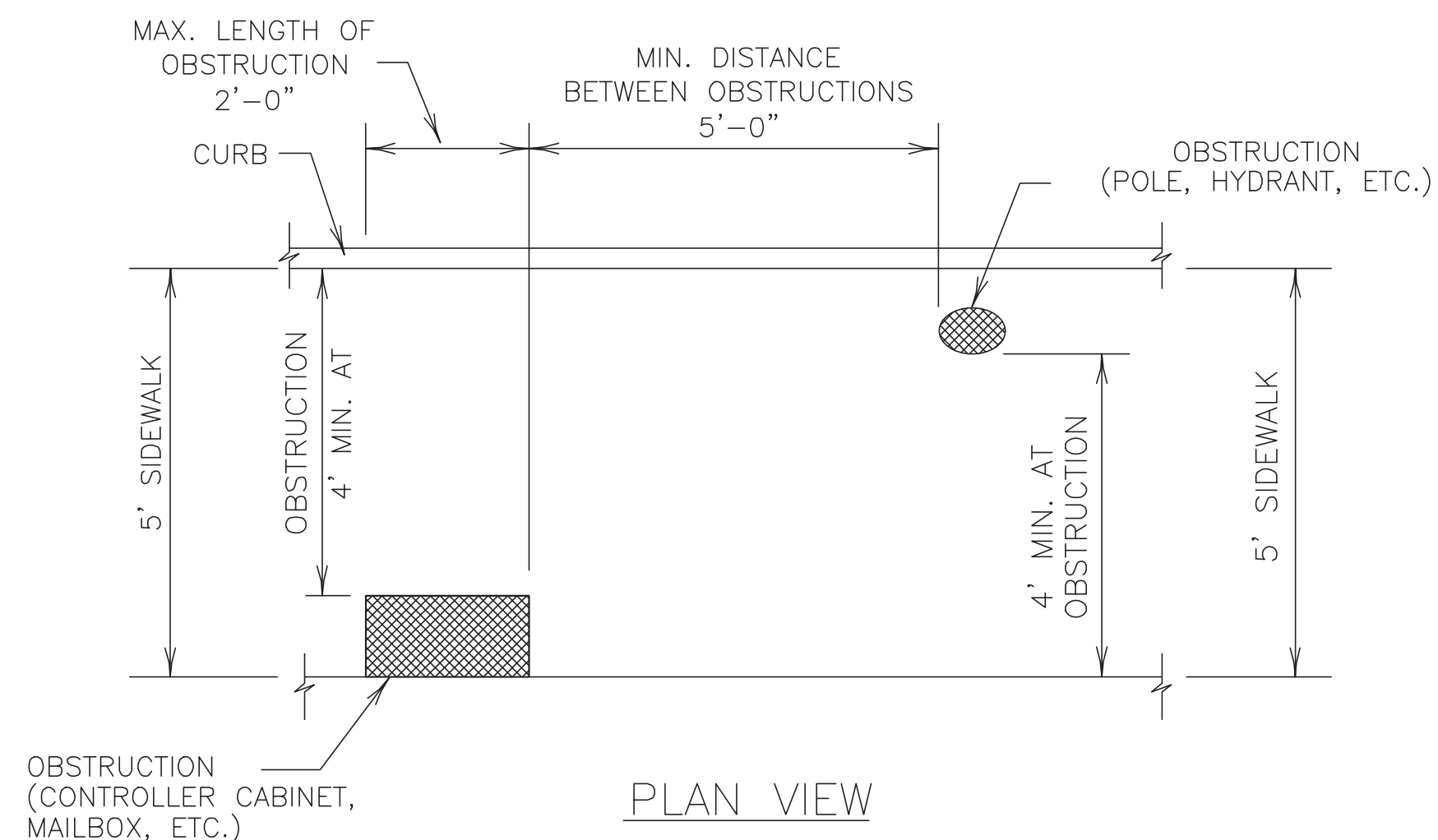
PROJECT NO. 14396

PLOI: IIMC



FOR ISLAND, MEDIAN, OR CURB MODIFICATIONS FOR CROSSWALKS

SL-ST-35



PLAN VIEW  
PLACEMENT OF STREET FIXTURES  
(ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' x 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.)

SL-ST-36

NOTES:

- ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS MAY BE ADJUSTED AS DIRECTED
- THE MINIMUM SIDEWALK WIDTH IS 5' (FEET). THE LANDING SHALL BE 5' x 5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS 2%. USUAL SIDEWALK CROSS SLOPE EQUALS 1.5%. CHANGES IN LEVEL GREATER THAN 1/4" (IN.) ARE NOT PERMITTED.
- MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 5' x 5' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
- ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6" (IN.) OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES, WITH THE FOLLOWING EXCEPTIONS:
  - HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
  - THE LEAST POSSIBLE GRADE SHOULD BE USED TO MAXIMIZE ACCESSIBILITY. WHERE STRUCTURALLY IMPRACTICAL TO ACHIEVE TEXAS ACCESSIBILITY STANDARDS (TAS) COMPLIANCE, THE RUNNING SLOPE OF SIDEWALKS AND CROSSWALKS, WITHIN THE PUBLIC R.O.W., MAY FOLLOW THE GRADE OF THE PARALLEL ROADWAY WITHOUT INVOKING TEXAS ACCESSIBILITY STANDARDS (TAS) VARIANCES FOR LANDINGS OR HANDRAILS. WHERE A CONTINUOUS GRADE GREATER THAN 5% MUST BE PROVIDED, HANDRAILS MAY BE DESIRABLE ON ONE OR BOTH SIDES OF THE SIDEWALK TO IMPROVE ACCESSIBILITY. HANDRAILS MAY ALSO BE NEEDED TO PROTECT PEDESTRIANS FROM POTENTIALLY HAZARDOUS CONDITIONS.
- CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. OTHERWISE, FLARED SIDES SHALL BE PROVIDED. ALL CONCRETE SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
- RAMP TEXTURES MUST CONSIST OF TRUNCATED DOME SURFACES, IN ACCORDANCE WITH ADA AND TEXAS DEPARTMENT OF LICENSING AND REGULATIONS (TDLR). TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. TEXTURES ALSO SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.
- ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
- RAISED MEDIANS SEPARATE OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. TO SERVE AS A REFUGE AREA, THE MEDIAN SHALL BE A MINIMUM OF 5' (FT.) WIDE. MEDIANS SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR THROUGH THEM.
- SMALL CHANNELIZATION ISLANDS, WHICH CAN NOT PROVIDE A MINIMUM 5' x 5' LANDING AT THE TOP OF RAMPS, SHALL BE CUT THROUGH LEVEL WITH THE SURFACE OF THE STREET.
- CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE ENGINEER.
- EXISTING FEATURES THAT COMPLY WITH T.A.S. MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
- TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE.

SL-ST-40

NO.	DATE	REVISION

SEAL: \_\_\_\_\_ DATE \_\_\_\_\_

DESIGN ENGINEER: \_\_\_\_\_



CONSTRUCTION PLANS FOR:

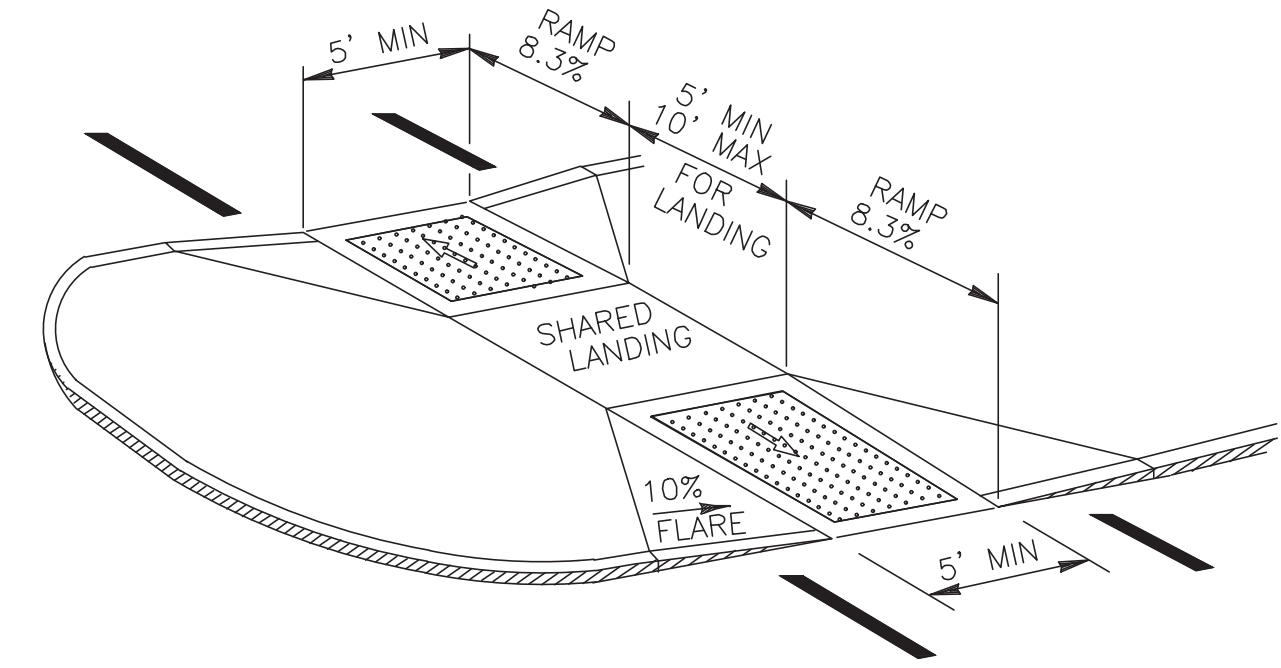
WHEEL CHAIR RAMP & SIDEWALK DETAILS II

JOB No.: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 SCALE: \_\_\_\_\_

SL-26

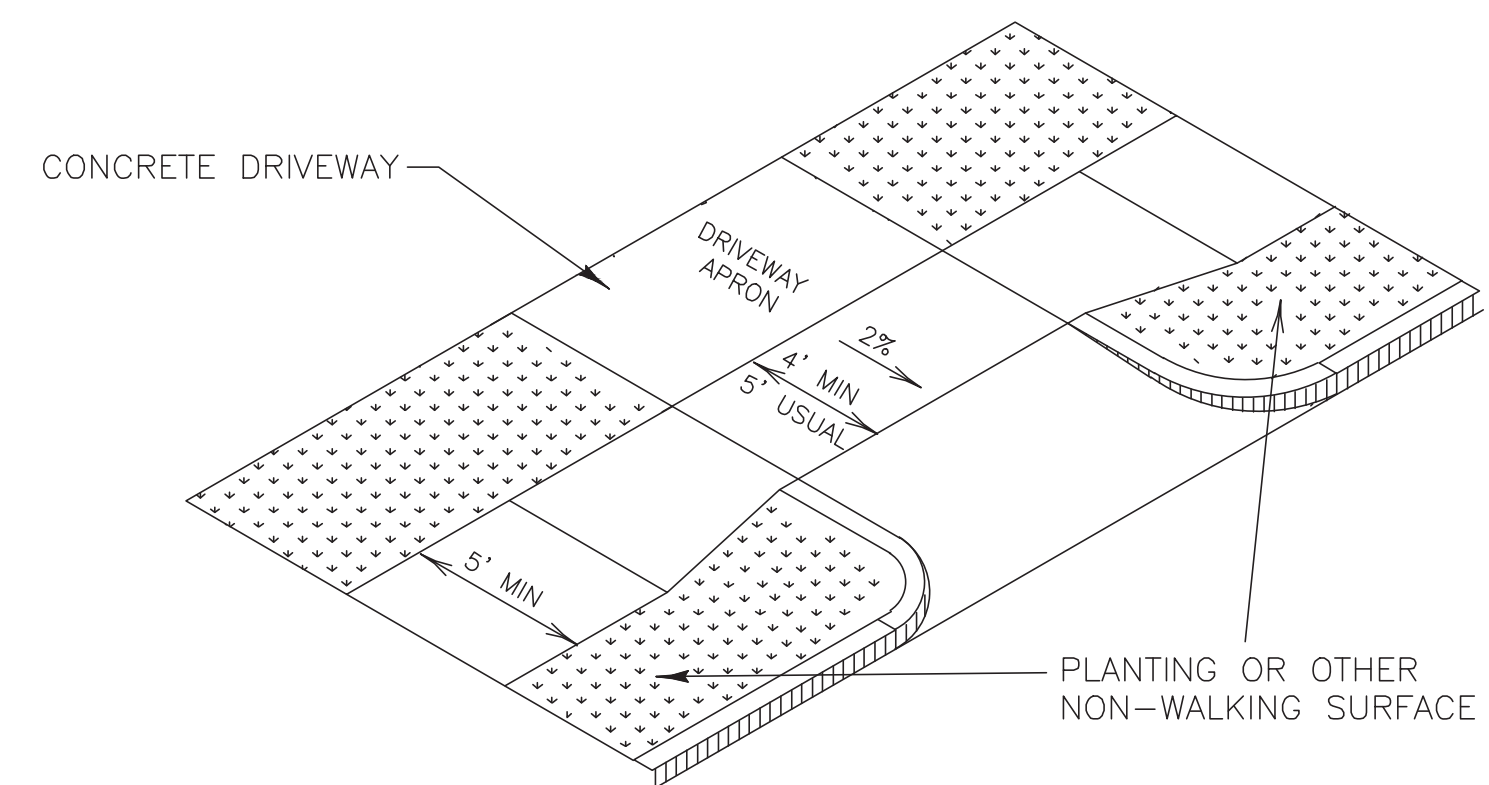
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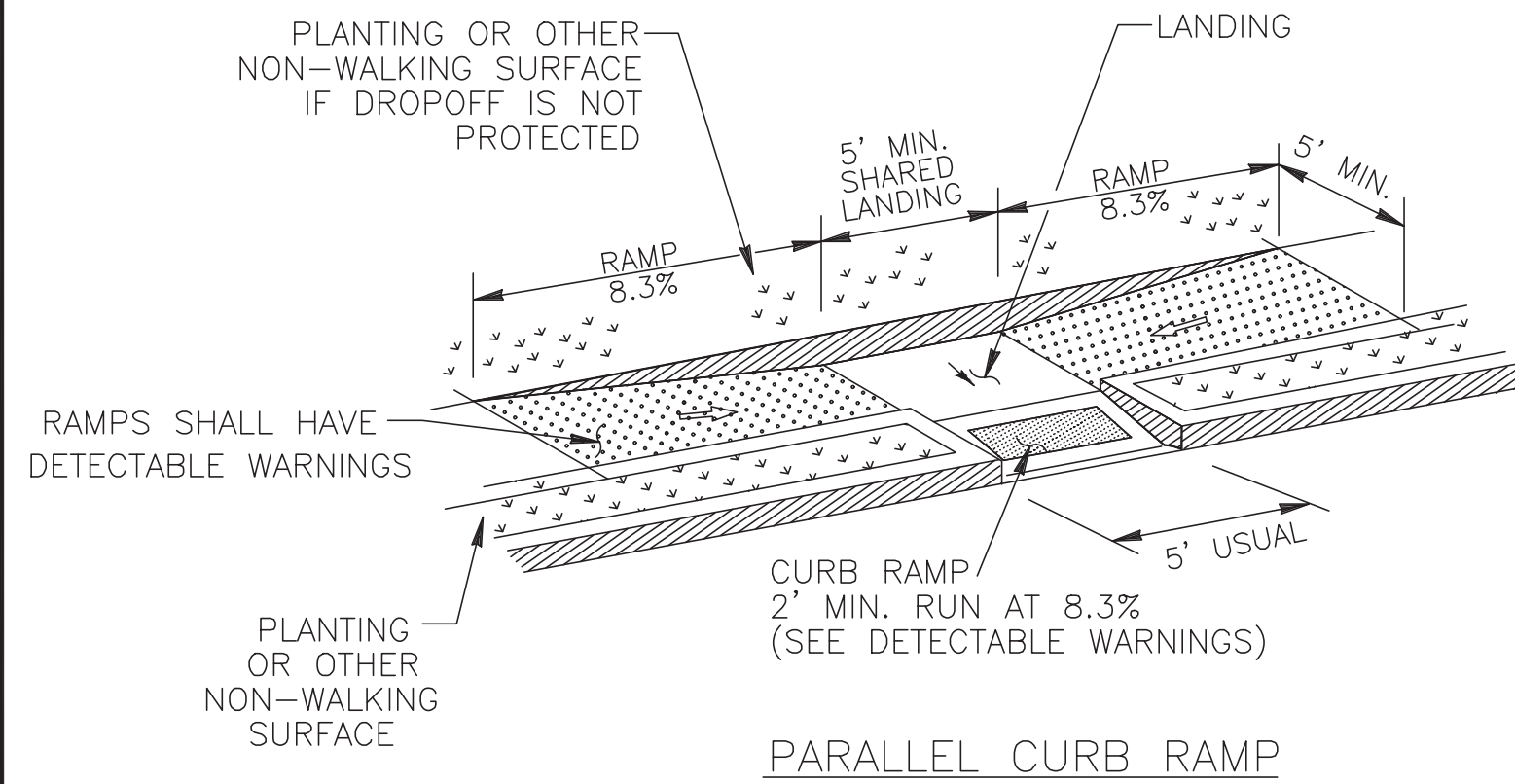
CURB RAMPS AT MEDIAN ISLANDS

SL-ST-37



SETBACK SIDEWALK  
SIDEWALK TREATMENT AT DRIVEWAYS

SL-ST-38

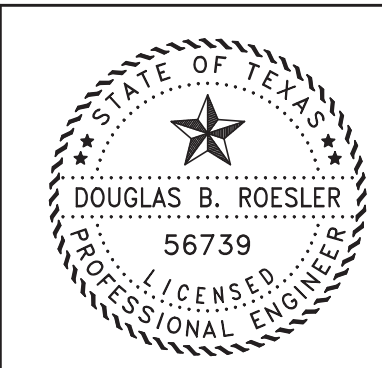
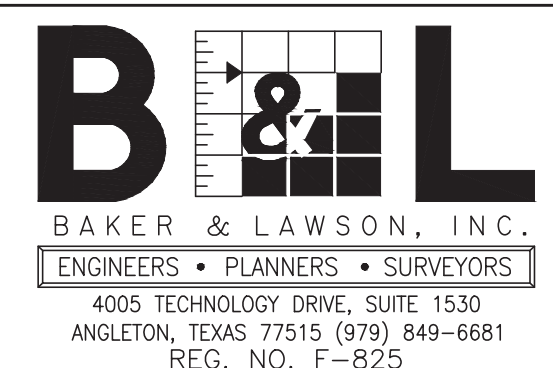


PARALLEL CURB RAMP

SL-ST-39

NO.	DATE	DESCRIPTION	APPROVED

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 DRAWN BT \_\_\_\_\_  
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 DATE \_\_\_\_\_



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*DR* 03-03-2023

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**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

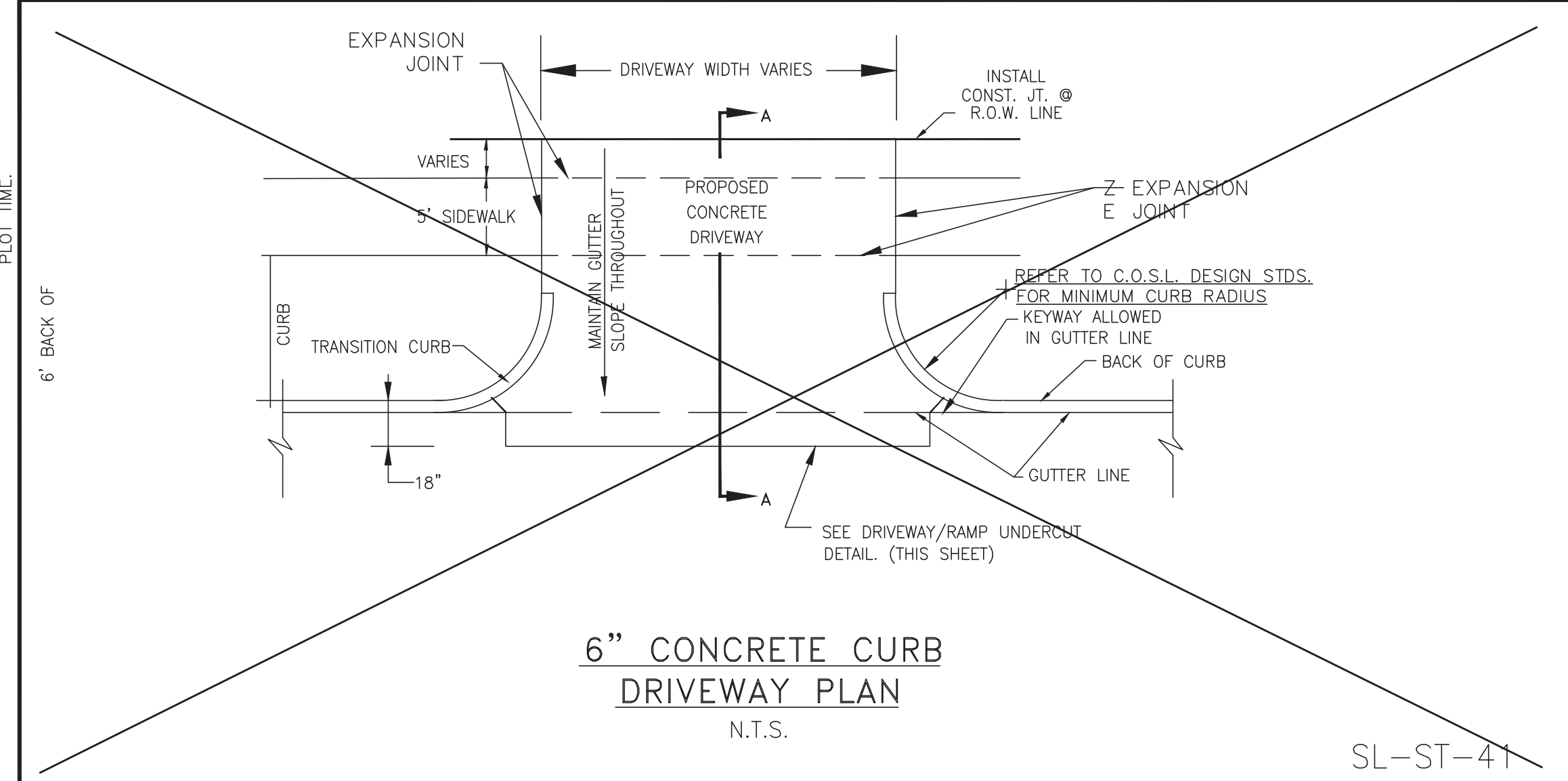
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 HORIZONTAL: \_\_\_\_\_  
 VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

WHEEL CHAIR RAMP & SIDEWALK DETAILS II  
 SL-26

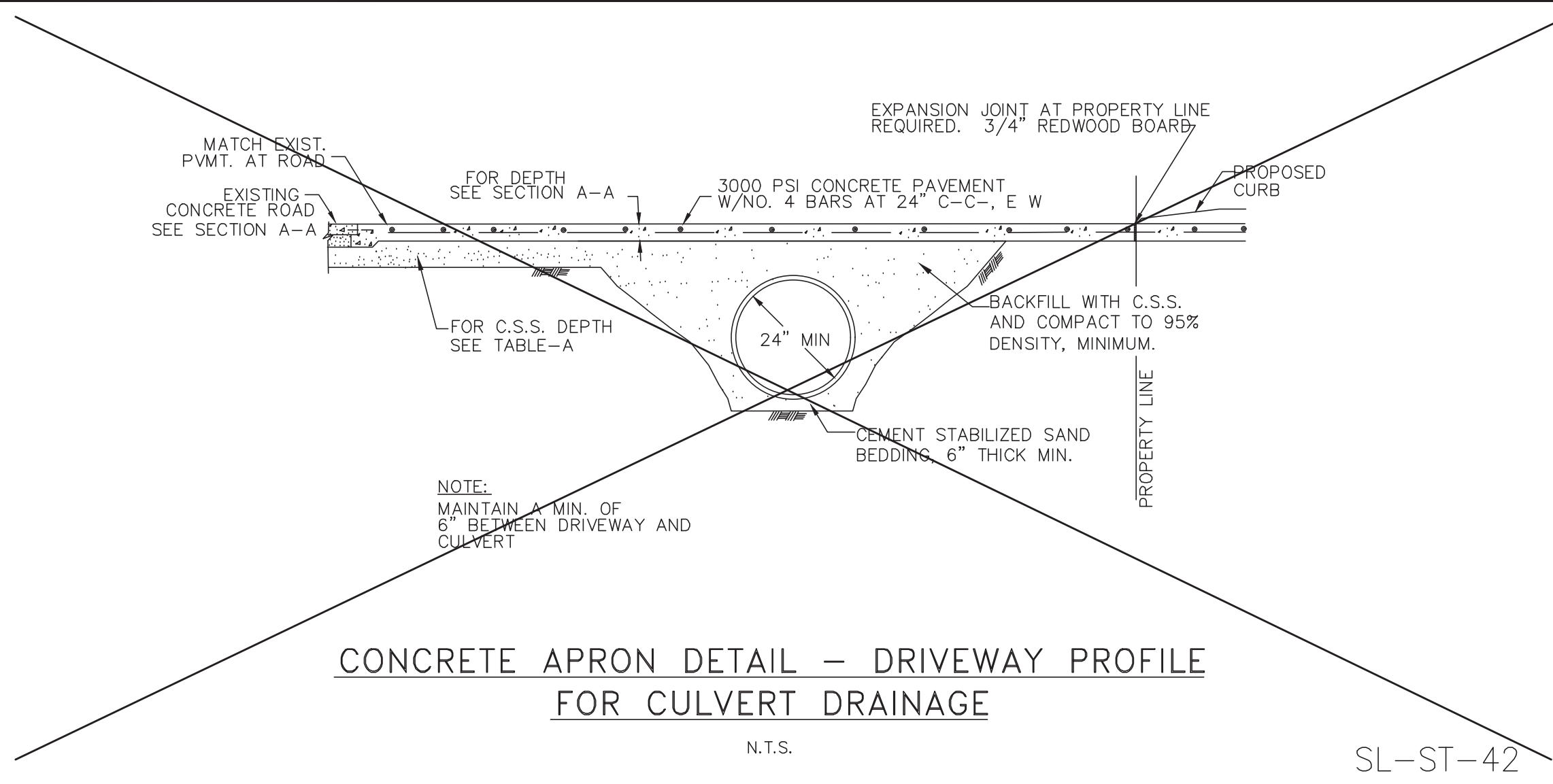
PROJECT NO. 14396

- NOTES:
- 1.) SAW CUT & BREAKOUT NO MORE THAN 72 HOURS PRIOR TO PROPOSED CONCRETE PLACEMENT. NOTIFY SUGAR LAND PRIOR TO CUT.
  - 2.) UNSTABLE SUBGRADE SHALL BE OVER EXCAVATED & REPLACED WITH CONCRETE.
  - 3.) IT IS CONTRACTOR'S RESPONSIBILITY TO NOTIFY SUGAR LAND OF ANY BIRD BATH PROBLEMS PRIOR TO CONSTRUCTION OF DRIVEWAY.
  - 4.) USE 1"x2" TREATED REDWOOD FOR HEADER.
  - 5.) EDGE ALL SIDES WITH EDGING TOOL AND BROOM FINISH
  - 6.) FOR INDUSTRIAL DRIVES, PAVEMENT SHALL HAVE A DEPTH OF 8" (IN).
  - 7.) EXPANSION JOINT AT PROPERTY LINE REQUIRED. 3/4" REDWOOD BOARD WITH NO. 4 DOWELS MINIMUM.
  - 8.) MAXIMUM ALLOWABLE DRIVEWAY GRADE IN PULIC R.O.W. IS 5%
  - 9.) DRIVEWAY GRADE MUST MEET A.D.A AND T.A.S. SIDEWALK SLOPE, SIDEWALKS MUST BE SCORED TO MATCH ADJACENT SIDEWALK. IF SLOPE IS CONTINUED THROUGH THE R.O.W. LINE, PROVIDE A 3/4" REDWOOD EXPANSION JOINT WITH DOWELS AT R.O.W. LINE.
  - 10.) REFER TO GENERAL , C.S.S., ASPHALT, AND CONCRETE PAVEMENT NOTES.



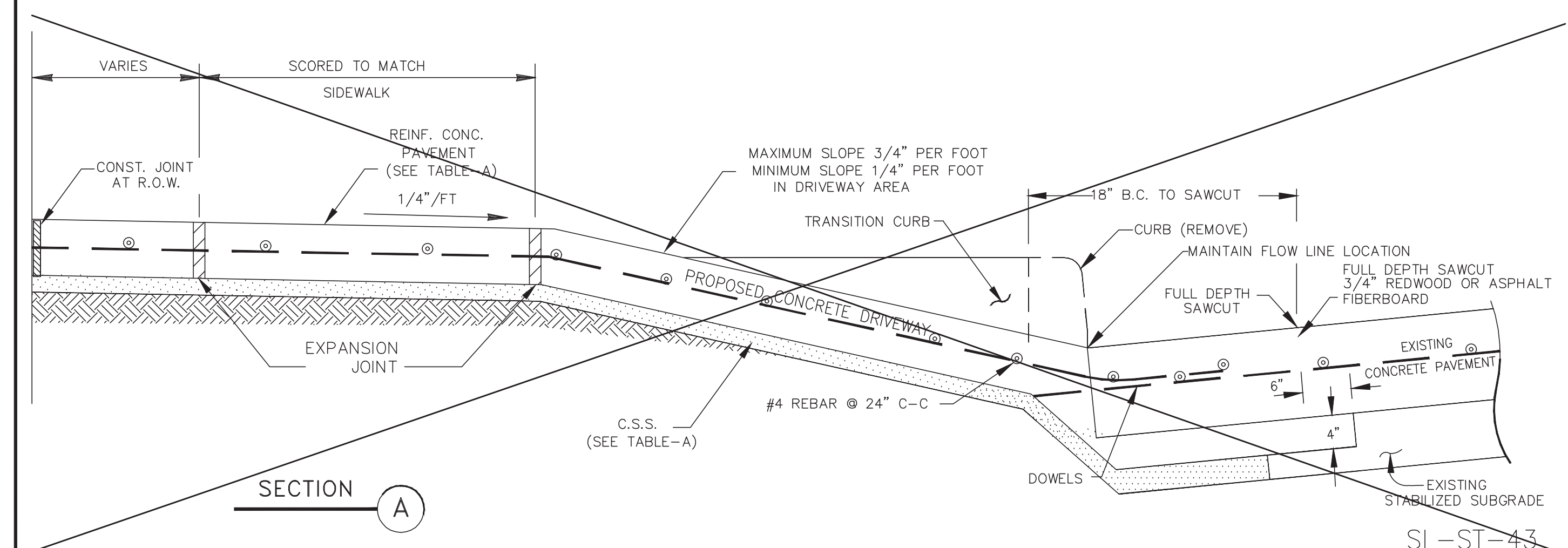
6" CONCRETE CURB DRIVEWAY PLAN  
N.T.S.

SL-ST-41



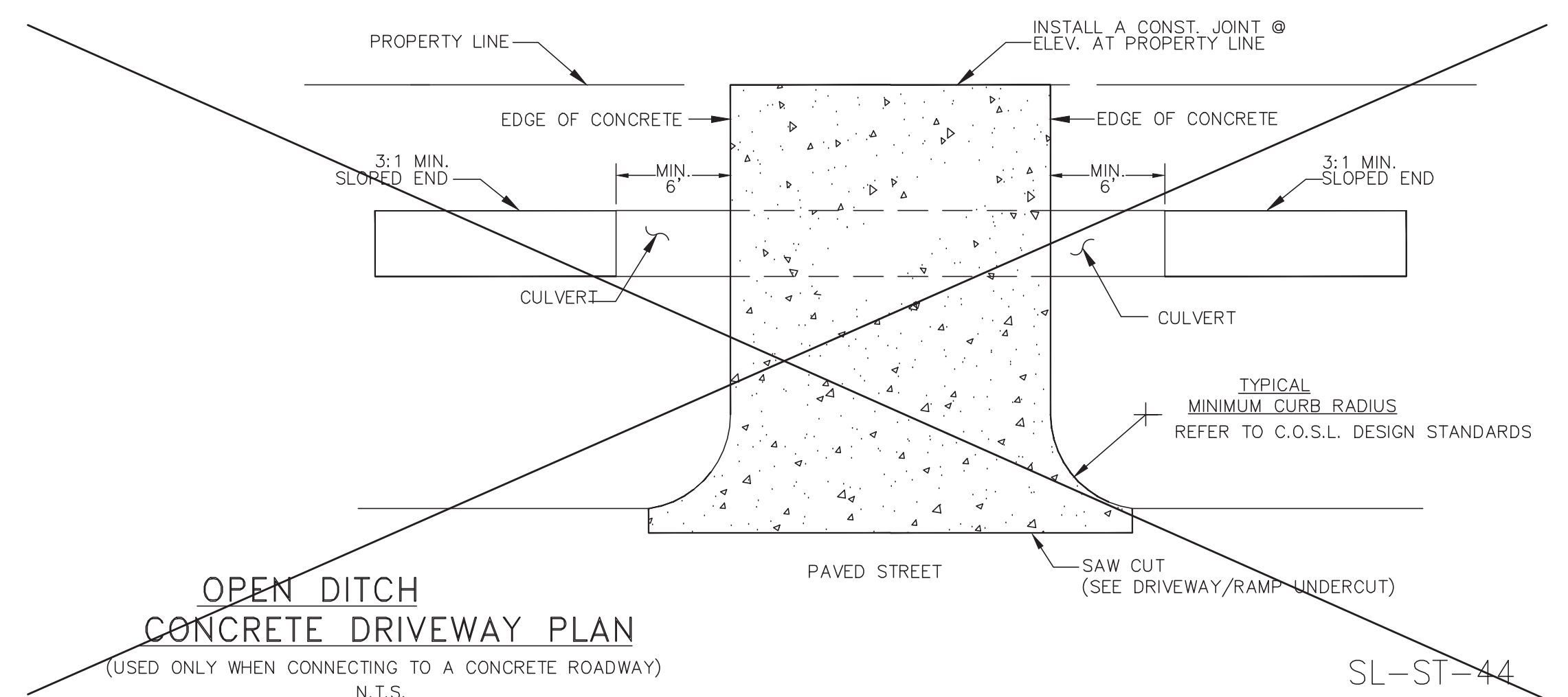
CONCRETE APRON DETAIL - DRIVEWAY PROFILE FOR CULVERT DRAINAGE  
N.T.S.

SL-ST-42



SECTION A

SL-ST-43



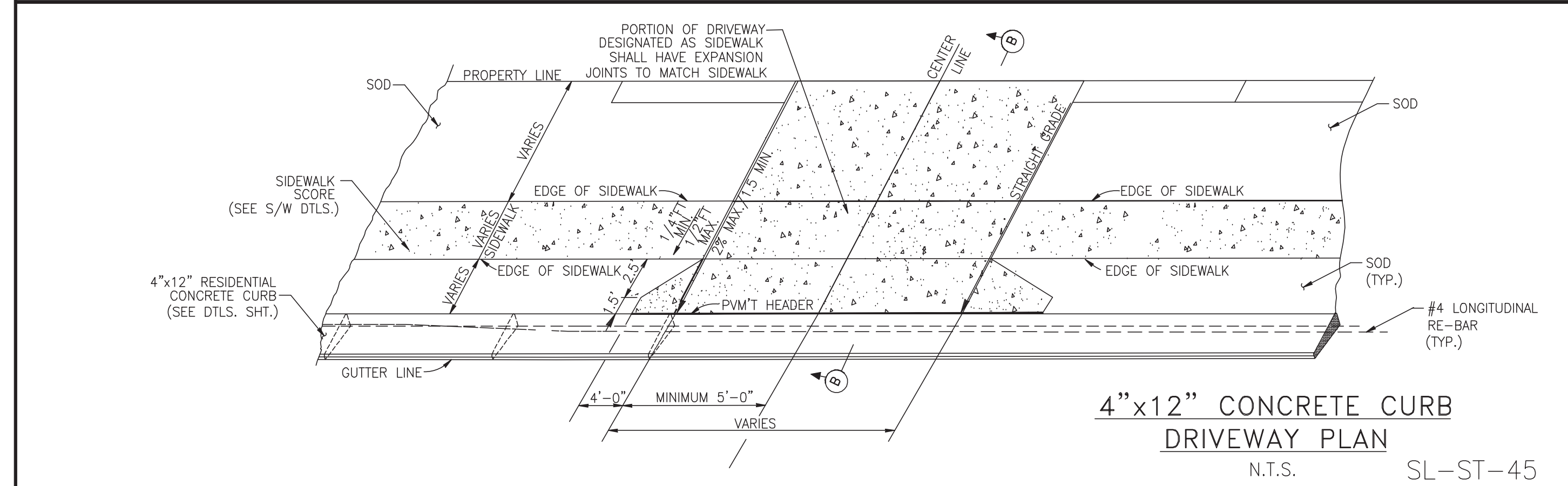
OPEN DITCH CONCRETE DRIVEWAY PLAN  
(USED ONLY WHEN CONNECTING TO A CONCRETE ROADWAY)  
N.T.S.

SL-ST-44

**TABLE-A**

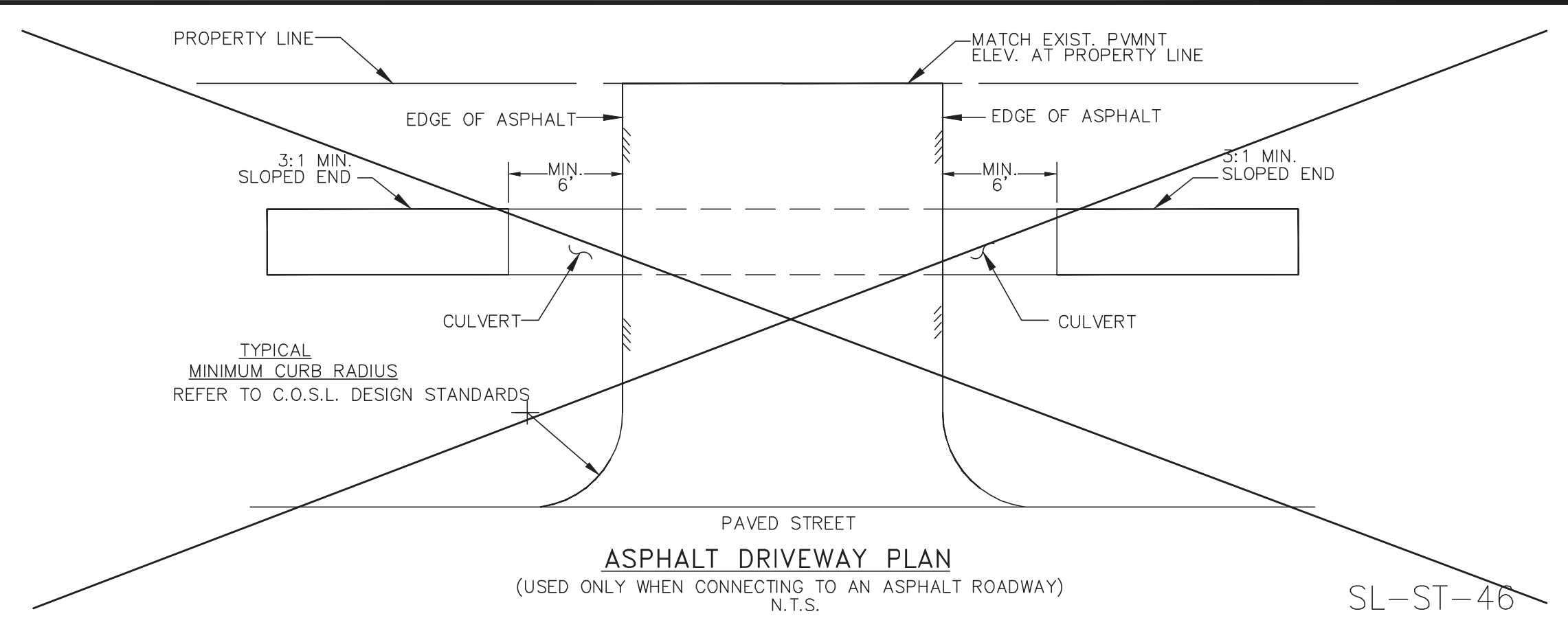
CEMENT STABILIZED SAND 2-SK/C.Y.	
RESIDENTIAL	4" MINIMUM
COMMERCIAL	6" MINIMUM
INDUSTRIAL	8" MINIMUM
REINFORCED CONCRETE PAVEMENT 3,000 PSI MIN	
RESIDENTIAL	4" MINIMUM
COMMERCIAL	6" MINIMUM
INDUSTRIAL	8" MINIMUM

DRIVEWAY PAVEMENT CONSTRUCTION TABLE



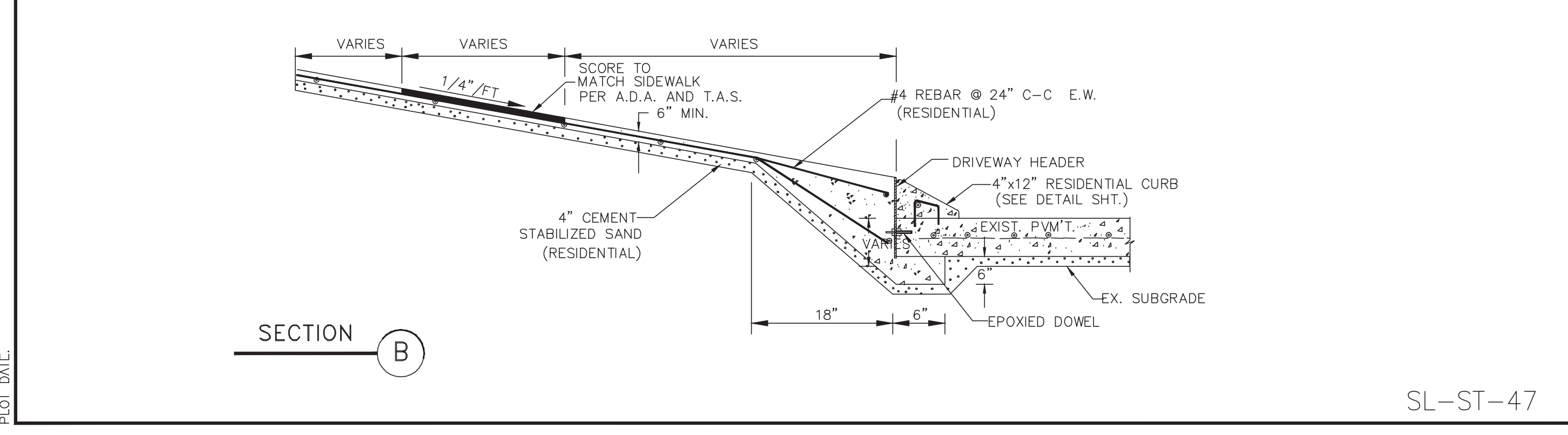
4"x12" CONCRETE CURB DRIVEWAY PLAN  
N.T.S.

SL-ST-45



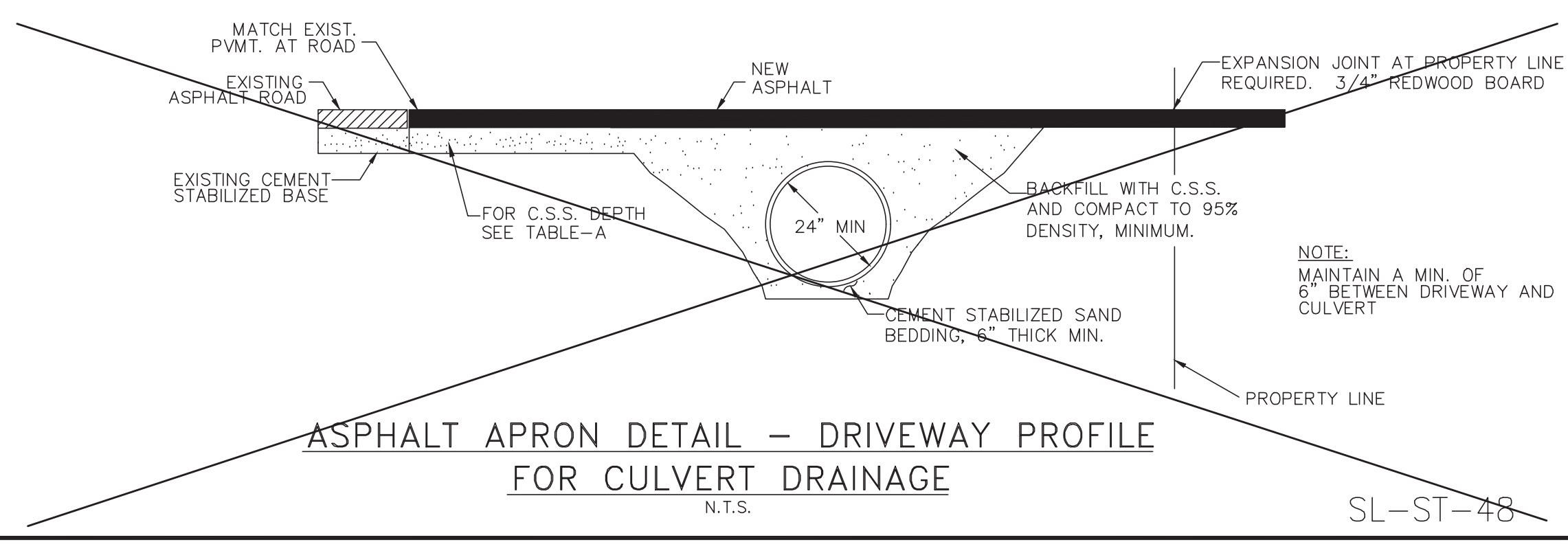
ASPHALT DRIVEWAY PLAN  
(USED ONLY WHEN CONNECTING TO AN ASPHALT ROADWAY)  
N.T.S.

SL-ST-46



SECTION B

SL-ST-47



ASPHALT APRON DETAIL - DRIVEWAY PROFILE FOR CULVERT DRAINAGE  
N.T.S.

SL-ST-48

CITY OF SUGAR LAND, TEXAS  
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

DRIVEWAY CONSTRUCTION DETAILS

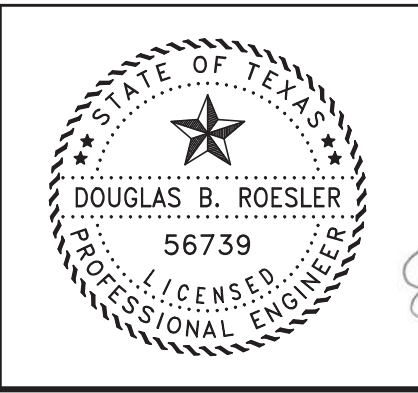
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SL-27  
SHEET OF

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED DR  
DRAWN BT  
CHECKED  
DATE

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BAKER & LAWSON, INC.  
ENGINEERS • PLANNERS • SURVEYORS  
4005 TECHNOLOGY DRIVE, SUITE 1530  
ANGLETON, TEXAS 77515 (979) 849-8681  
REG. NO. F-825



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03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
6115 SKYLINE DR. STE A.  
HOUSTON, TEXAS 77057

PLAN: \_\_\_\_\_  
PROFILE: \_\_\_\_\_  
HORIZONTAL: \_\_\_\_\_  
VERTICAL: \_\_\_\_\_

**RIVERWOOD RANCH SUBDIVISION**  
SECTIONS 3 & 4  
A 35.620 AC, 145-LOT SUBDIVISION  
ANGLETON, TEXAS 77515

DRIVEWAY CONSTRUCTION DETAILS  
SL-27

PROJECT NO. 14396

HYPER-CHLORINATED WATER NOTES

1. HYPER-CHLORINATED WATER SHALL NOT BE DISCHARGED TO THE STORM SEWER OR DRAINAGE SYSTEM UNLESS THE CHLORINE CONCENTRATION IS REDUCED TO 4 PPM OR LESS BY CHEMICALLY TREATING THE DECHLORINATE OR BY ONSITE RETENTION UNTIL NATURAL ATTENUATION OCCURS.
2. DISCHARGE OF HIGH FLOW RATE AND VELOCITIES SHALL BE DIRECTED TO VELOCITY DISSIPATION DEVICES.
3. CHLORINE CAN BURN VEGETATION, SO IT SHOULD NOT BE USED TO WATER VEGETATION THAT IS BEING USED FOR STABILIZATION, VEGETATED FILTERS OR BUFFERS, OR OTHER VEGETATION TO BE PRESERVED.
4. HYPER-CHLORINATED WATER MAY BE DISCHARGED TO AN ONSITE RETENTION AREA UNTIL NATURAL ATTENUATION OCCURS. THE AREA MAY BE A DRY STORMWATER RETENTION BASIN, OR A PORTION OF THE SITE MAY BE GRADED TO FORM A TEMPORARY PIT OR BERMED AREA.
5. NATURAL ATTENUATION OF THE CHLORINE MAY BE AIDED BY AERATION. AIR CAN BE ADDED TO THE WATER BY DIRECTING THE DISCHARGE OVER A ROUGH SURFACE BEFORE IT ENTERS THE TEMPORARY RETENTION AREA OR AN AERATION DEVICE CAN BE PLACED IN THE RETENTION AREA.
6. ONSITE DISCHARGE MAY REQUIRE SEVERAL HOURS TO A FEW DAYS BEFORE THE WATER IS SAFE TO DISCHARGE. THE RATE AT WHICH CHLORINE WILL ATTENUATE IS AFFECTED BY SOIL CONDITIONS AND WEATHER CONDITIONS. ATTENUATION WILL OCCUR QUICKEST DURING WARM, SUNNY, AND DRY PERIODS.

SPILL AND LEAK RESPONSE NOTES

1. RECORDS OF RELEASES THAT EXCEED THE REPORTABLE QUANTITY (RQ) FOR OIL AND HAZARDOUS SUBSTANCES SHOULD BE MAINTAINED IN ACCORDANCE WITH THE FEDERAL AND STATE REGULATIONS.
2. EMERGENCY CONTACT INFORMATION AND SPILL RESPONSE PROCEDURES SHALL BE POSTED IN A READILY AVAILABLE REA FOR ACCESS BY ALL EMPLOYEES AND SUBCONTRACTORS.
3. SPILL CONTAINMENT KITS SHOULD BE MAINTAINED FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS THAT ARE REGULARLY ONSITE. MATERIALS IN KITS SHOULD BE BASED ON CONTAINMENT GUIDELINES IN THE MATERIALS SAFETY AND DATA SHEETS (MSDS) FOR THE SUBSTANCE MOST FREQUENTLY ONSITE.
4. SPILL KITS ARE INTENDED FOR RESPONSE TO SMALL SPILLS, TYPICALLY LESS THAN 5 GALLONS, OF SUBSTANCES THAT ARE NOT EXTREMELY HAZARDOUS.
5. SIGNIFICANT SPILLS OR OTHER RELEASES WARRANT IMMEDIATE RESPONSE BY TRAINED PROFESSIONALS.
6. SUSPECTED JOB-SITE CONTAMINATION SHOULD BE IMMEDIATELY REPORTED TO REGULATORY AUTHORITIES AND PROTECTIVE ACTIONS TAKEN.
7. THE CONTRACTOR SHOULD BE REQUIRED TO DESIGNATE A SITE SUPERINTENDENT, FOREMAN, SAFETY OFFICER, OR OTHER SENIOR PERSON WHO IS ONSITE DAILY TO BE THE SPILL AND LEAK RESPONSE COORDINATOR (SLRC) AND MUST HAVE KNOWLEDGE OF AND BE TRAINED IN CORRECT SPILL AND LEAK RESPONSE PROCEDURES.

SANITARY WASTE NOTES

1. THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE NUMBER OF PORTABLE TOILETS BASED ON THE NUMBER OF EMPLOYEES USING THE TOILETS AND THE HOURS THEY WILL WORK.
2. SANITARY FACILITIES SHALL BE PLACED ON A MINIMUM OF 50 FEET AWAY FROM STORM DRAIN INLETS, CONVEYANCE, CHANNELS OR SURFACE WATERS. IF UNABLE TO MEET THE 50 FOOT REQUIREMENT DUE TO SITE CONFIGURATION, PORTABLE TOILETS SHALL BE A MINIMUM OF 20 FEET AWAY FROM STORM DRAIN INLETS, CONVEYANCE CHANNELS OR SURFACE WATER AND SECONDARY CONTAINMENT SHALL BE PROVIDED IN CASE OF SPILLS.
3. THE LOCATION OF THE PORTABLE TOILETS SHALL BE ACCESSIBLE TO MAINTENANCE TRUCKS WITHOUT DAMAGING EROSION AND SEDIMENT CONTROLS OR CAUSING EROSION OR TRACKING PROBLEMS.
4. SANITARY FACILITIES SHALL BE FULLY ENCLOSED AND DESIGNED IN A MANNER THAT MINIMIZES THE EXPOSURE OF SANITARY WASTE TO PRECIPITATION AND STORMWATER RUNOFF.
5. WHEN HIGH WINDS ARE EXPECTED, PORTABLE TOILETS SHALL BE ANCHORED OR OTHERWISE SECURED TO PREVENT THEM FROM BEING BLOWN OVER.
6. THE COMPANY THAT SUPPLIES AND MAINTAINS THE PORTABLE TOILETS SHALL BE NOTIFIED IMMEDIATELY IF A TOILET IS TIPPED OVER OR DAMAGED IN A WAY THAT THE RESULTS IN A DISCHARGE. DISCHARGED SOLID MATTER SHALL BE VACUUMED INTO A SEPTIC TRUCK BY THE COMPANY THAT MAINTAINS THE TOILETS.
7. THE OPERATOR OF THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) SHALL BE NOTIFIED IF A DISCHARGE FROM THE PORTABLE TOILETS ENTERS THE MS4 OR A NATURAL CHANNEL.
8. SANITARY FACILITIES SHALL NOT BE PERMITTED ON PUBLIC SIDEWALKS, STREETS OR INLETS.

SUBGRADE STABILIZATION NOTES

1. MINIMIZE THE DISCHARGE OF THE CHEMICAL STABILIZERS BY THE CONTRACTOR LIMITING THE AMOUNT OF STABILIZING AGENT ONSITE TO THAT WHICH CAN BE THOROUGHLY MIXED AND COMPACTED BY THE END OF EACH WORKDAY.
2. STABILIZERS SHALL BE APPLIED AT RATES THAT RESULT IN NO RUN OFF.
3. STABILIZATION SHALL NOT OCCUR IMMEDIATELY BEFORE AND DURING RAINFALL EVENTS.
4. NO TRAFFIC OTHER THAN WATER TRUCKS AND MIXING EQUIPMENT SHALL BE ALLOWED TO PASS OVER THE AREA BEING STABILIZED UNTIL AFTER COMPLETION OF MIXING THE CHEMICAL.
5. AREA ADJACENT AND DOWNSTREAM OF STABILIZED AREAS SHALL BE ROUGHENED TO INTERCEPT CHEMICAL RUNOFF AND REDUCE RUNOFF VELOCITY.
6. GEOTEXTILE FABRICS SUCH AS THOSE USED FOR SILT FENCE SHOULD NOT BE USED TO TREAT CHEMICAL RUNOFF, BECAUSE THE CHEMICALS ARE DISSOLVED IN THE WATER AND WON'T BE AFFECTED BY A BARRIER AND THE SUSPENDED SOLIDS ARE SIGNIFICANTLY SMALLER THAN THE APPARENT OPENING SIZE OF THE FABRIC.
7. IF SOIL STABILIZERS ARE STORED ONSITE, THEY SHALL BE CONSIDERED HAZARDOUS MATERIAL AND SHALL BE MANAGED ACCORDING TO THE CRITERIA OF CHEMICAL MANAGEMENT TO CAPTURE ANY ACCIDENTAL LIME OR CHEMICAL OVERFLOW.
8. THE CONTRACTOR SHALL INSTALL BMP'S TO ALL INLETS AND OPENINGS CONNECTED TO THE STORM SEWER SYSTEMS TO PREVENT LIME FROM ENTERING THE MS4 SYSTEM.

DEBRIS AND TRASH NOTES


1. ALL WASTE SOURCES AND STORAGE AREAS SHALL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS AND OTHER WATERS. IF THE SITE CONFIGURATION PROVIDES SUFFICIENT SPACE TO DO SO, IN NO CASE SHALL MATERIAL AND WASTE SOURCES BE CLOSER THAN 20 FEET FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS, AND OTHER WATERS.
2. CONSTRUCTION WASTE AND TRASH SHALL BE STORED IN A MANNER THAT MINIMIZES ITS EXPOSURE TO PRECIPITATION AND STORMWATER RUNOFF.
3. WHENEVER POSSIBLE, MINIMIZE PRODUCTION OF DEBRIS AND TRASH.
4. INSTRUCT CONSTRUCTION WORKERS IN PROPER DEBRIS AND TRASH STORAGE AND HANDLING PROCEDURES.
5. SEGREGATE POTENTIAL HAZARDOUS WASTE FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS.
6. PROHIBIT LITTERING BY WORKERS AND VISITORS.
7. POLICE SITE DAILY FOR LITTER AND DEBRIS.
8. ENFORCE SOLID WASTE HANDLING AND STORAGE PROCEDURES.
9. IF FEASIBLE, RECYCLE CONSTRUCTION AND DEMOLITION DEBRIS SUCH AS WOOD, METAL, AND CONCRETE.
10. TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE AT REGULAR INTERVALS THAT ARE SCHEDULED TO EMPTY CONTAINERS WHEN THEY ARE 90 PERCENT FULL OR MORE FREQUENTLY.
11. GENERAL CONSTRUCTION DEBRIS MAY BE HAULED TO A LICENSED CONSTRUCTION DEBRIS LANDFILL.
12. USE WASTE AND RECYCLING HAULERS/FACILITIES APPROVED BY THE LOCAL MUNICIPALITY.
13. CHIPPING OF TREES AND BRUSH FOR USE SUCH AS MULCH IS PREFERRED ALTERNATIVE TO ONSITE DISPOSAL.
14. NO WASTE, TRASH, OR DEBRIS SHALL BE BURIED, BURNED OR OTHER WISE DISPOSED OF ONSITE.
15. CLEARLY MARK ON ALL DEBRIS AND TRASH CONTAINERS WHICH MATERIALS ARE ACCEPTABLE. FOREMAN AND/OR CONSTRUCTION SUPERVISOR SHALL MONITOR ONSITE SOLID WASTE STORAGE AND DISPOSAL PROCEDURES DAILY.

SANDBLASTING WASTE NOTES

1. THE CONTRACTOR SHOULD BE REQUIRED TO DESIGNATE THE SITE SUPERINTENDENT, FOREMAN, OR OTHER PERSON WHO IS RESPONSIBLE FOR SANDBLASTING TO ALSO BE RESPONSIBLE FOR SANDBLASTING WASTE MANAGEMENT.
2. PROHIBIT THE DISCHARGE OF SANDBLASTING WASTE.
3. USE ONLY INERT, NON-DEGRADABLE SANDBLAST MEDIA.
4. USE APPROPRIATE EQUIPMENT FOR THE JOB; DO NOT OVER-BLAST.
5. WHENEVER POSSIBLE, BLAST IN A DOWNWARD DIRECTION.
6. CEASE BLASTING ACTIVITIES IN HIGH WINDS OR IF WIND DIRECTION COULD TRANSPORT GRIT TO DRAINAGE FACILITIES.
7. INSTALL DUST SHIELDING AROUND SANDBLASTING AREAS.
8. COLLECT AND DISPOSE OF ALL SPENT SANDBLAST GRIT, USE DUST CONTAINMENT FABRICS AND DUST COLLECTION HOPPERS AND BARRELS.
9. NON-HAZARDOUS SANDBLAST GRIT MAY BE DISPOSED IN PERMITTED CONSTRUCTION DEBRIS LANDFILLS OR PERMITTED SANITARY LANDFILLS.
10. IF SANDBLAST MEDIA CANNOT BE FULLY CONTAINED, CONSTRUCT SEDIMENT TRAPS DOWNSTREAM FROM BLASTING AREA WHERE APPROPRIATE.
11. USE SAND FENCING WHERE APPROPRIATE IN AREAS WHERE BLAST MEDIA CANNOT BE FULLY CONTAINED.
12. IF NECESSARY, INSTALL MISTING EQUIPMENT TO REMOVE SANDBLAST GRIT FROM THE AIR PREVENT RUNOFF FROM MISTING OPERATIONS FROM ENTERING DRAINAGE SYSTEMS.
13. USE VACUUM GRIT COLLECTION SYSTEMS WHERE POSSIBLE.
14. KEEP RECORDS OF SANDBLASTING MATERIALS, PROCEDURES, AND WEATHER CONDITIONS ON A DAILY BASIS.
15. TAKE ALL REASONABLE PRECAUTIONS TO ENSURE THAT SANDBLASTING GRIT IS CONTAINED AND KEPT AWAY FROM DRAINAGE STRUCTURES.
16. SAND BLASTING MEDIA SHOULD ALWAYS BE STORED UNDER COVER AWAY FROM DRAINAGE STRUCTURES.
17. ENSURE THAT STORED MEDIA OR GRIT IS NOT SUBJECTED TO TRANSPORT BY WIND.
18. ENSURE THAT ALL SANDBLASTING EQUIPMENT AND STORAGE CONTAINERS COMPLY WITH CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS.
19. CAPTURE AND TREAT RUNOFF, WHICH COMES INTO CONTACT WITH SANDBLASTING MATERIALS OR WASTE.

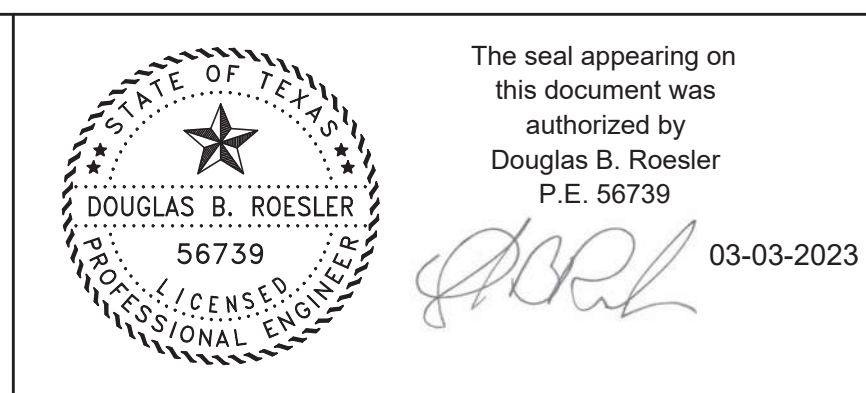
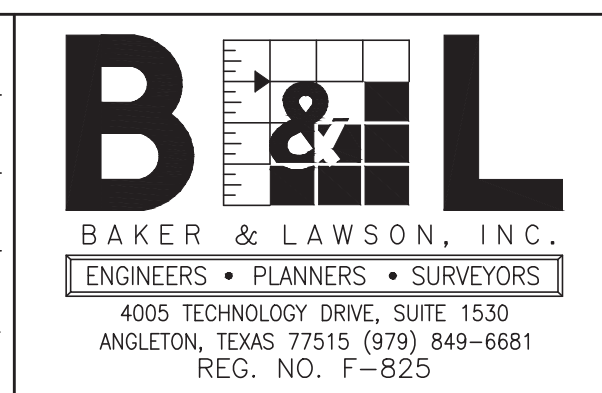
CONCRETE SAWCUTTING WASTE NOTES

1. DURING SAWCUTTING OPERATIONS, THE SLURRY AND CUTTINGS SHALL BE CONTINUOUSLY VACUUMED OR OTHERWISE RECOVERED AND NOT BE ALLOWED TO DISCHARGE FROM THE SITE.
2. IF THE PAVEMENT TO BE CUT IS NEAR A STORM DRAIN INLET, THE INLET SHALL BE BLOCKED BY SANDBAGS OR EQUIVALENT TEMPORARY MEASURES TO PREVENT THE SLURRY FROM ENTERING THE INLET. REMOVE THE SANDBAGS IMMEDIATELY AFTER COMPLETING SAWCUTTING OPERATIONS, SO THEY DO NOT CAUSE DRAINAGE PROBLEMS DURING STORM EVENTS.
3. SLURRY AND CUTTINGS SHALL NOT BE ALLOWED TO REMAIN ON THE PAVEMENT TO DRY OUT.
4. DEVELOP PRE-DETERMINED, SAFE SLURRY DISPOSAL AREAS.
5. COLLECTED SLURRY AND CUTTINGS SHOULD BE IMMEDIATELY HAULED FROM THE SITE FOR DISPOSAL AT A WASTE FACILITY. IF THIS IS NOT POSSIBLE, THE SLURRY AND CUTTINGS SHALL BE DISCHARGED INTO ONSITE CONTAINMENT.
6. THE ONSITE CONTAINMENT MAY BE EXCAVATED OR BERMED PIT LINED WITH PLASTIC MINIMUM OF 10 MILLIMETERS THICK. IF THE PROJECT INCLUDES PLACEMENT OF NEW CONCRETE, SLURRY FROM SAWCUTTING MAY BE DISPOSED OF IN FACILITIES DESIGNATED FOR THE WASHOUT OF CONCRETE TRUCKS INSTEAD CONSTRUCTING A SEPARATE CONTAINMENT.
7. THE CONTAINMENT SHALL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS, AND OTHER WATERS. IF THE SITE CONFIGURATION PROVIDES SUFFICIENT SPACE TO DO SO, IN NO CASE SHALL THE COLLECTION AREA BE CLOSER THAN 20 FEET FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS AND OTHER WATERS.
8. SEVERAL, PORTABLE, PRE-FABRICATED, CONCRETE WASHOUT, COLLECTION BASINS ARE COMMERCIALY AVAILABLE AND ARE AN ACCEPTABLE ALTERNATIVE TO AN ONSITE CONTAINMENT PIT.
9. REMOVE WASTER CONCRETE WHEN THE CONTAINMENT IS HALF FULL. ALWAYS MAINTAIN A MINIMUM OF ONE FOOT FREEBOARD.
10. ONSITE EVAPORATION OF SLURRY WATER AND RECYCLING OF THE CONCRETE WASTE IS THE PREFERRED DISPOSAL METHOD. WHEN THIS IS NOT FEASIBLE, DISCHARGE FROM THE COLLECTION AREA SHALL ONLY BE ALLOWED IF A PASSIVE TREATMENT SYSTEM IS USED TO REMOVE THE FINES. MECHANICAL MIXING IS REQUIRED IN THE COLLECTION AREA. THE pH MUST BE TESTED, AND DISCHARGED IS ALLOWED IN IF THE pH DOES NOT EXCEED 8.0. THE pH MAY BE LOWERED BY ADDING SULFURIC ACID TO THE SLURRY WATER.
11. CARE SHALL BE EXERCISED WHEN TREATING THE SLURRY WATER FOR DISCHARGE. MONITORING MUST BE IMPLEMENTED TO VERIFY THAT DISCHARGES FROM THE COLLECTION AREA DO NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.
12. GEOTEXTILE FABRICS SUCH AS THOSE USED FOR SILT FENCE SHOULD NOT BE USED TO CONTROL SAWCUTTING WASTE, SINCE THE GRAIN SIZE IS SIGNIFICANTLY SMALLER THAN THE APPARENT OPENING SIZE OF THE FABRIC.

No.	DATE	REVISION
SEAL:		
DESIGN ENGINEER: _____ DATE: _____		
 CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT		
CONSTRUCTION PLANS FOR:		
GENERAL EROSION CONTROL NOTES		
JOB No.:	DATE:	SL-33
DESIGNED BY:	DRAWN BY:	
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NO.	DATE	DESCRIPTION	APPROVED

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 DRAWN: BT  
 CHECKED: \_\_\_\_\_  
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OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

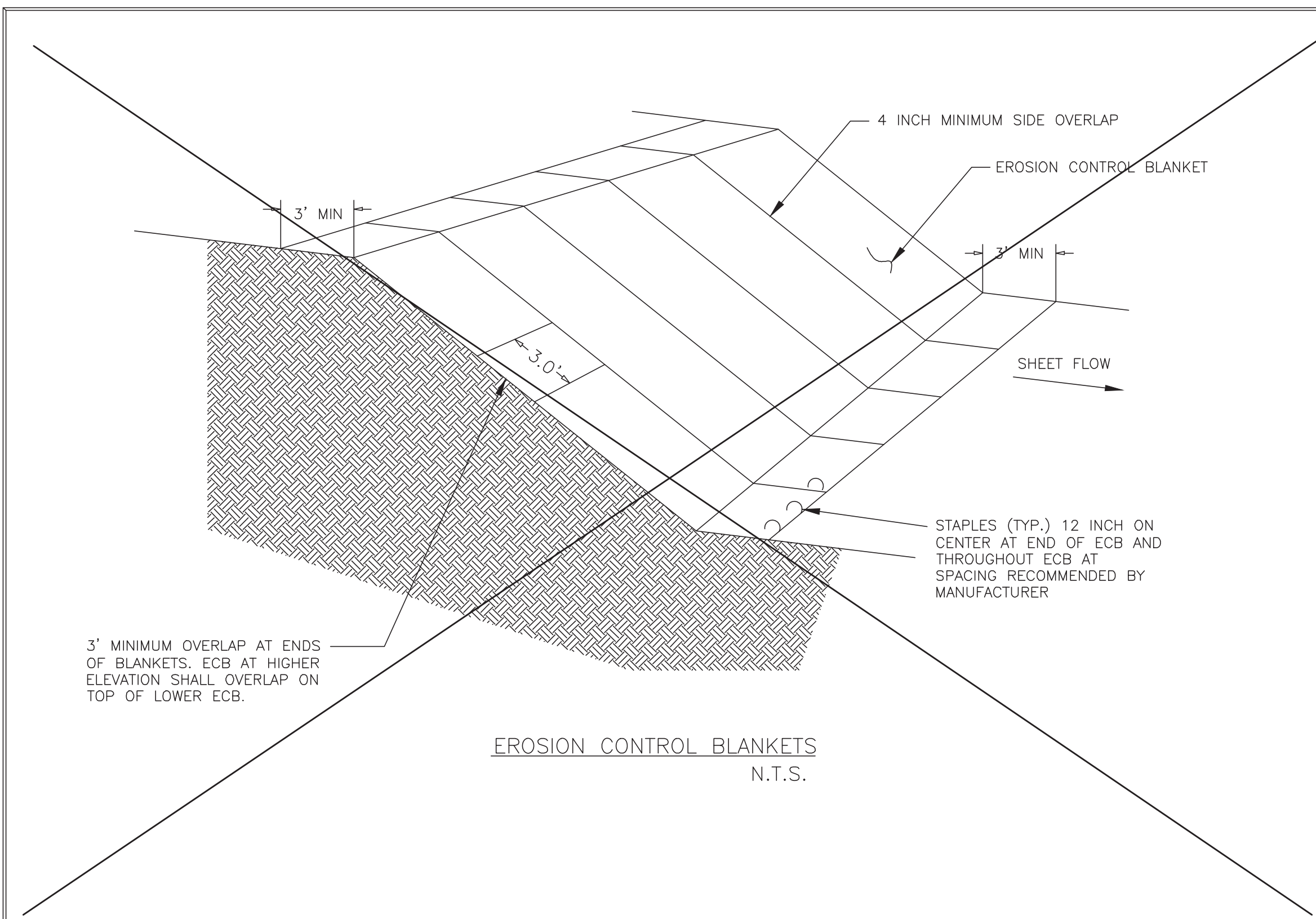
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**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

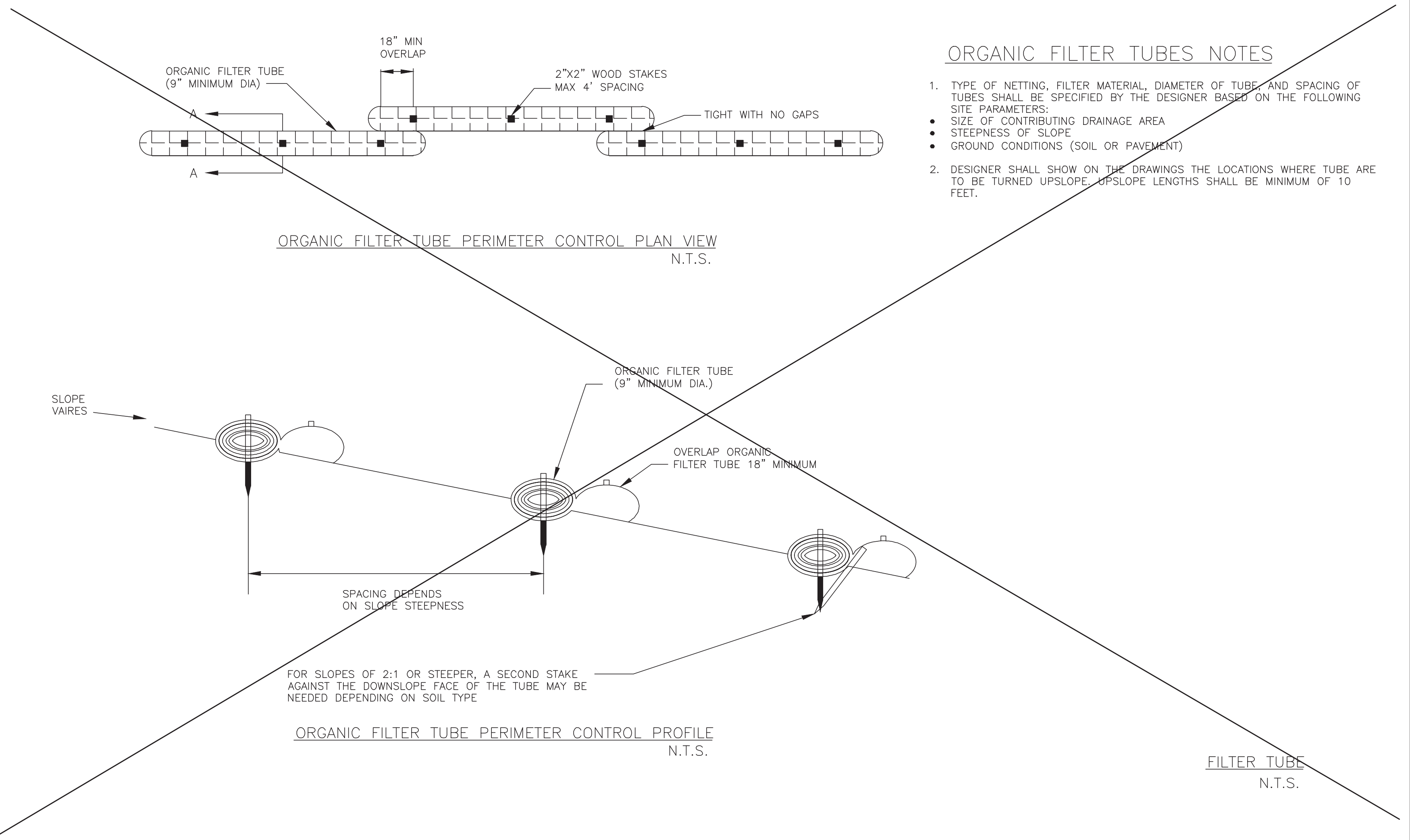
GENERAL EROSION CONTROL NOTES  
 SL-33

PROJECT NO. 14396



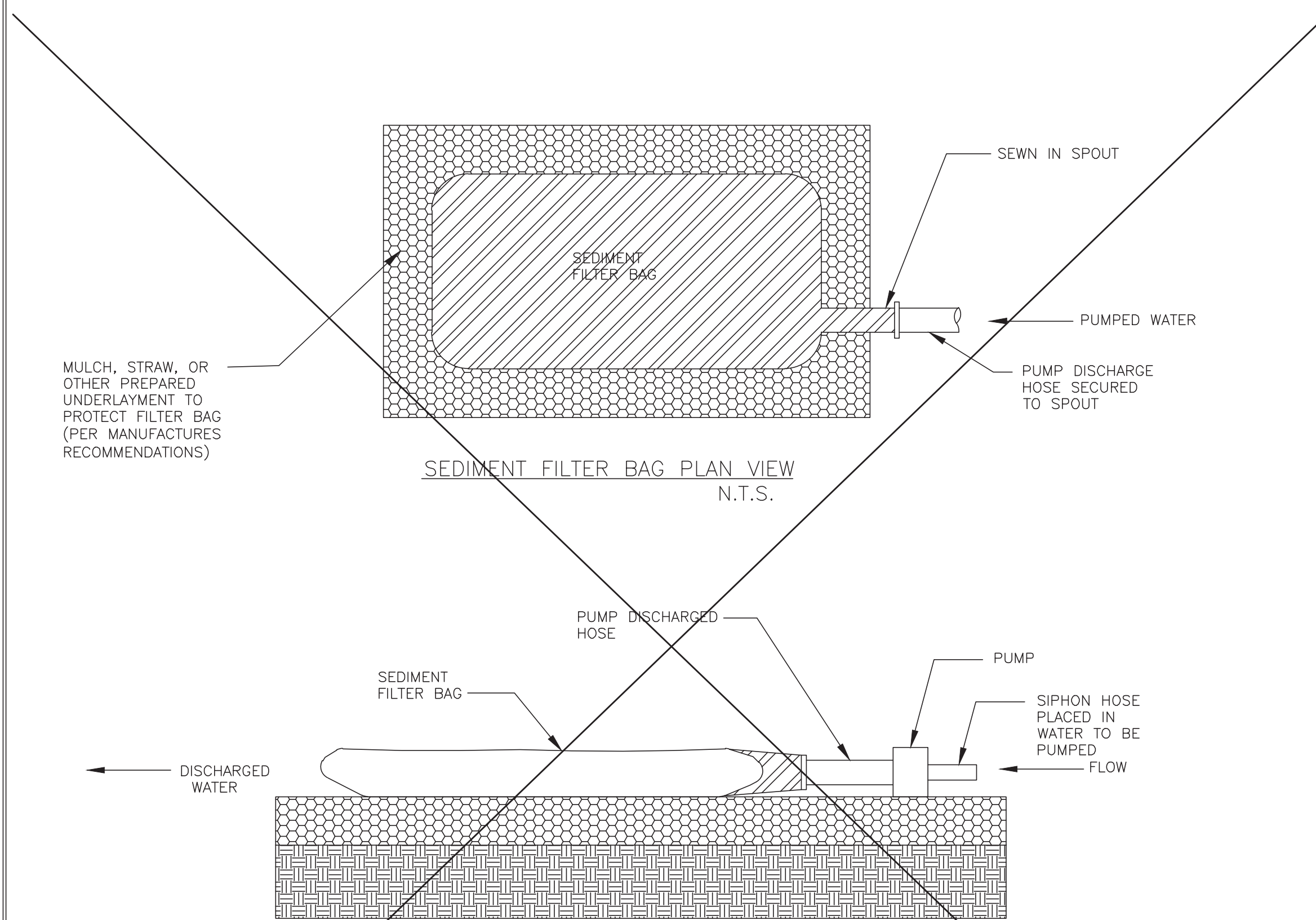


EROSION CONTROL BLANKETS  
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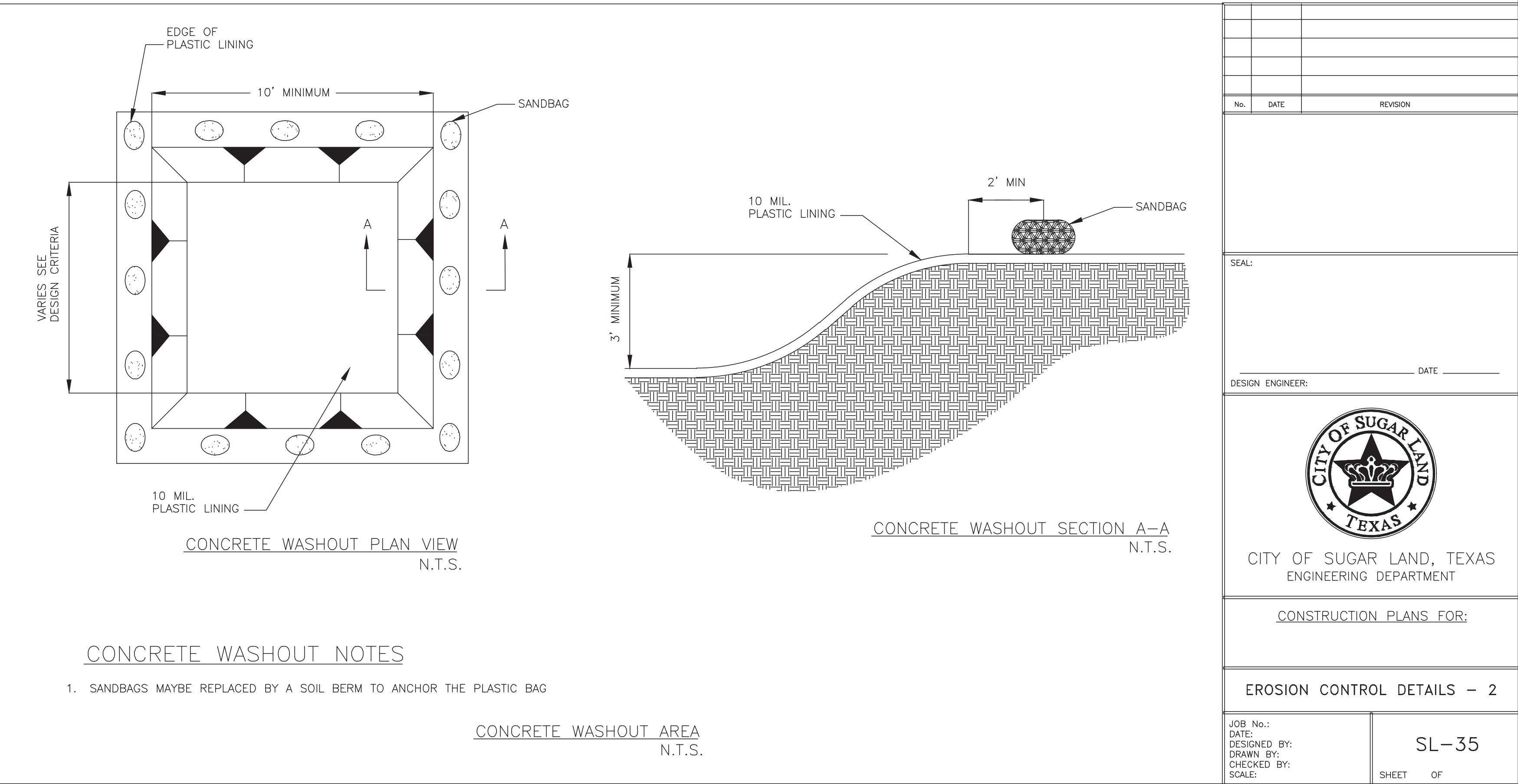
**ORGANIC FILTER TUBES NOTES**

1. TYPE OF NETTING, FILTER MATERIAL, DIAMETER OF TUBE AND SPACING OF TUBES SHALL BE SPECIFIED BY THE DESIGNER BASED ON THE FOLLOWING SITE PARAMETERS:
  - SIZE OF CONTRIBUTING DRAINAGE AREA
  - STEEPNESS OF SLOPE
  - GROUND CONDITIONS (SOIL OR PAVEMENT)
2. DESIGNER SHALL SHOW ON THE DRAWINGS THE LOCATIONS WHERE TUBE ARE TO BE TURNED UPSLOPE. UPSLOPE LENGTHS SHALL BE MINIMUM OF 10 FEET.



SEDIMENT FILTER BAG PLAN VIEW  
N.T.S.

SEDIMENT FILTER BAG PROFILE  
N.T.S.



ORGANIC FILTER TUBE PERIMETER CONTROL PROFILE  
N.T.S.

CONCRETE WASHOUT PLAN VIEW  
N.T.S.


CONCRETE WASHOUT SECTION A-A  
N.T.S.

**CONCRETE WASHOUT NOTES**

1. SANDBAGS MAYBE REPLACED BY A SOIL BERM TO ANCHOR THE PLASTIC BAG

DEWATERING CONTROLS  
N.T.S.

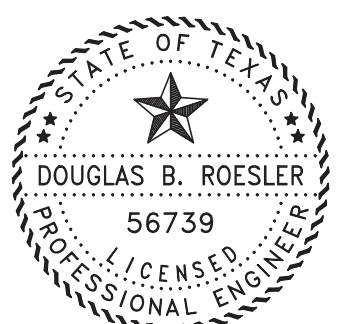
CONCRETE WASHOUT AREA  
N.T.S.

No.	DATE	REVISION
SEAL:		
DESIGN ENGINEER: _____ DATE: _____		
 CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT		
CONSTRUCTION PLANS FOR:		
EROSION CONTROL DETAILS - 2		
JOB No.:	DATE:	SL-35
DESIGNED BY:	DRAWN BY:	
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NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED: DR  
 DRAWN: BT  
 CHECKED: \_\_\_\_\_  
 DATE: \_\_\_\_\_

**B & L**  
 BAKER & LAWSON, INC.  
 ENGINEERS • PLANNERS • SURVEYORS  
 4005 TECHNOLOGY DRIVE, SUITE 1530  
 ANGLETON, TEXAS 77515 (979) 849-6661  
 REG. NO. F-825

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**DOUGLAS B. ROESLER**  
 P.E. 56739  
  
 03-03-2023

OWNER:  
**RIVERWAY PROPERTIES**  
**6115 SKYLINE DR. STE A.**  
**HOUSTON, TEXAS 77057**

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**RIVERWOOD RANCH SUBDIVISION**  
**SECTIONS 3 & 4**  
**A 35.620 AC, 145-LOT SUBDIVISION**  
**ANGLETON, TEXAS 77515**

EROSION CONTROL  
 DETAILS - 2  
 SL-35  
 PROJECT NO. 14396