

Date: May 14, 2026, 4:46pm User ID: schavez, DRAIN B.dwg

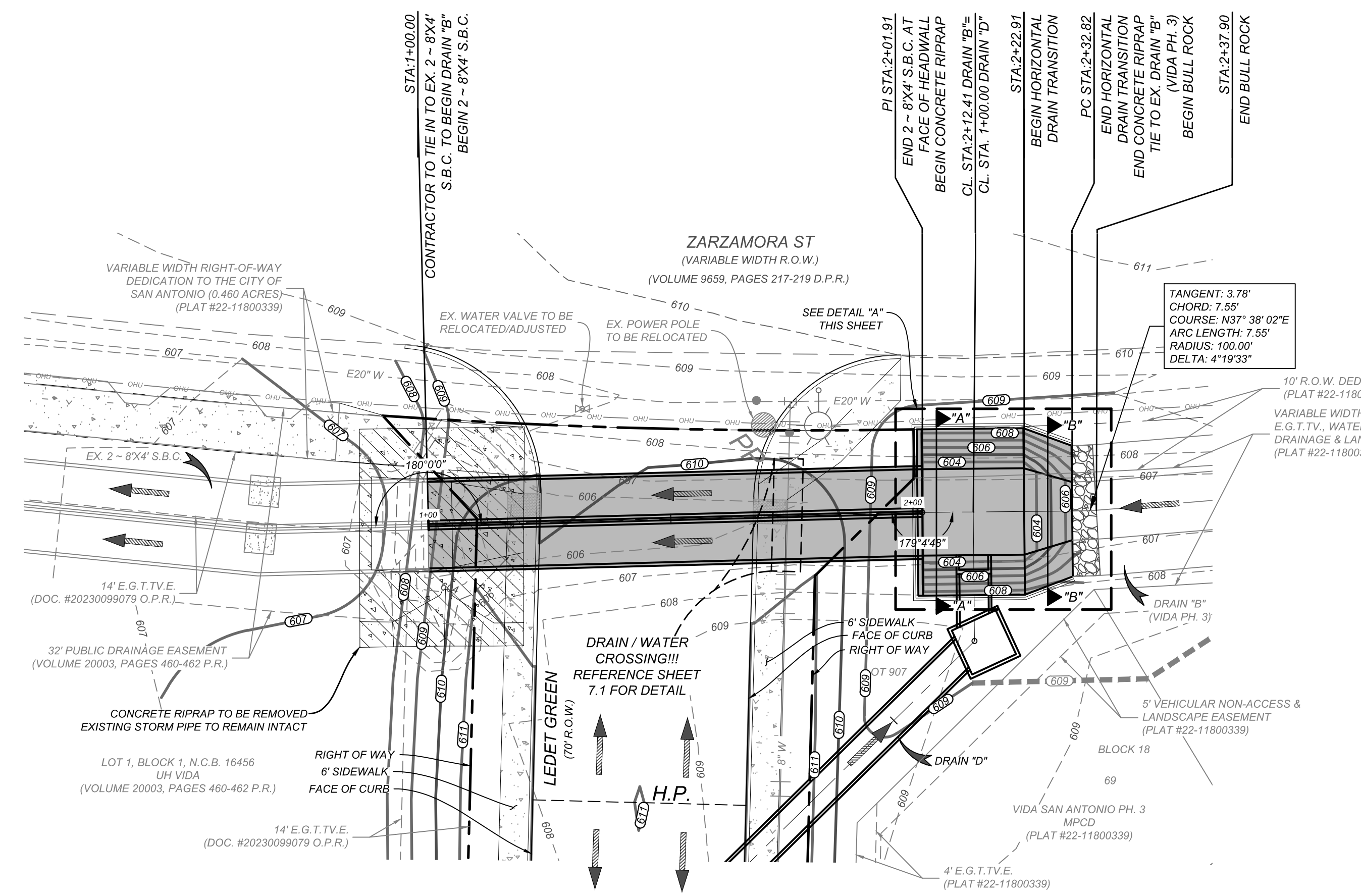
- NOTE:**
1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
 2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING EIGHTY-FIVE PERCENT OF THE DISTURBED SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.

CAUTION!

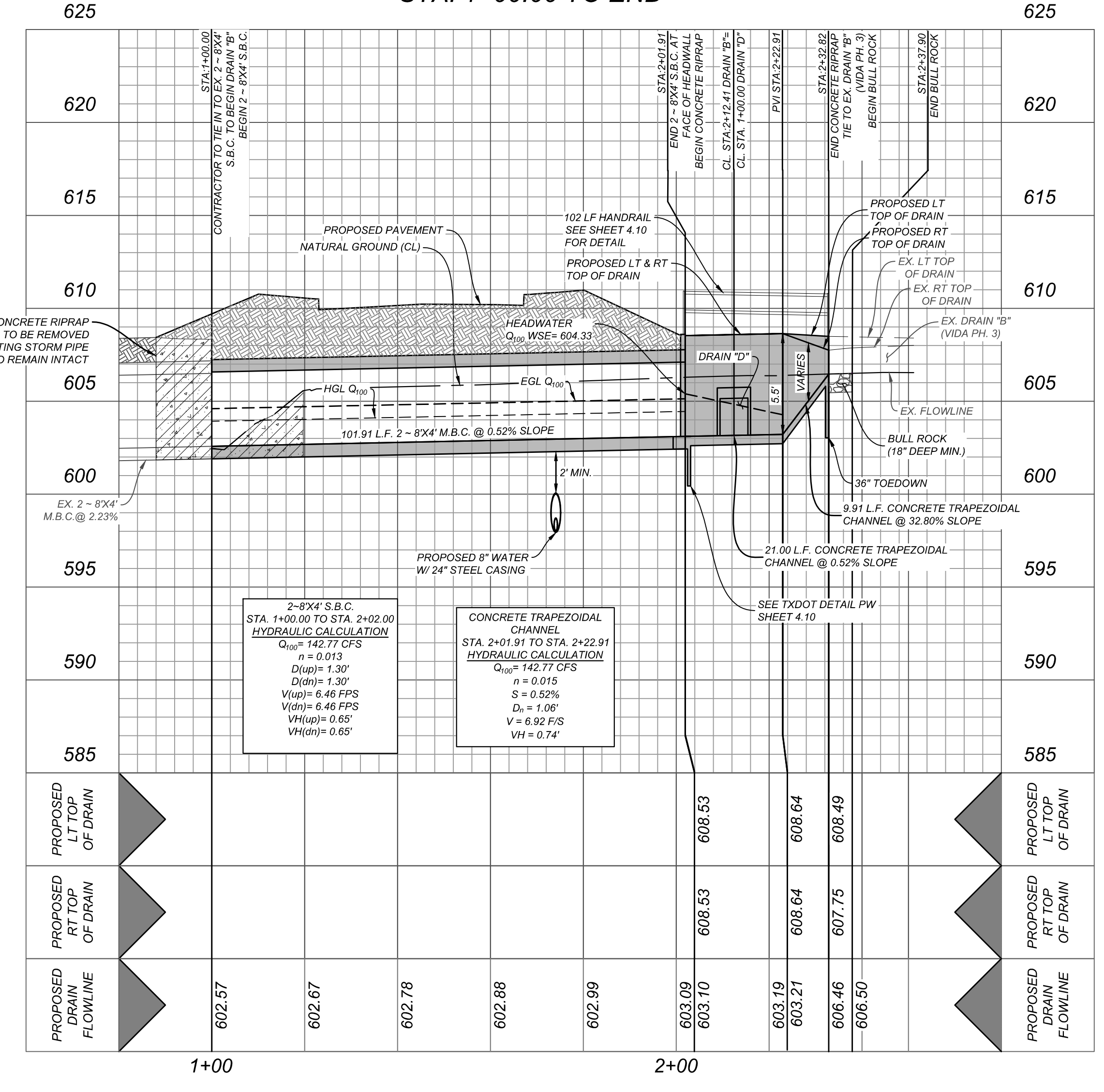
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION

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



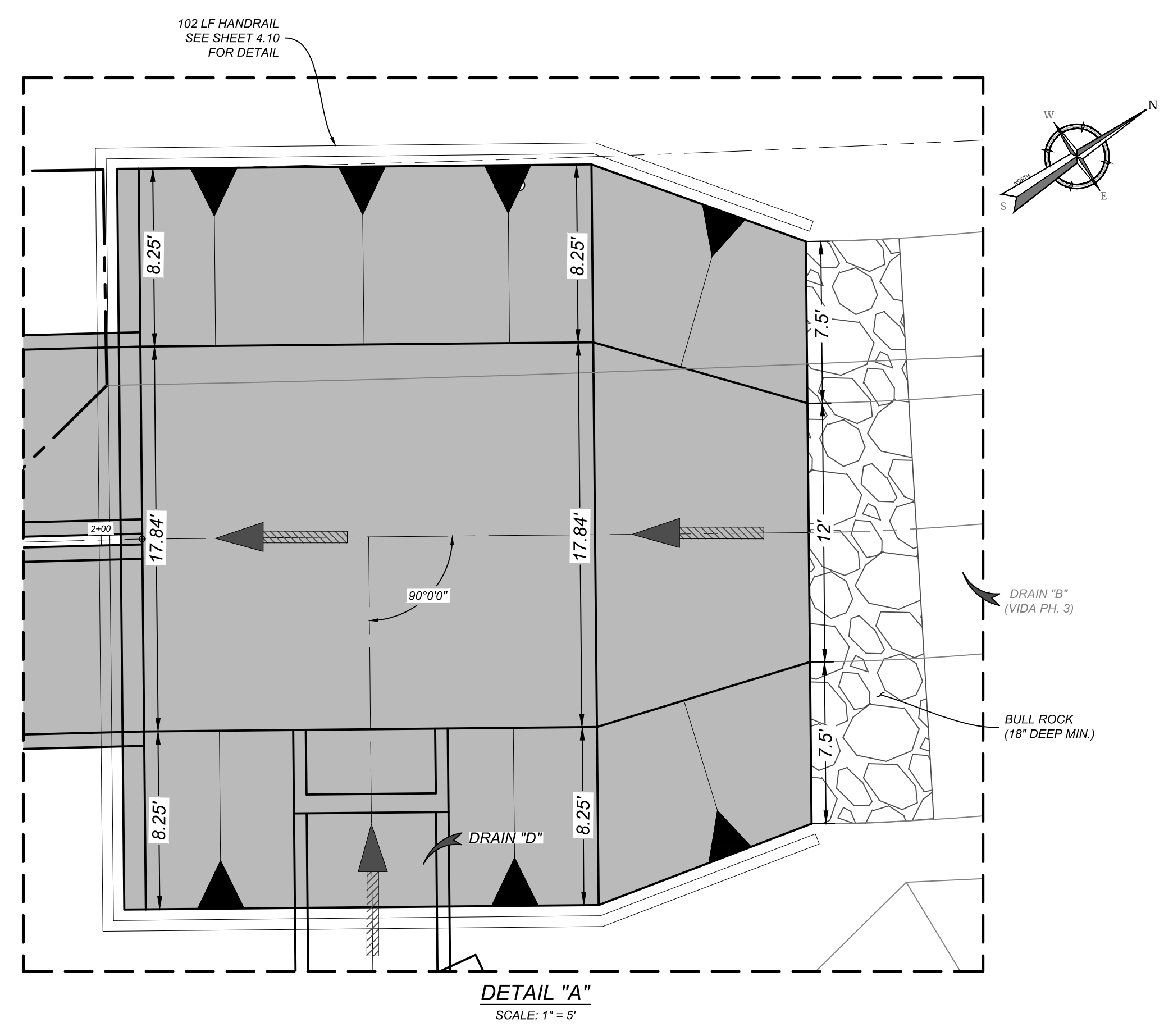
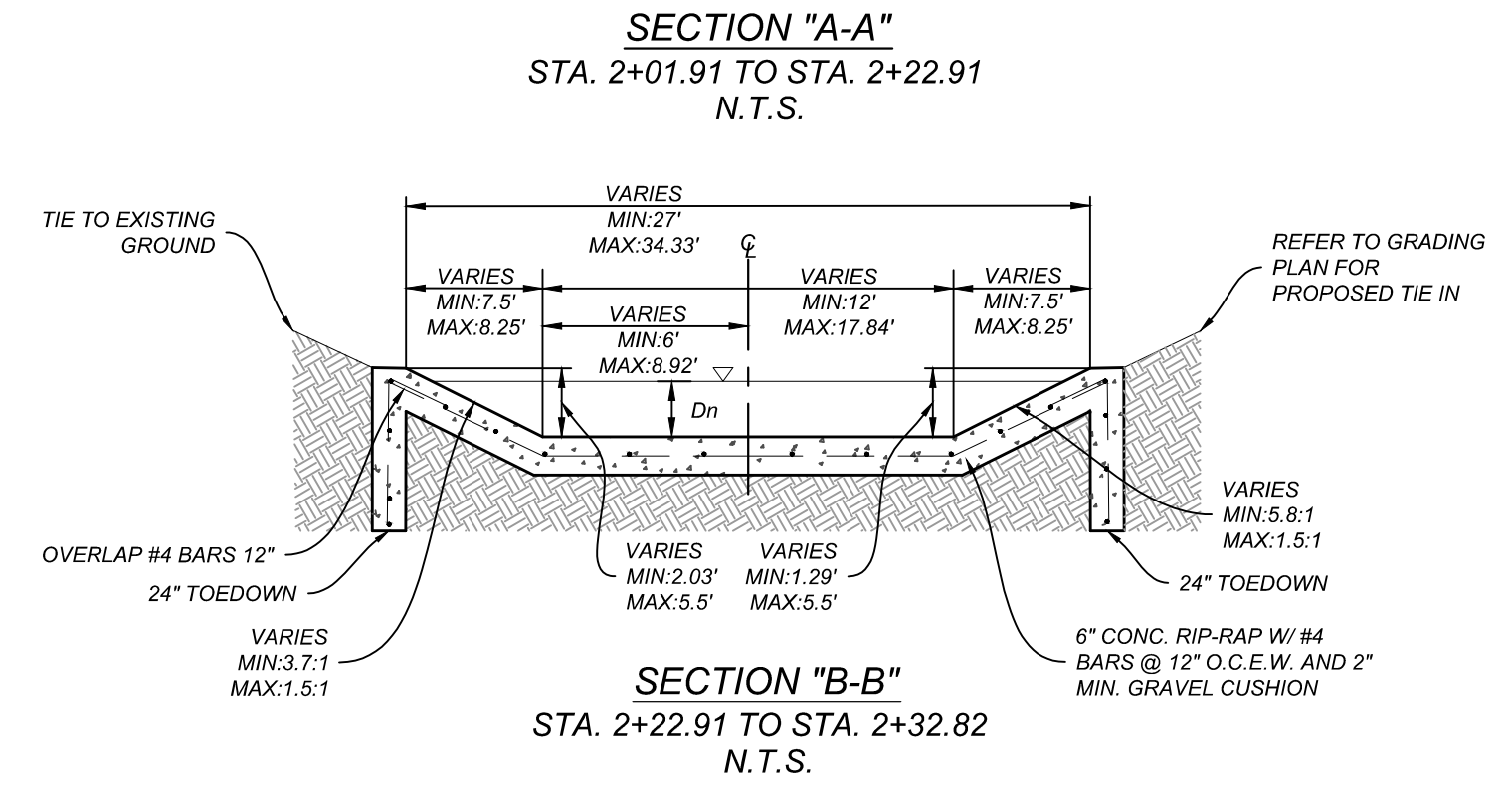
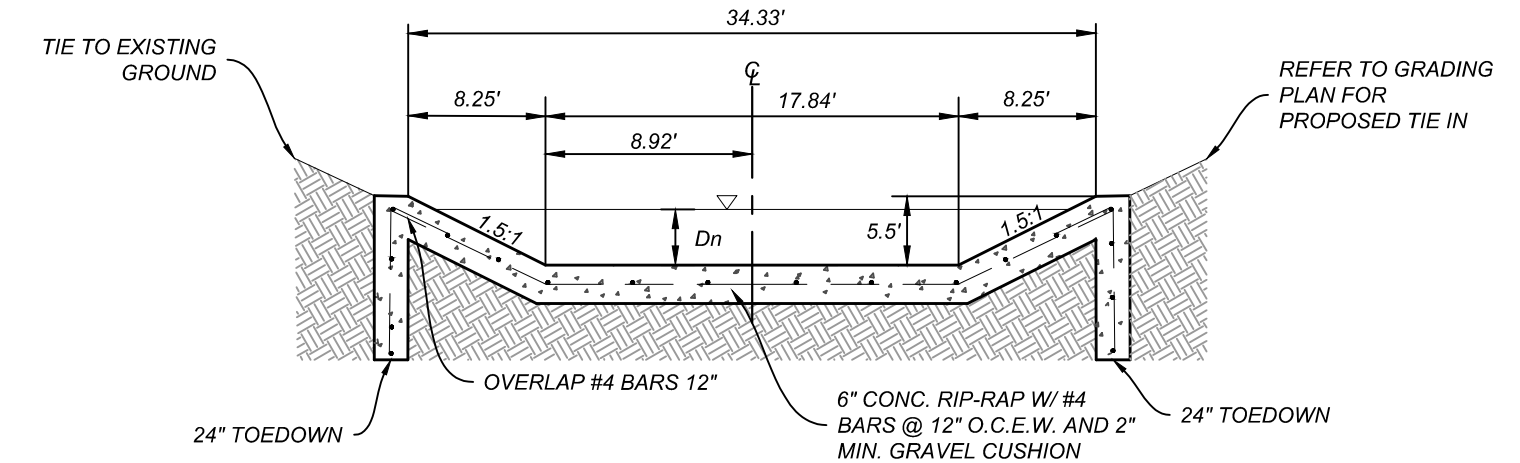
DRAIN B
STA: 1+00.00 TO END
HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



LEGEND

- FLOW ARROW = [Symbol]
- EXISTING CONTOUR = [Symbol]
- PROPOSED CONTOUR = [Symbol]
- ADJACENT PHASE PROPOSED CONTOUR = [Symbol]
- CONCRETE = [Symbol]
- BULL ROCK = [Symbol]
- SIDEWALK TO BE CONSTRUCTED BY DEVELOPER = [Symbol]

SCALE: 1" = 20'
Linear unit of measure: US Survey Foot (1 ft = 1200/9337 m)



DETAIL "A"
SCALE: 1" = 5'

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811
PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION

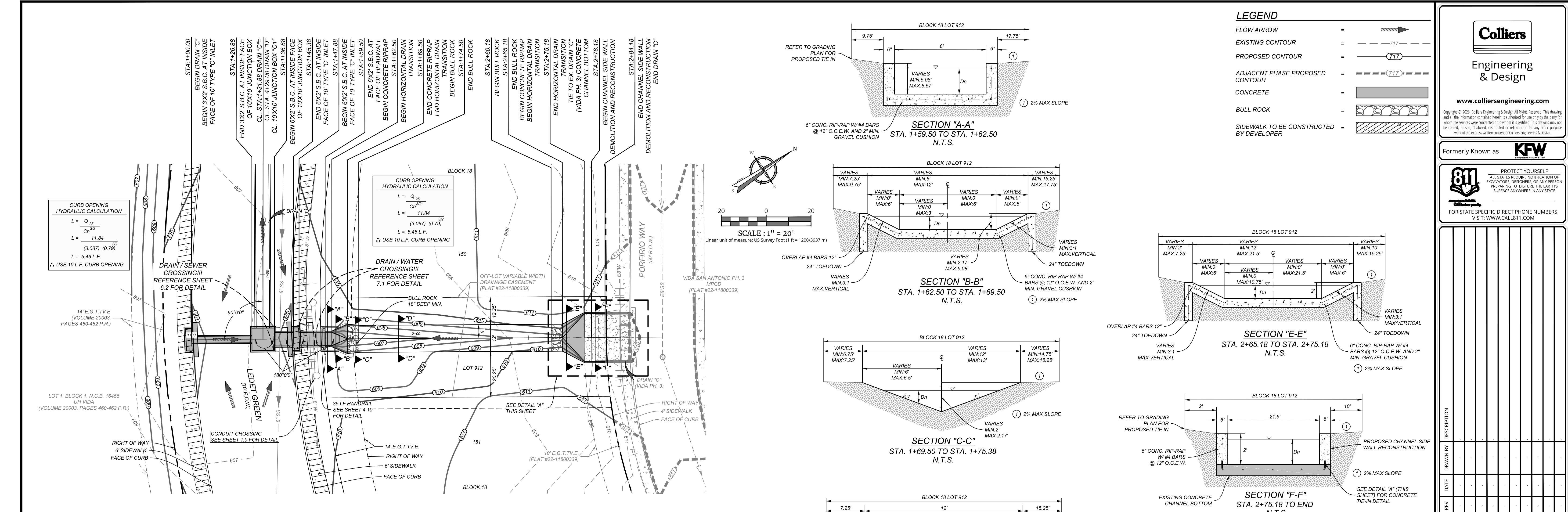
STATE OF TEXAS
OMAR A. ESPINOSA
125560
LICENSED PROFESSIONAL ENGINEER
5/19/26

VIDA WEST-EAST COLLECTOR PHASE 3
PLAT# 24-11800319
SAN ANTONIO BEXAR COUNTY TEXAS

Colliers
Engineering & Design
NEW BRAUNFELS (KFW)
640 North Walnut Ave. Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
TBSLS Form #: 10194550

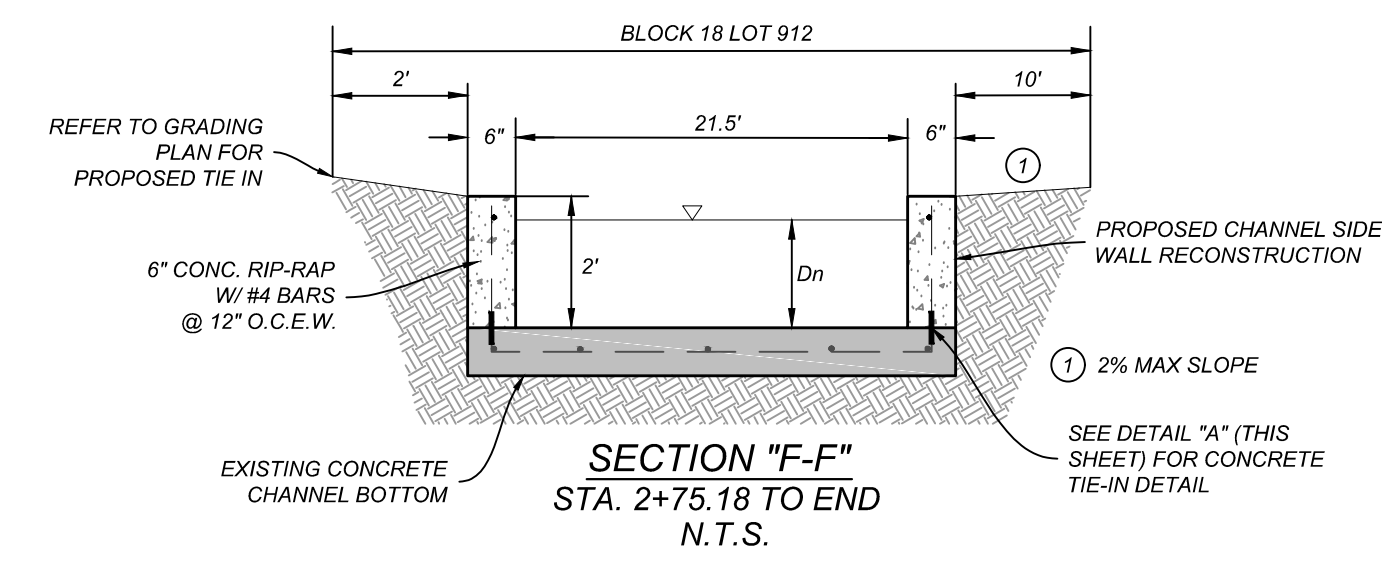
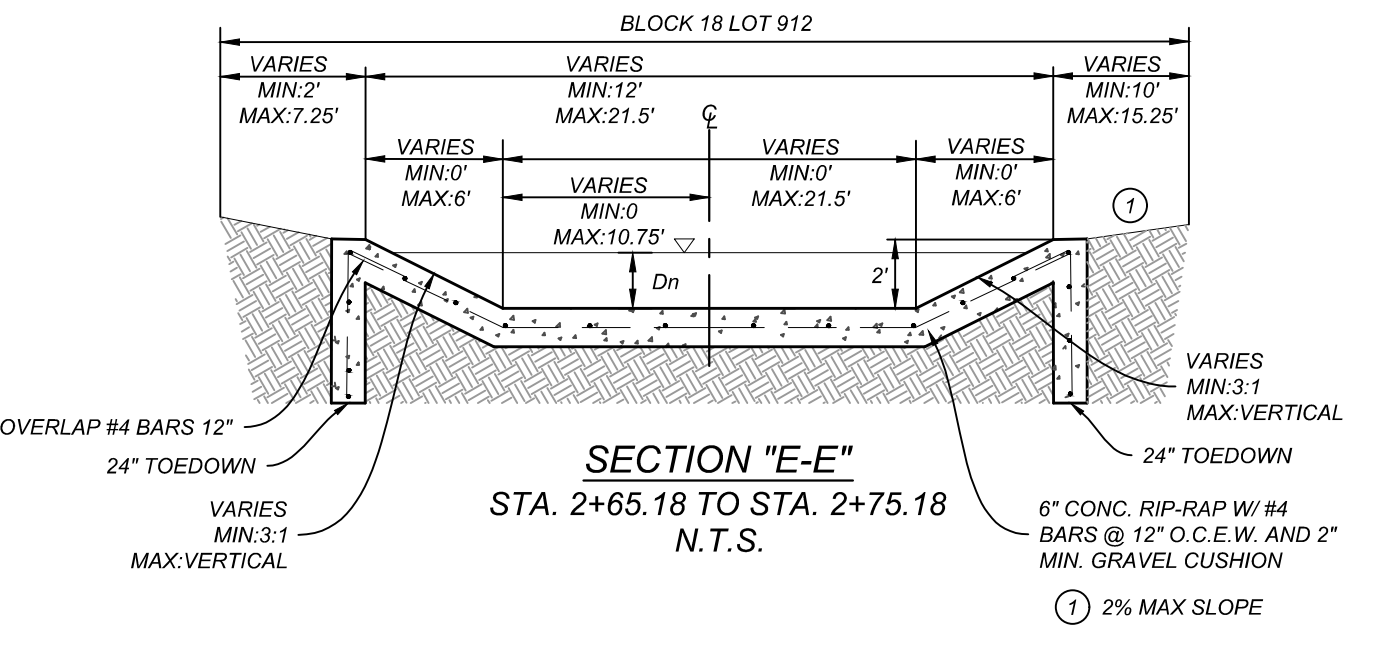
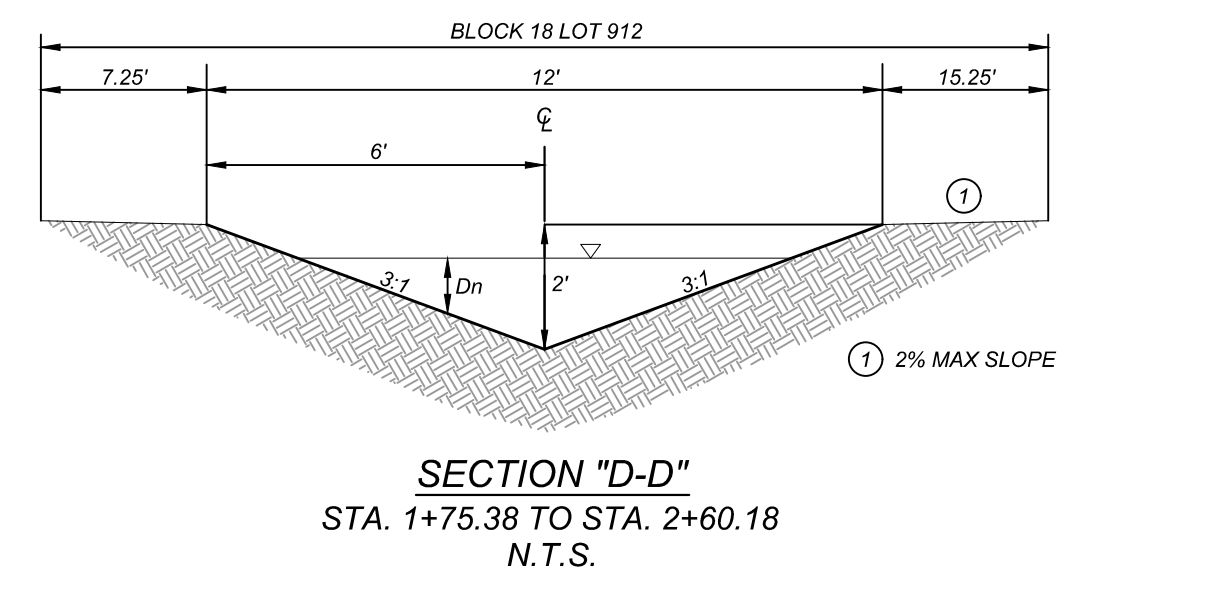
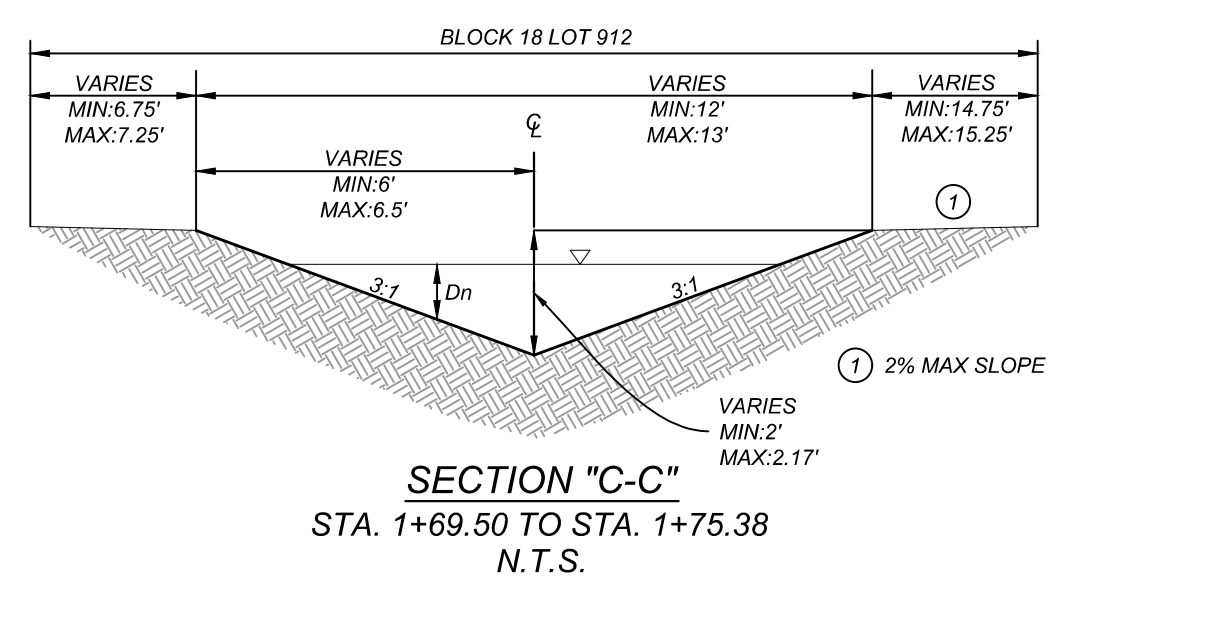
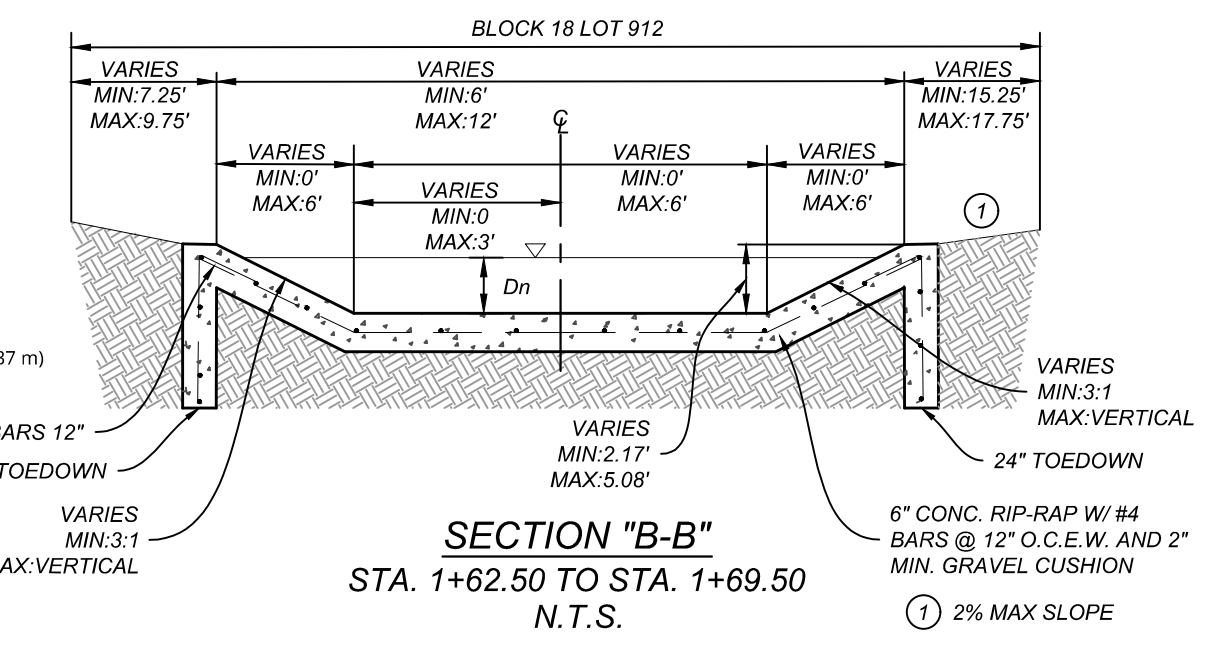
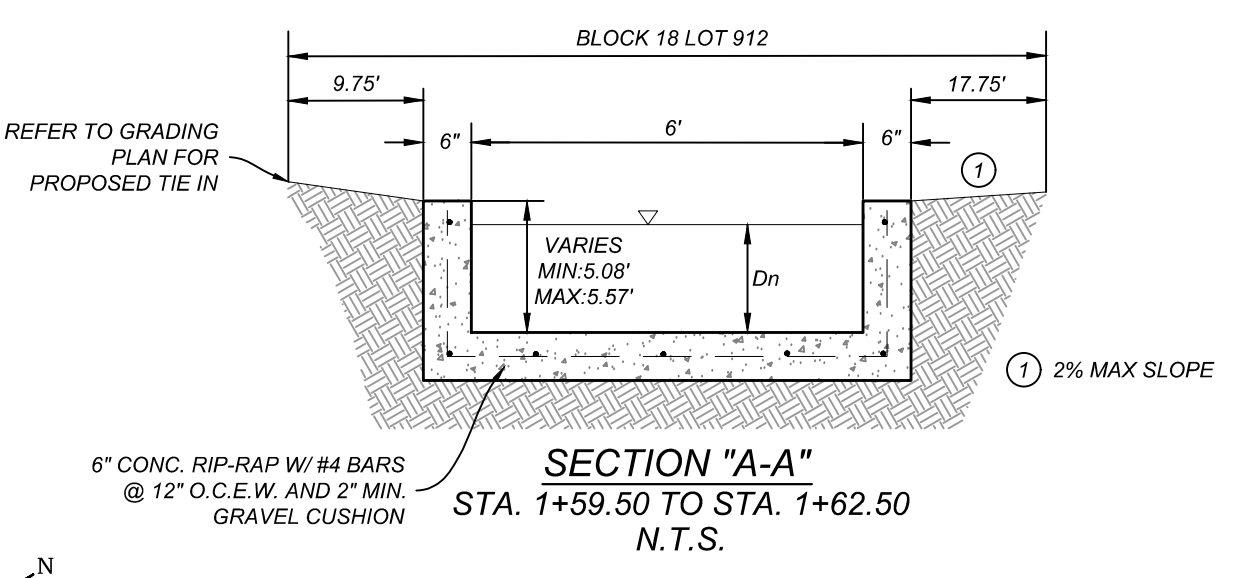
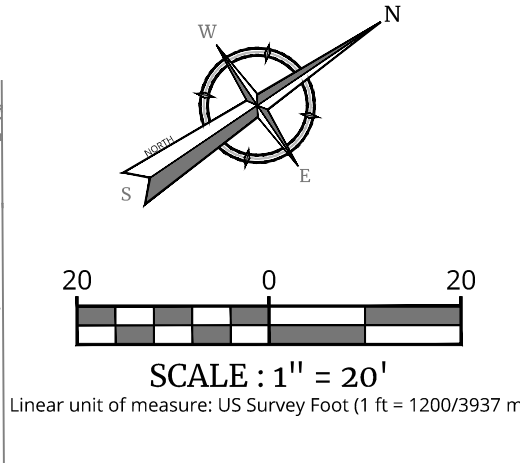
SCALE: AS SHOWN DATE: FEB. 2026 DRAWN BY: MF CHECKED BY: DA
PROJECT NUMBER: 391-10-21 DRAWING NAME: DRAIN B
SHEET TITLE: DRAIN B STA. 1+00.00 - END
SHEET NUMBER: 4.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



$L = \frac{Q_{25}}{C_1 \cdot S^{0.58}}$	$L = 11.84$
$L = \frac{Q_{25}}{(3.087) \cdot (0.79)^{0.58}}$	$L = 5.46 \text{ L.F.}$
$L = 5.46 \text{ L.F.}$	$L = 5.46 \text{ L.F.}$

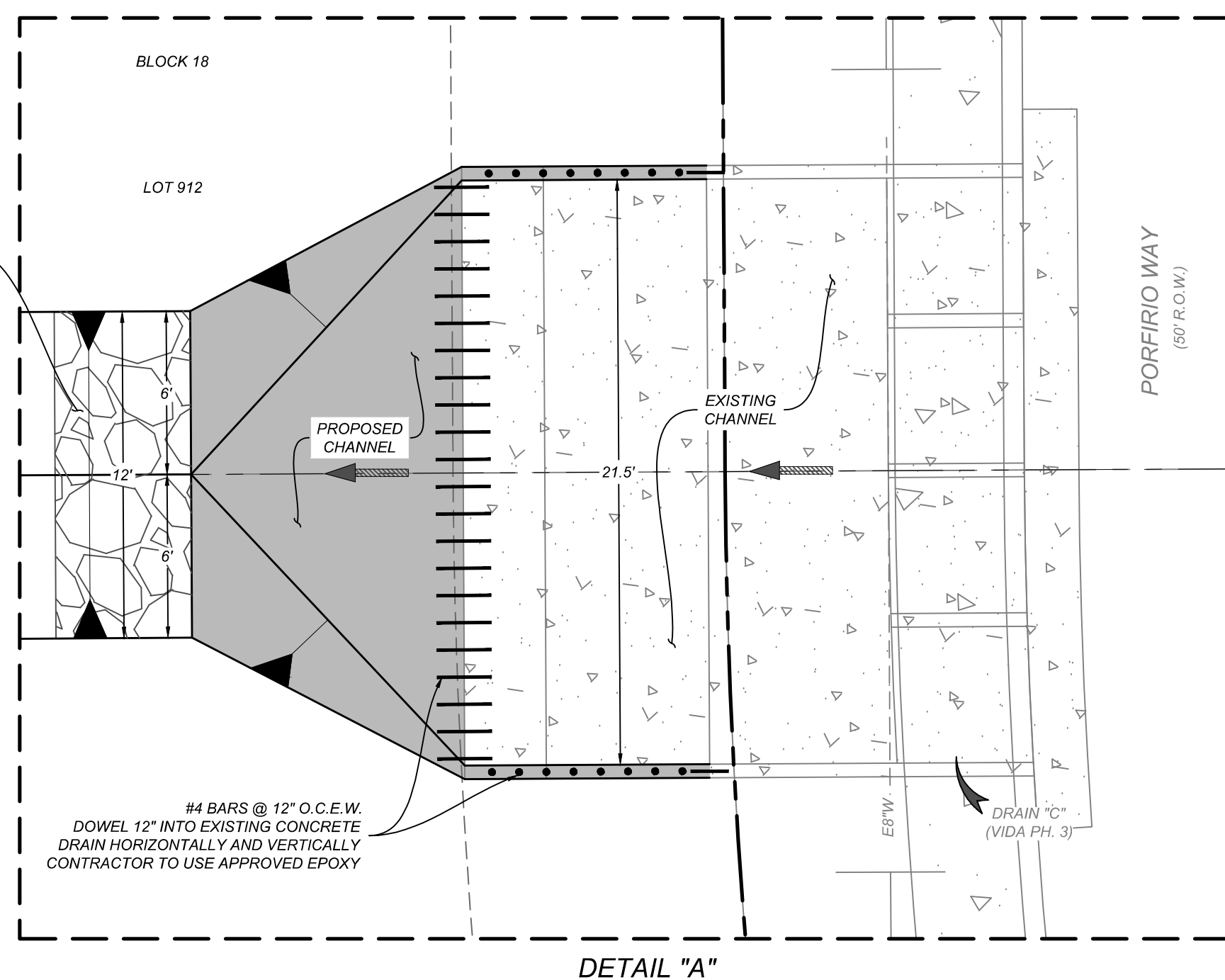
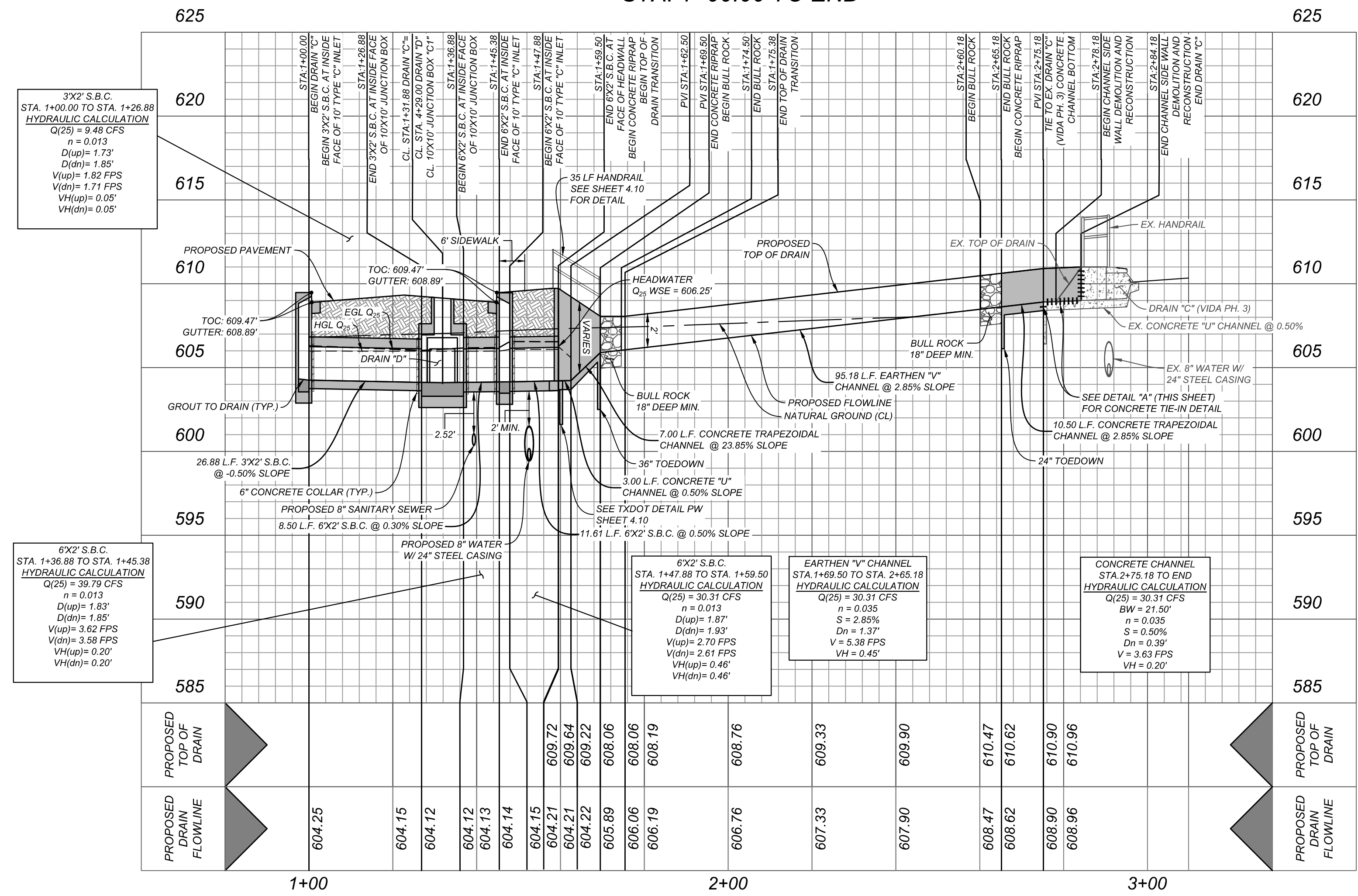
$L = \frac{Q_{25}}{C_1 \cdot S^{0.58}}$	$L = 11.84$
$L = \frac{Q_{25}}{(3.087) \cdot (0.79)^{0.58}}$	$L = 5.46 \text{ L.F.}$
$L = 5.46 \text{ L.F.}$	$L = 5.46 \text{ L.F.}$



FLOW ARROW	
EXISTING CONTOUR	
PROPOSED CONTOUR	
ADJACENT PHASE PROPOSED CONTOUR	
CONCRETE	
BULL ROCK	
SIDEWALK TO BE CONSTRUCTED BY DEVELOPER	

DRAIN C
STA: 1+00.00 TO END

HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



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REV.	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
OMAR A. ESPINOSA
125560
LICENSED PROFESSIONAL ENGINEER
5/19/26

VIDA WEST-EAST COLLECTOR PHASE 3
PLAT# 24-11800319
SAN ANTONIO BEXAR COUNTY TEXAS

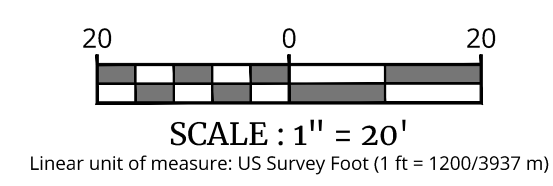
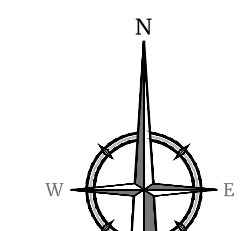
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Engineering & Design
NEW BRAUNFELS (KFW)
640 North Walnut Ave. Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
TBSL Form # 1-10-21

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	FEB. 2026	MF	DA

PROJECT NUMBER: 391-10-21
DRAWING NAME: DRAIN C
SHEET TITLE: DRAIN C STA. 1+00.00 - END
SHEET NUMBER: 4.2

LEGEND

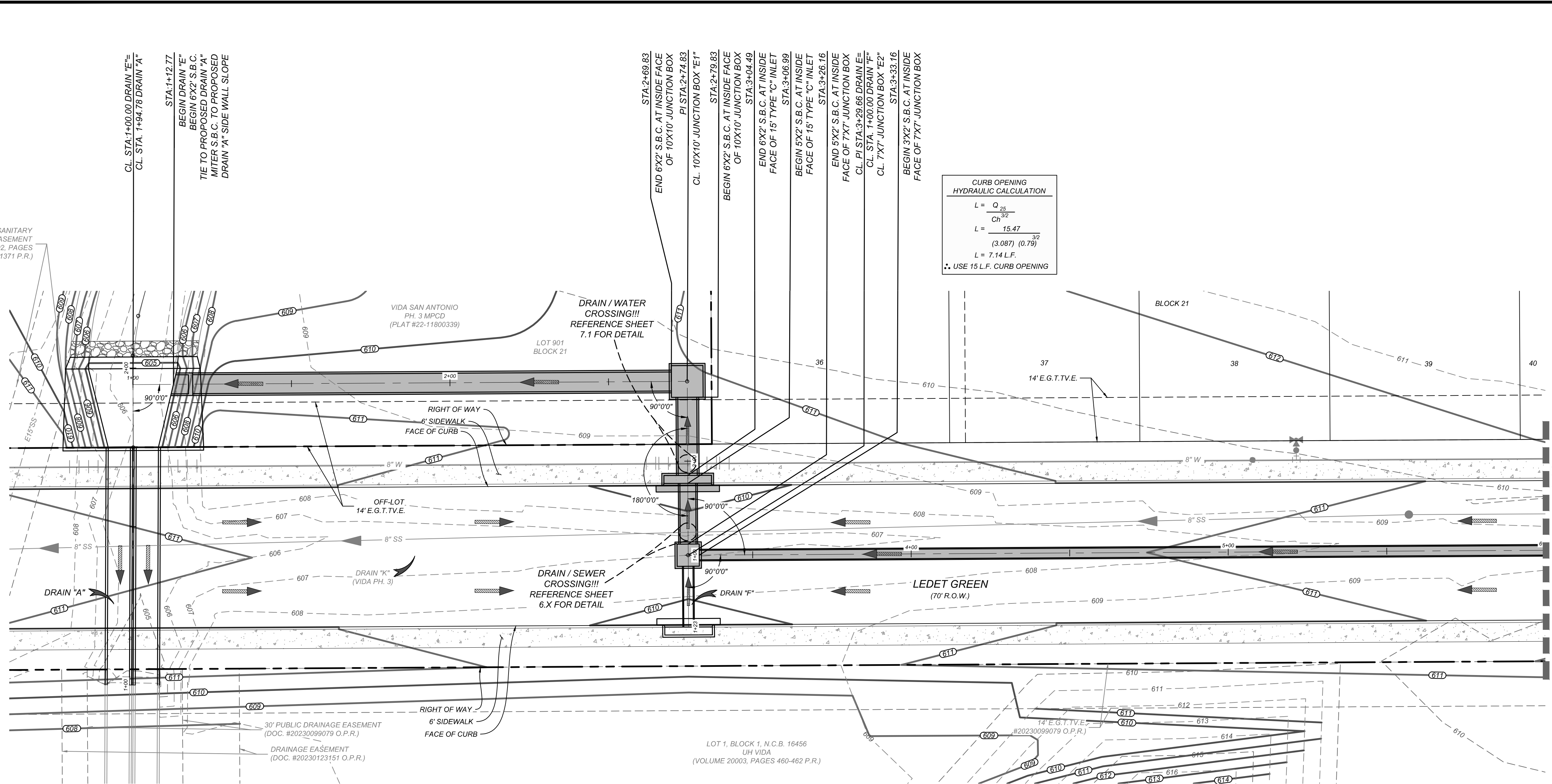
- FLOW ARROW =
- EXISTING CONTOUR =
- PROPOSED CONTOUR =
- ADJACENT PHASE PROPOSED CONTOUR =
- CONCRETE =
- BULL ROCK =
- SIDEWALK TO BE CONSTRUCTED BY DEVELOPER =



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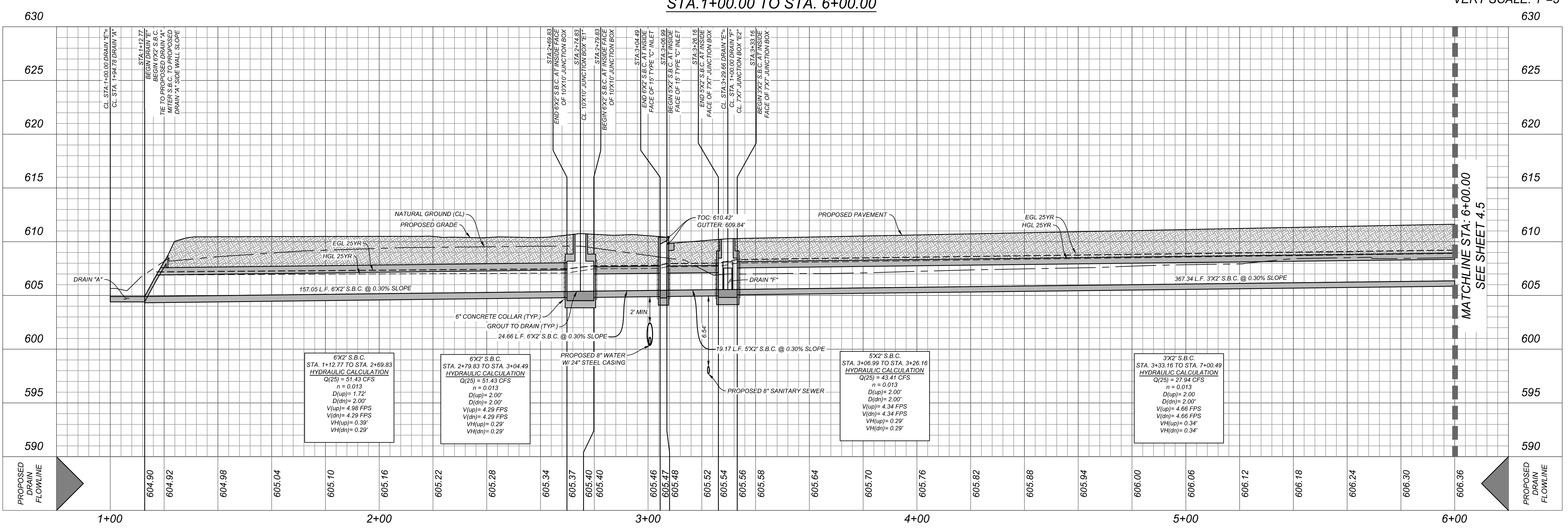
TRENCH EXCAVATION SAFETY PROTECTION
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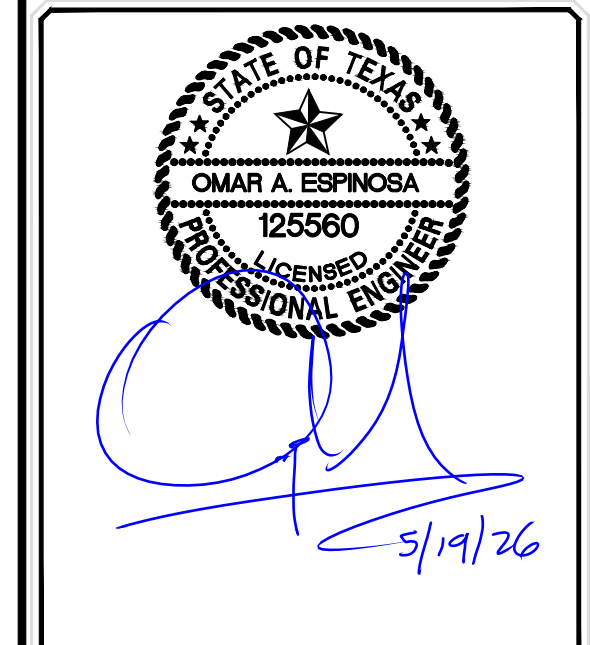


**DRAIN E
STA. 1+00.00 TO STA. 6+00.00**

**HORIZ SCALE: 1"=20'
VERT SCALE: 1"=5'**



REV.	DATE	DRAWN BY	DESCRIPTION



**VIDA WEST-EAST
COLLECTOR PHASE 3
PLAT# 24-11800319**

**SAN ANTONIO
BEXAR COUNTY
TEXAS**

NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
TBDLS Form # 10194550

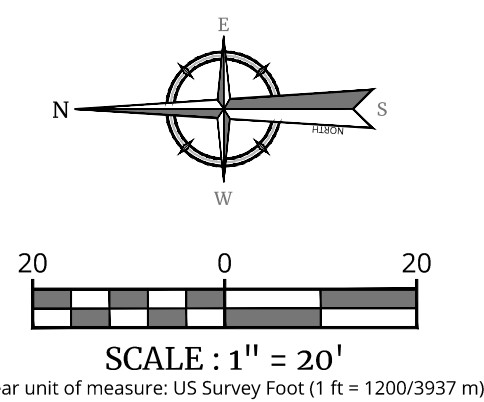
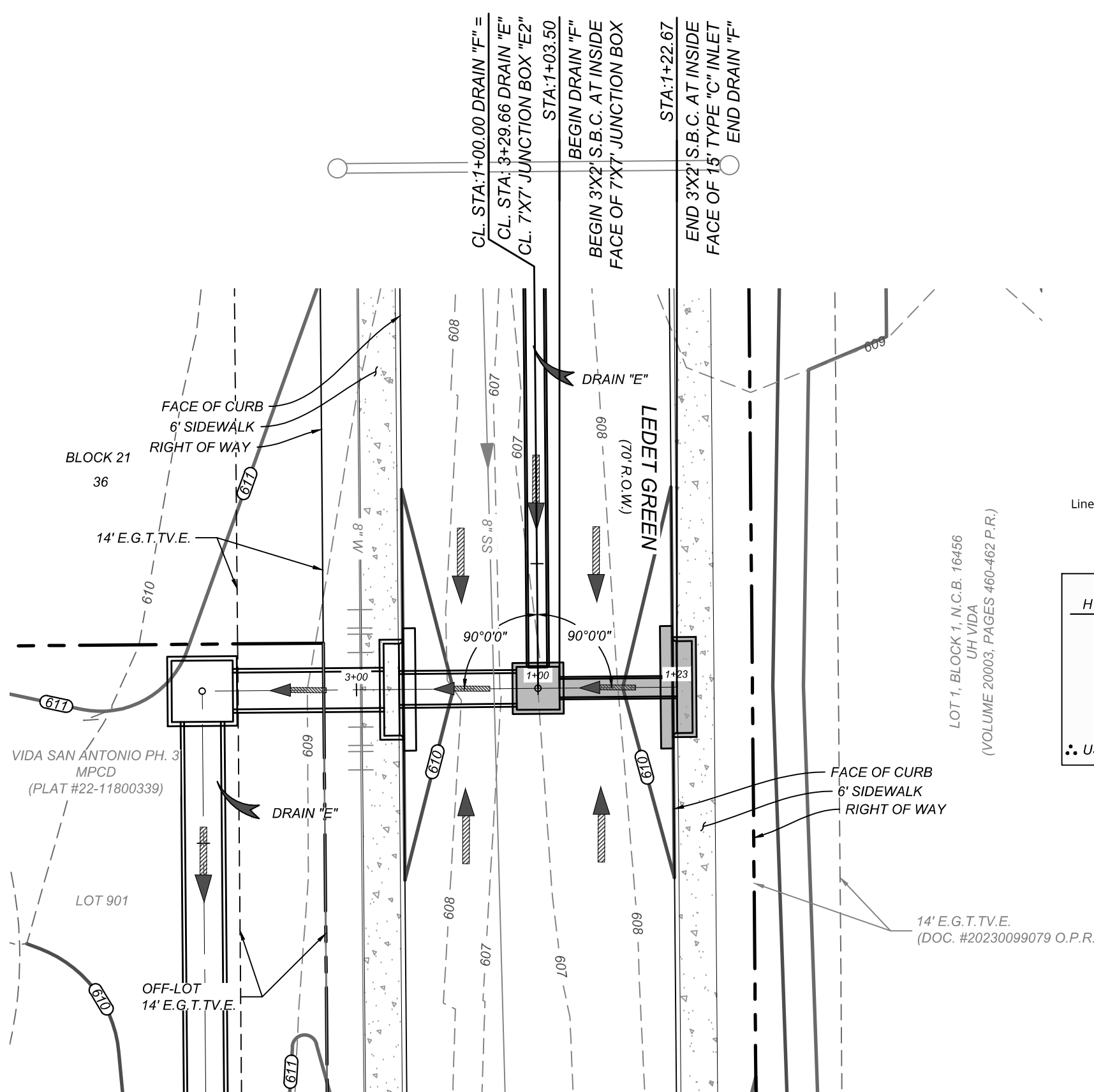
SCALE: AS SHOWN	DATE: FEB. 2026	DRAWN BY: MF	CHECKED BY: DA
PROJECT NUMBER: 39110-21	DRAWING NAME: 260512 - DRAIN E	SHEET NUMBER: 4.4	

DRAIN E STA. 1+00.00 - STA. 6+00.00

SHEET NUMBER: 4.4

LEGEND

- FLOW ARROW =
- EXISTING CONTOUR =
- PROPOSED CONTOUR =
- ADJACENT PHASE PROPOSED CONTOUR =
- CONCRETE =
- BULL ROCK =
- SIDEWALK TO BE CONSTRUCTED BY DEVELOPER =



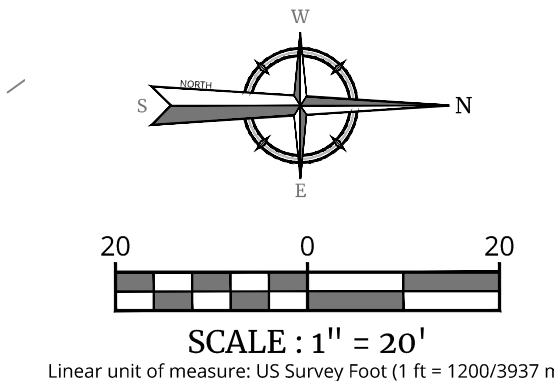
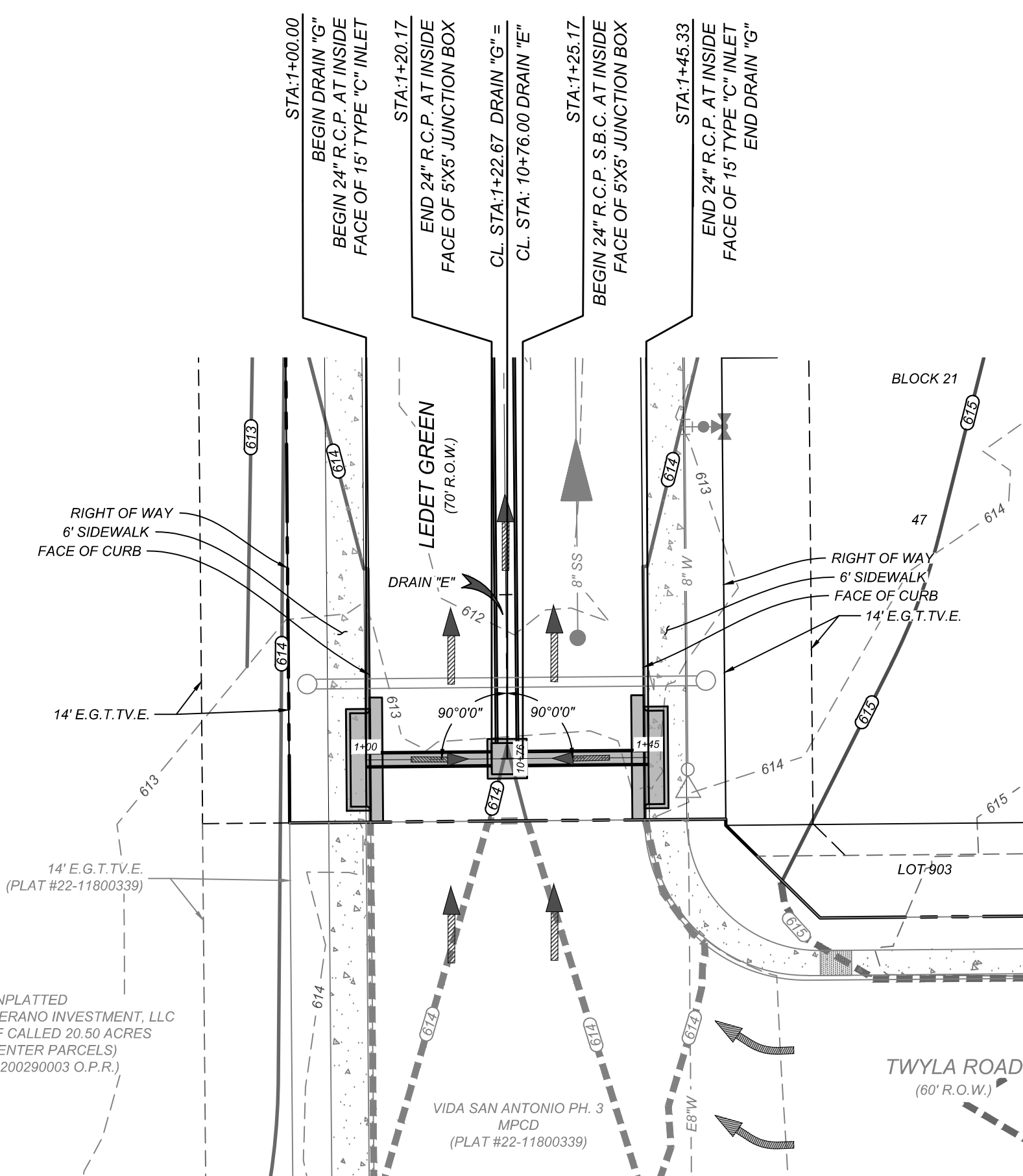
CURB OPENING HYDRAULIC CALCULATION

$L = \frac{Q_{25}}{C_h}$

$L = \frac{15.47}{(3.087) (0.79)}$

$L = 7.14 \text{ L.F.}$

• USE 15 L.F. CURB OPENING



ON-GRADE CURB OPENING HYDRAULIC CALCULATION

$Q_{25} = 21.94 \text{ CFS}$

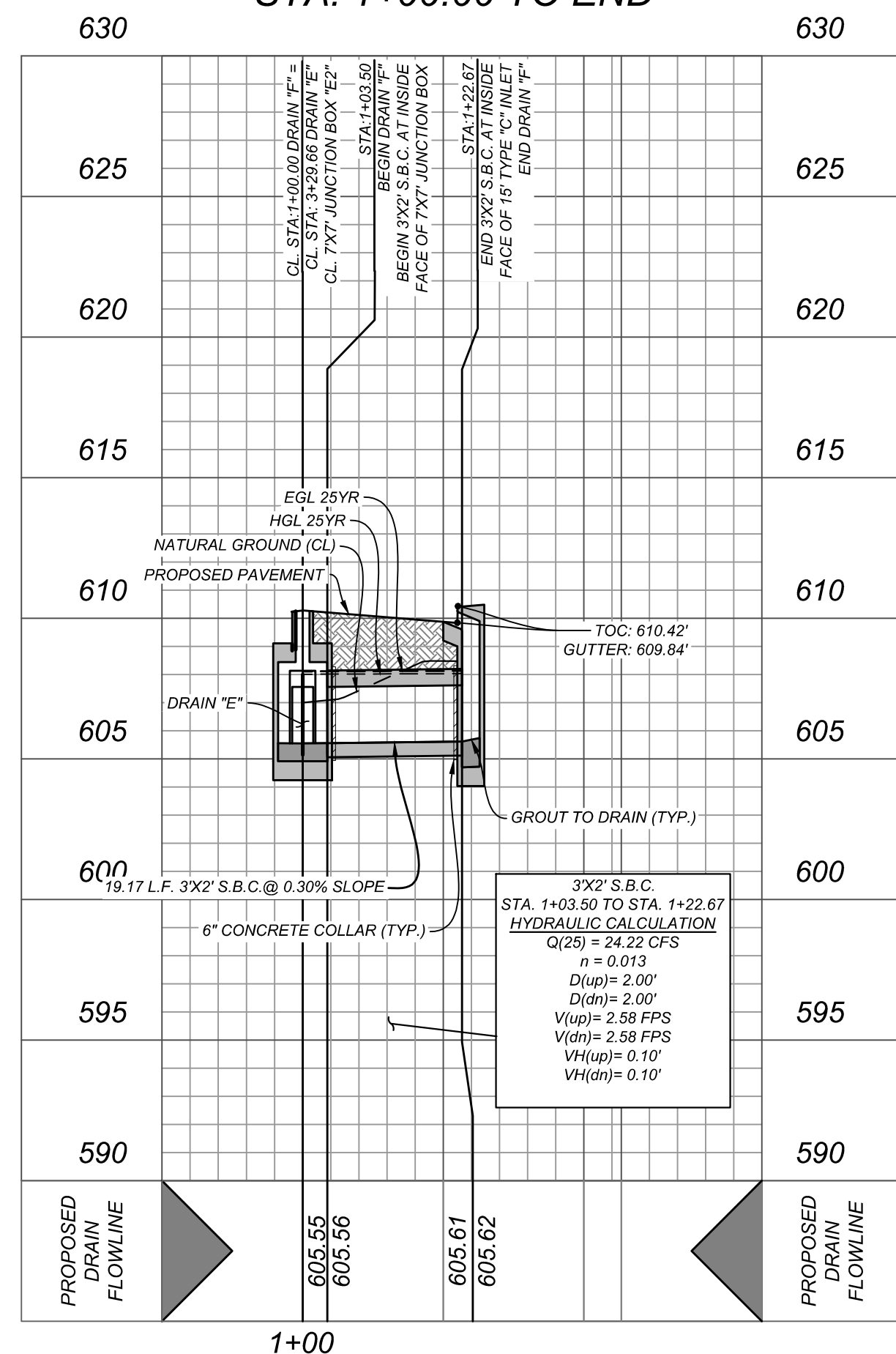
INLET CHARACTERISTICS:
STREET GRADE = 0.50%
THROAT HEIGHT = 6.25"
OPENING LENGTH = 15'
FROM HYDRAFLOW EXPRESS:
 $Q_{25} \text{ CAPTURED} = 13.97 \text{ CFS}$
 $Q_{25} \text{ BYPASS} = 7.97 \text{ CFS}$

ON-GRADE CURB OPENING HYDRAULIC CALCULATION

$Q_{25} = 21.94 \text{ CFS}$

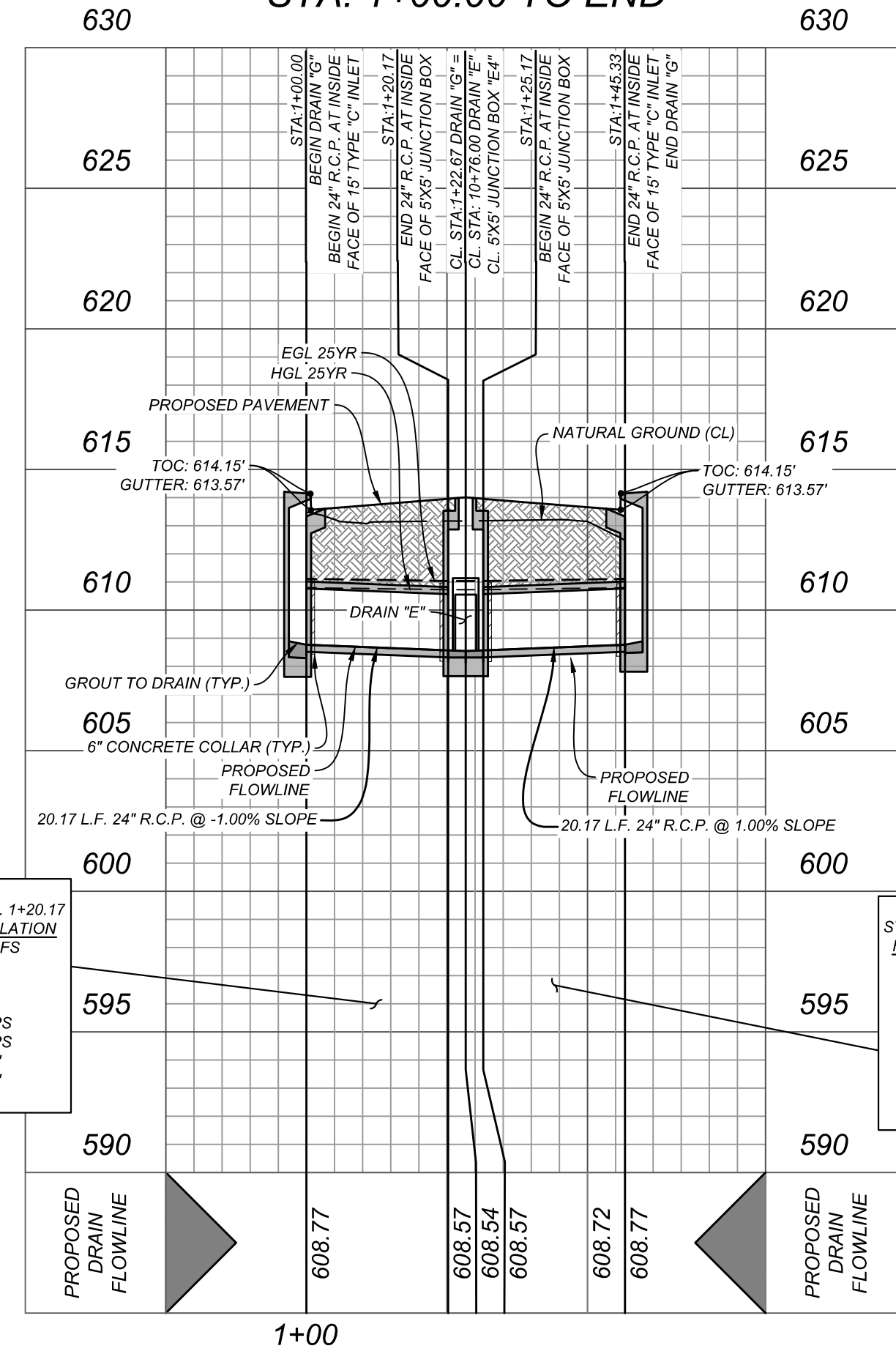
INLET CHARACTERISTICS:
STREET GRADE = 0.50%
THROAT HEIGHT = 6.25"
OPENING LENGTH = 15'
FROM HYDRAFLOW EXPRESS:
 $Q_{25} \text{ CAPTURED} = 13.97 \text{ CFS}$
 $Q_{25} \text{ BYPASS} = 7.97 \text{ CFS}$

DRAIN F
STA: 1+00.00 TO END
HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



3'x2' S.B.C.
STA. 1+03.50 TO STA. 1+22.67
HYDRAULIC CALCULATION
 $Q(25) = 24.22 \text{ CFS}$
 $n = 0.013$
 $D(\text{up}) = 2.00'$
 $D(\text{dn}) = 2.00'$
 $V(\text{up}) = 2.58 \text{ FPS}$
 $V(\text{dn}) = 2.58 \text{ FPS}$
 $VH(\text{up}) = 0.10'$
 $VH(\text{dn}) = 0.10'$

DRAIN G
STA: 1+00.00 TO END
HORZ SCALE: 1"=20'
VERT SCALE: 1"=5'



24" R.C.P.
STA. 1+00.00 TO STA. 1+20.17
HYDRAULIC CALCULATION
 $Q(25) = 13.97 \text{ CFS}$
 $n = 0.013$
 $D(\text{up}) = 2.00'$
 $D(\text{dn}) = 2.00'$
 $V(\text{up}) = 4.45 \text{ FPS}$
 $V(\text{dn}) = 4.45 \text{ FPS}$
 $VH(\text{up}) = 0.31'$
 $VH(\text{dn}) = 0.31'$

24" R.C.P.
STA. 1+25.17 TO STA. 1+45.33
HYDRAULIC CALCULATION
 $Q(25) = 13.97 \text{ CFS}$
 $n = 0.013$
 $D(\text{up}) = 2.00'$
 $D(\text{dn}) = 2.00'$
 $V(\text{up}) = 4.45 \text{ FPS}$
 $V(\text{dn}) = 4.45 \text{ FPS}$
 $VH(\text{up}) = 0.31'$
 $VH(\text{dn}) = 0.31'$

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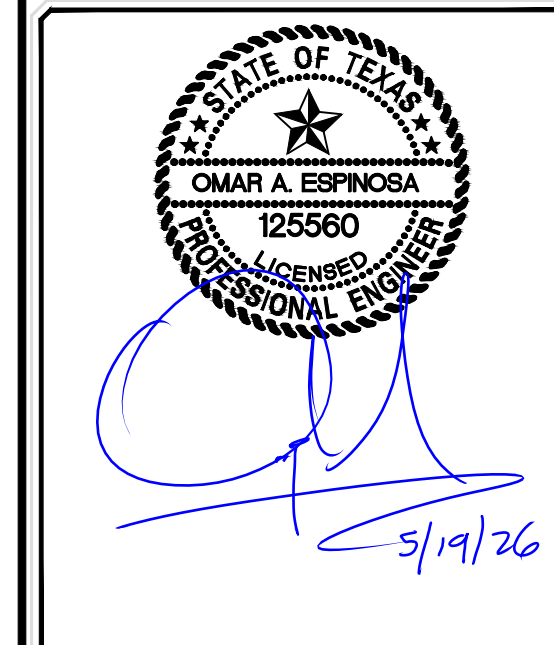
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BEXAR COUNTY
TEXAS

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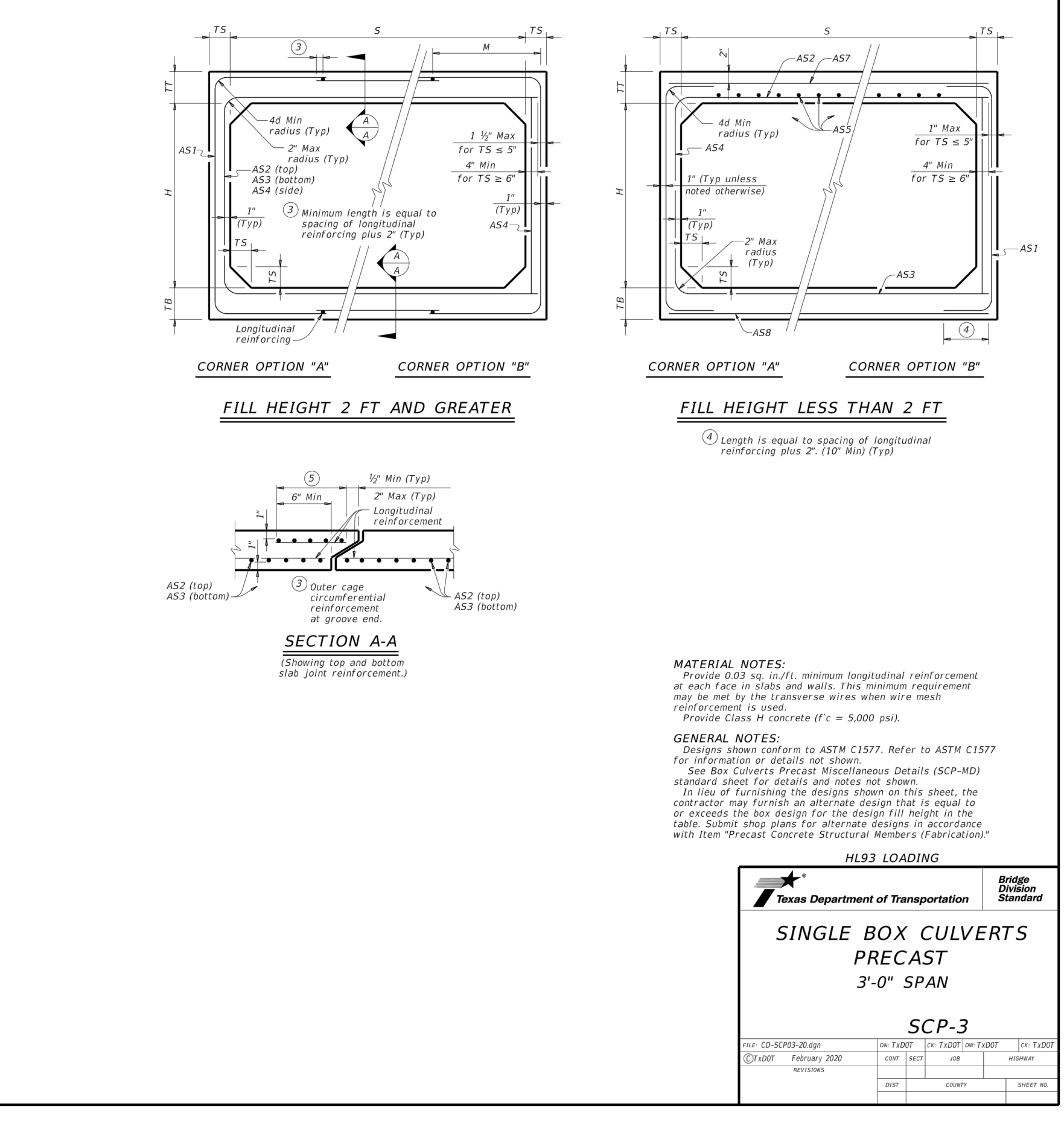
SCALE: AS SHOWN DATE: FEB. 2026 DRAWN BY: MF CHECKED BY: DA
PROJECT NUMBER: 391-10-21 DRAWING NAME: DRAIN F

SHEET TITLE:
DRAIN F STA. 1+00.00 - END & DRAIN G STA. 1+00.00 - END

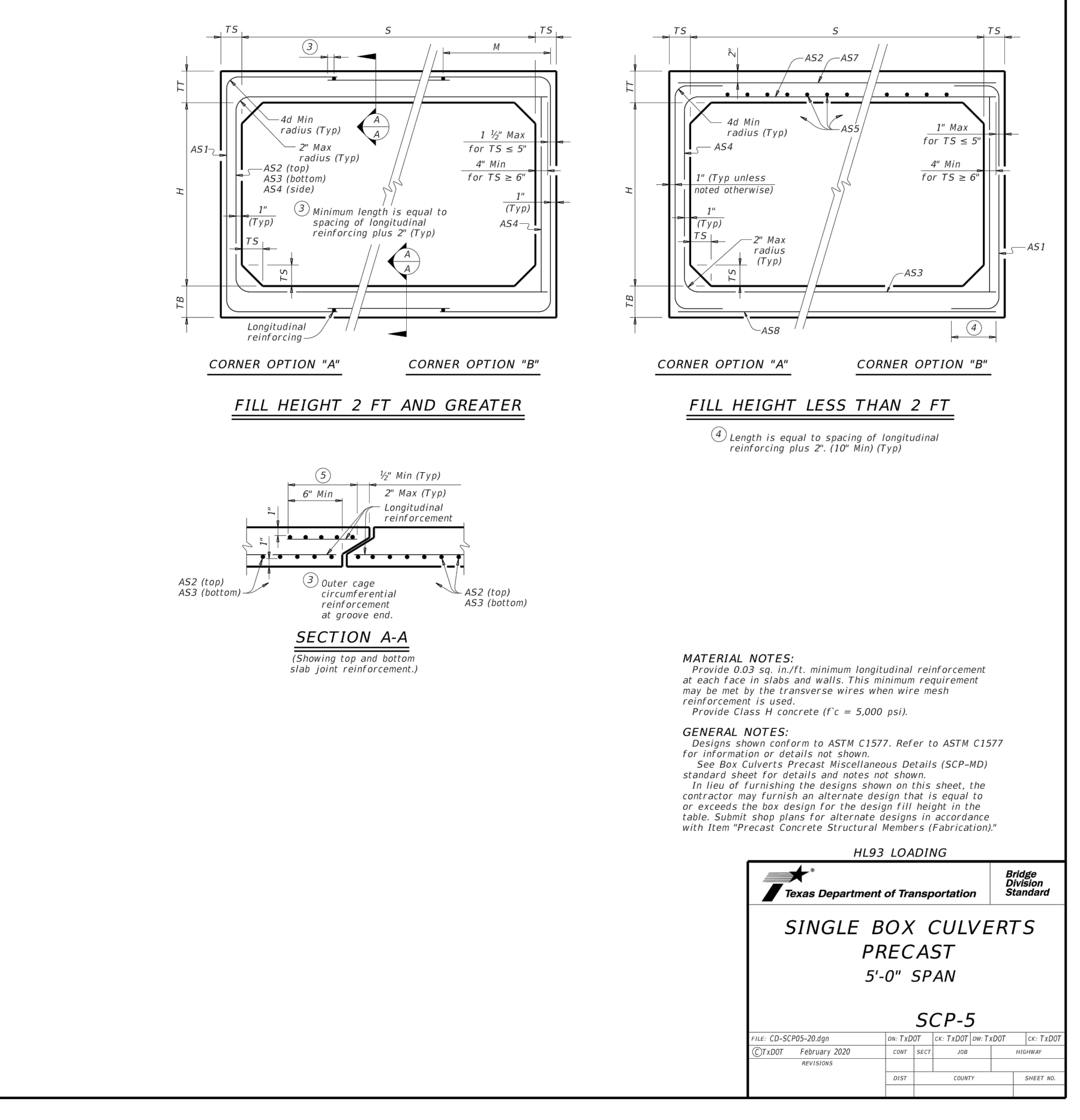
SHEET NUMBER:
4.6

Date: Oct 30, 2024, 8:25am User ID: jagan.honey

BOX DATA table with columns for SECTION DIMENSIONS, REINFORCING (sq. in. / ft.), and LIFT Weight (lb/ft).



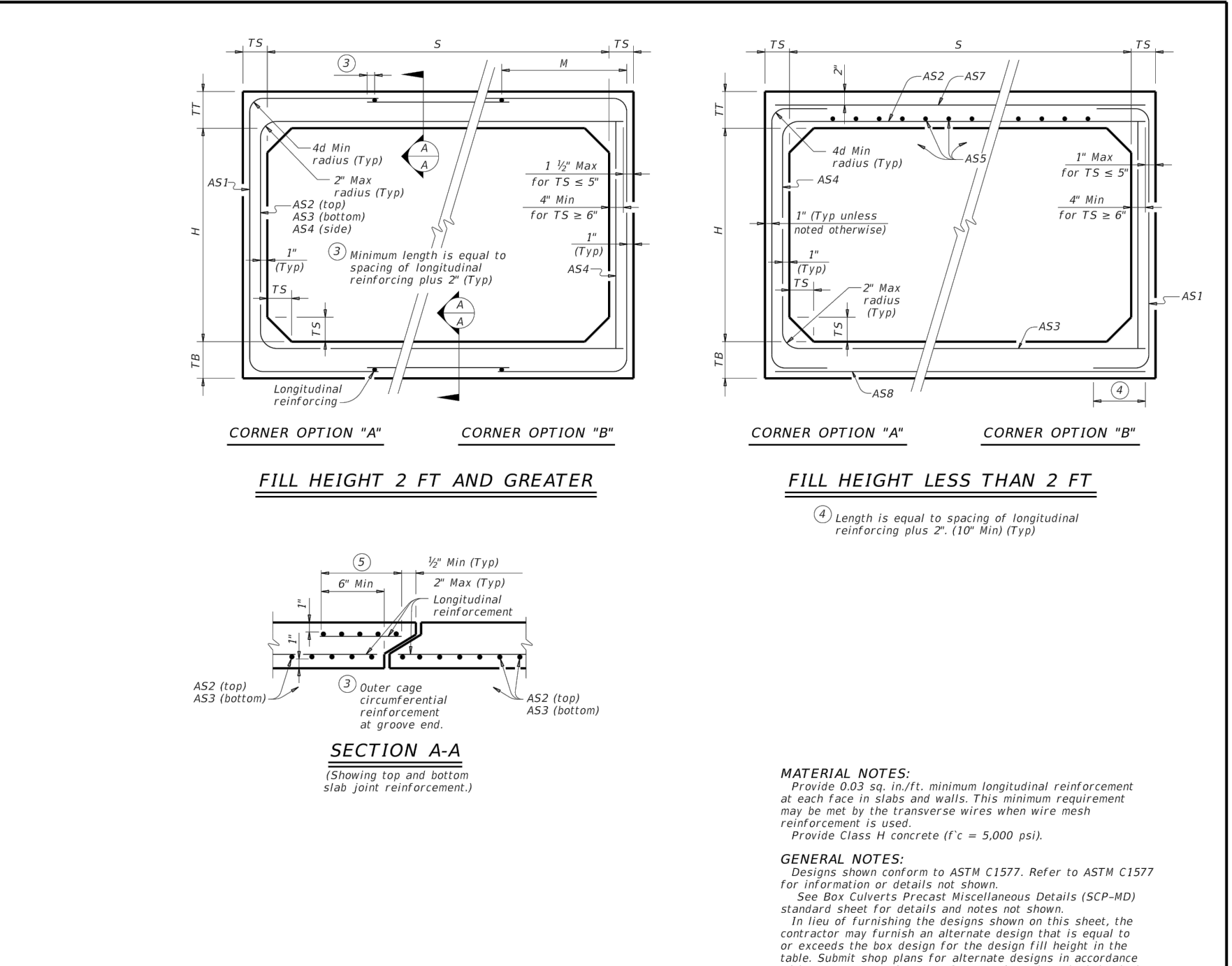
BOX DATA table for SCP-3, including SECTION DIMENSIONS, REINFORCING, and LIFT Weight.



HL93 LOADING Texas Department of Transportation Bridge Division Standard SINGLE BOX CULVERTS PRECAST 3'-0" SPAN SCP-3

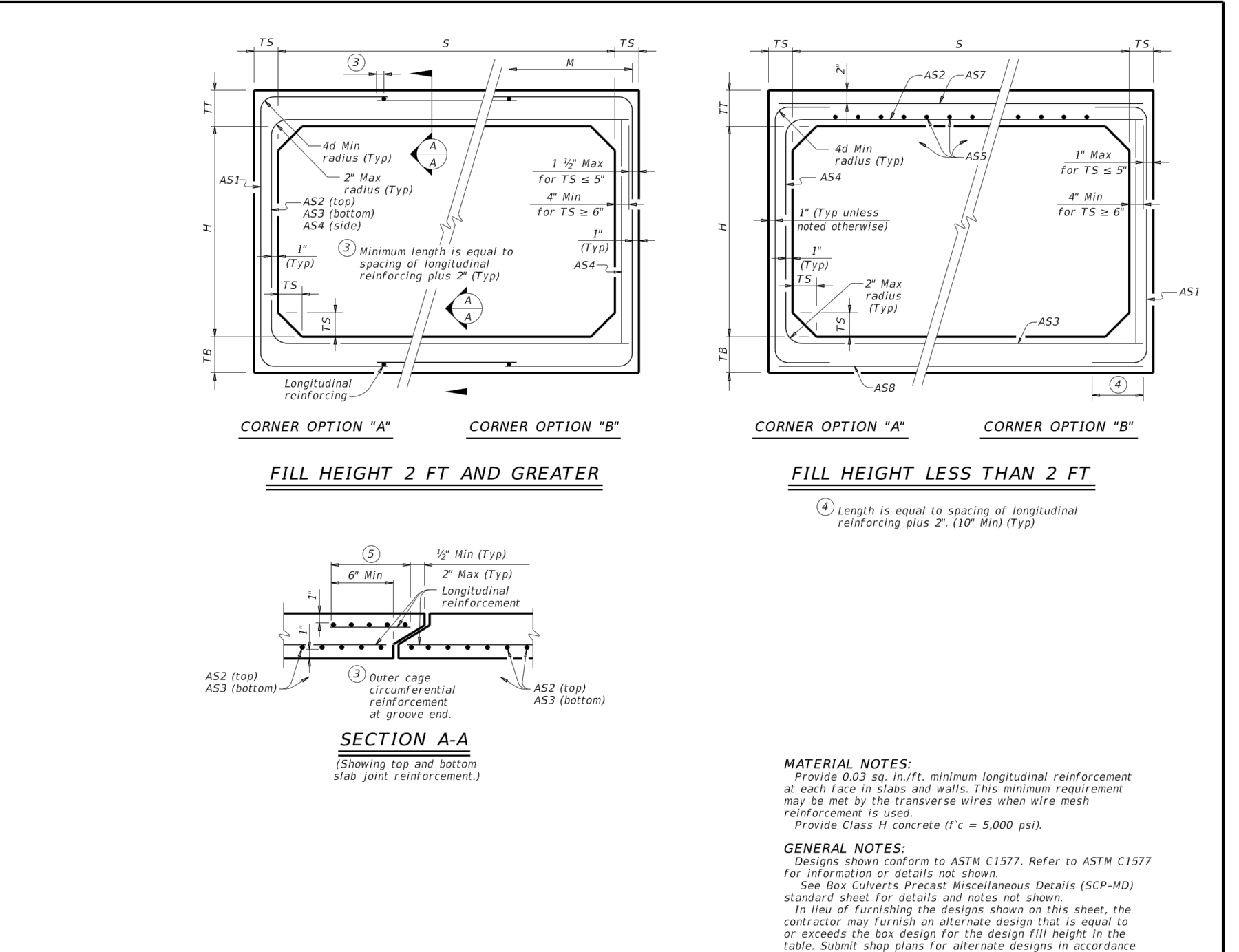
HL93 LOADING Texas Department of Transportation Bridge Division Standard SINGLE BOX CULVERTS PRECAST 5'-0" SPAN SCP-5

BOX DATA table for SCP-6, including SECTION DIMENSIONS, REINFORCING, and LIFT Weight.



HL93 LOADING Texas Department of Transportation Bridge Division Standard SINGLE BOX CULVERTS PRECAST 6'-0" SPAN SCP-6

BOX DATA table for SCP-7, including SECTION DIMENSIONS, REINFORCING, and LIFT Weight.



HL93 LOADING Texas Department of Transportation Bridge Division Standard SINGLE BOX CULVERTS PRECAST 7'-0" SPAN SCP-7

Colliers Engineering & Design logo and website information.

Formerly known as KFW logo and contact information.

Table with columns for REV, DATE, DRAWN BY, DESCRIPTION.

Professional Engineer Seal for DENIS A. AYENDANO, No. 137588, State of Texas.

VIDA WEST-EAST COLLECTOR PHASE 3 PLAT# 24-11800319

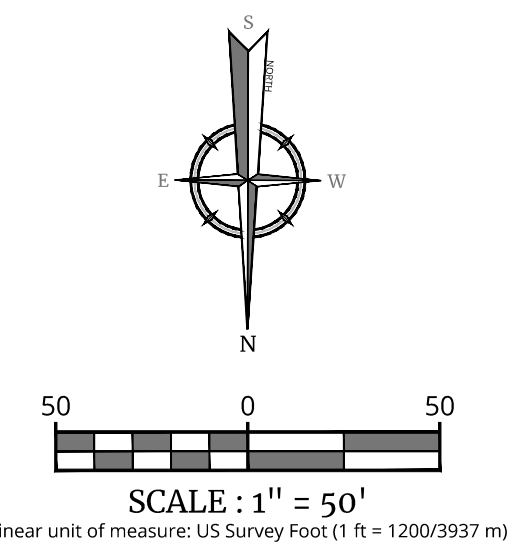
SAN ANTONIO BEXAR COUNTY TEXAS logo and address information.

SCALE, DATE, DRAWN BY, CHECKED BY, PROJECT NUMBER, SHEET NUMBER, and DRAWING NAME (DRAIN DETAILS).

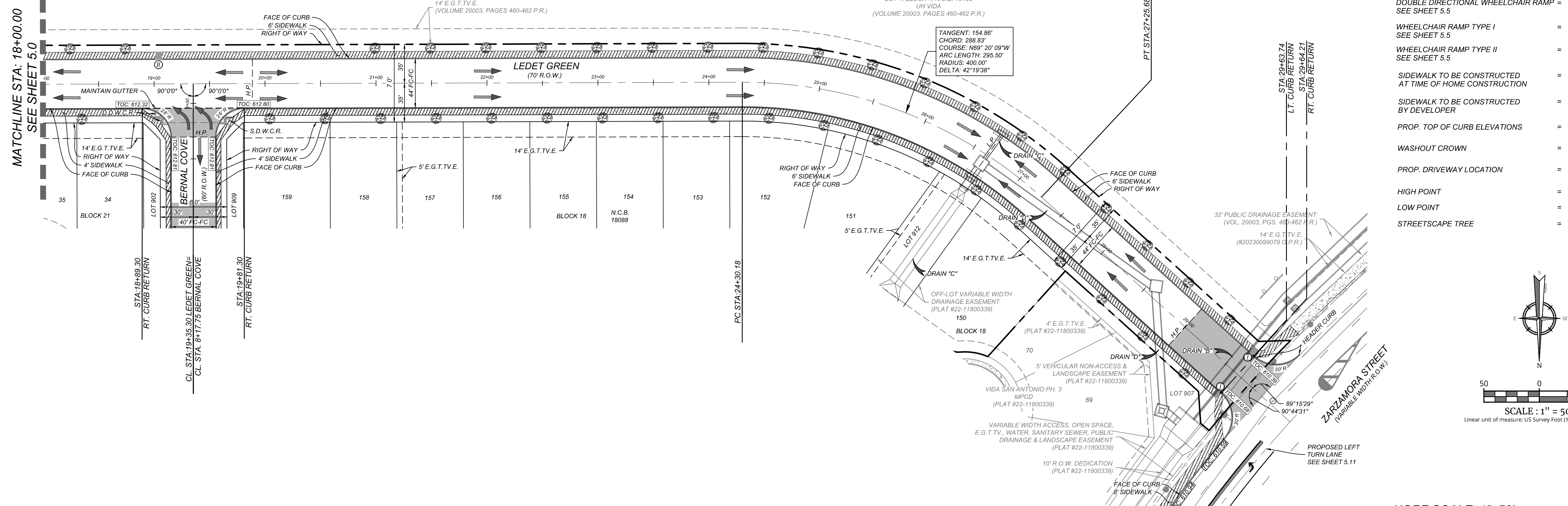
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

LEGEND

FLOW ARROW	=	
WHEELCHAIR RAMP	=	W.C.R.
SEE SHEET 5.5		
SINGLE DIRECTIONAL WHEELCHAIR RAMP	=	S.D.W.C.R.
SEE SHEET 5.5		
DOUBLE DIRECTIONAL WHEELCHAIR RAMP	=	D.D.W.C.R.
SEE SHEET 5.5		
WHEELCHAIR RAMP TYPE I	=	
SEE SHEET 5.5		
WHEELCHAIR RAMP TYPE II	=	
SEE SHEET 5.5		
SIDEWALK TO BE CONSTRUCTED AT TIME OF HOME CONSTRUCTION	=	
SIDEWALK TO BE CONSTRUCTED BY DEVELOPER	=	
PROP. TOP OF CURB ELEVATIONS	=	
WASHOUT CROWN	=	
PROP. DRIVEWAY LOCATION	=	
HIGH POINT	=	H.P.
LOW POINT	=	L.P.
STREETSCAPE TREE	=	

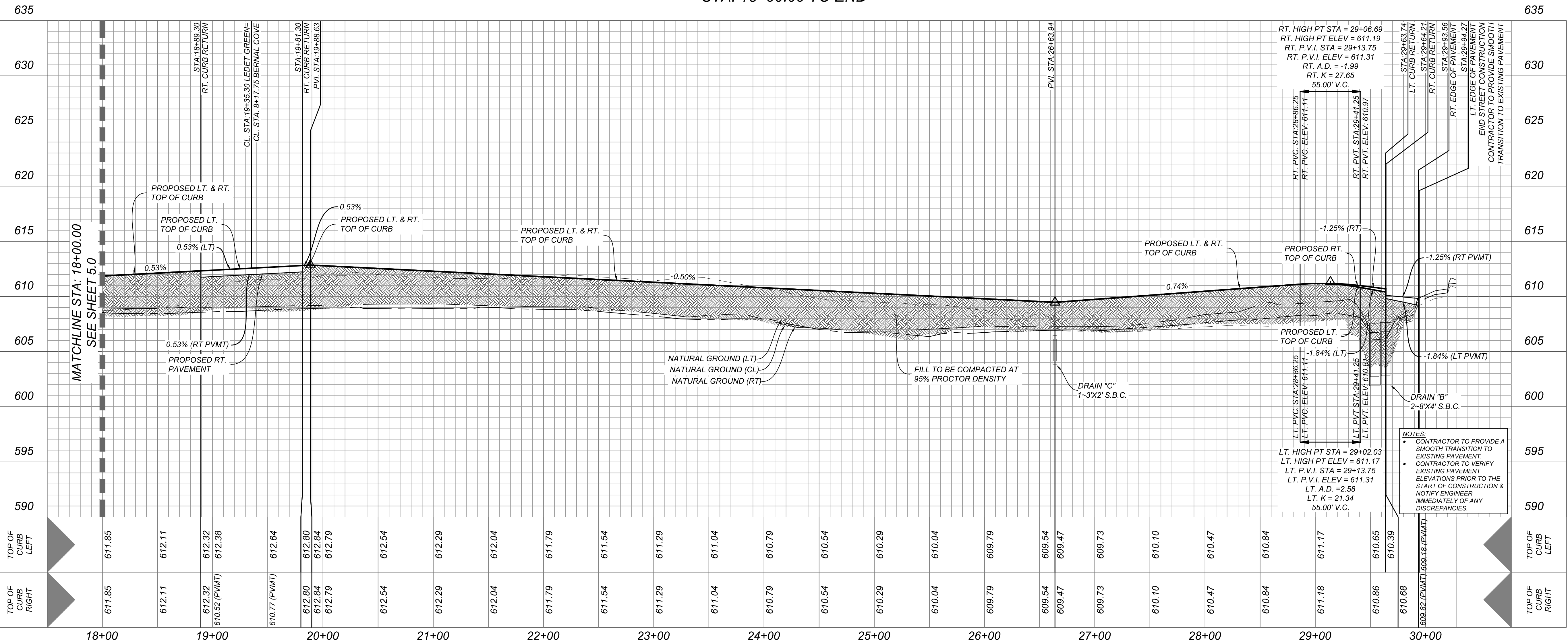


MATCHLINE STA: 18+00.00
SEE SHEET 5.0



LEDET GREEN
STA: 18+00.00 TO END

HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'



CAUTION!
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-485-5888 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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

THIS DOCUMENT IS RELEASED BY AUTHORITY OF OMAR ESPINOSA, P.E. # 125560 FOR BID SET ONLY AND NOT TO BE USED FOR CONSTRUCTION.

VIDA WEST-EAST COLLECTOR PHASE 3
PLAT# 24,-11800319

SAN ANTONIO BEXAR COUNTY TEXAS

Colliers Engineering & Design
NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
TBE 1805 Form 10/19/2020

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	FEB. 2026	MF	DA
PROJECT NUMBER:	DRAWING NAME:		
3911-10-21	LEDET GREEN STA. 18+00.00 - END		

SHEET TITLE:
LEDET GREEN STA. 18+00.00 - END

SHEET NUMBER:
5.1

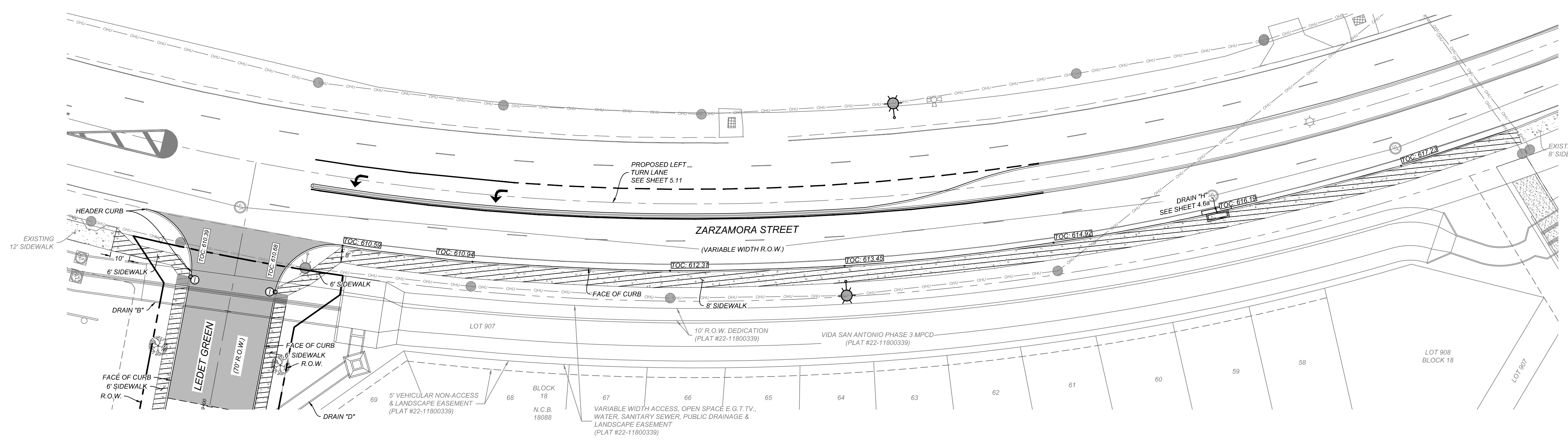
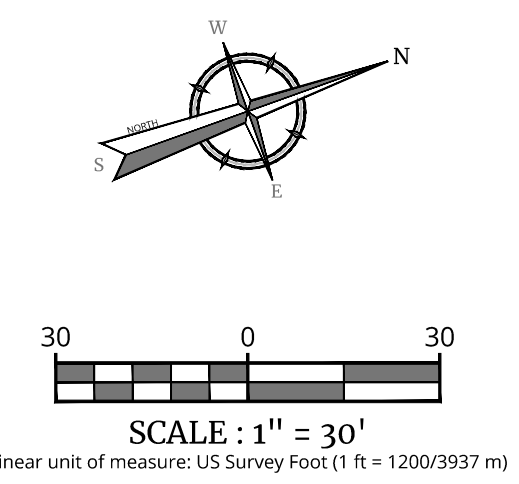


PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

LEGEND

- FLOW ARROW =
- WHEELCHAIR RAMP = W.C.R.
- SEE SHEET 5.5
- SINGLE DIRECTIONAL WHEELCHAIR RAMP = S.D.W.C.R.
- SEE SHEET 5.5
- DOUBLE DIRECTIONAL WHEELCHAIR RAMP = D.D.W.C.R.
- SEE SHEET 5.5
- WHEELCHAIR RAMP TYPE I = SEE SHEET 5.5
- WHEELCHAIR RAMP TYPE II = SEE SHEET 5.5
- SIDEWALK TO BE CONSTRUCTED AT TIME OF HOME CONSTRUCTION =
- SIDEWALK TO BE CONSTRUCTED BY DEVELOPER =
- PROP. TOP OF CURB ELEVATIONS = 717.00
- WASHOUT CROWN =
- PROP. DRIVEWAY LOCATION =
- HIGH POINT = H.P.
- LOW POINT = L.P.
- STREETSCAPE TREE =



CAUTION!
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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

THIS DOCUMENT IS RELEASED BY AUTHORITY OF OMAR ESPINOSA, P.E. # 125560 FOR BID SET ONLY AND NOT TO BE USED FOR CONSTRUCTION.

VIDA WEST-EAST COLLECTOR PHASE 3 PLAT# 24,-11800319

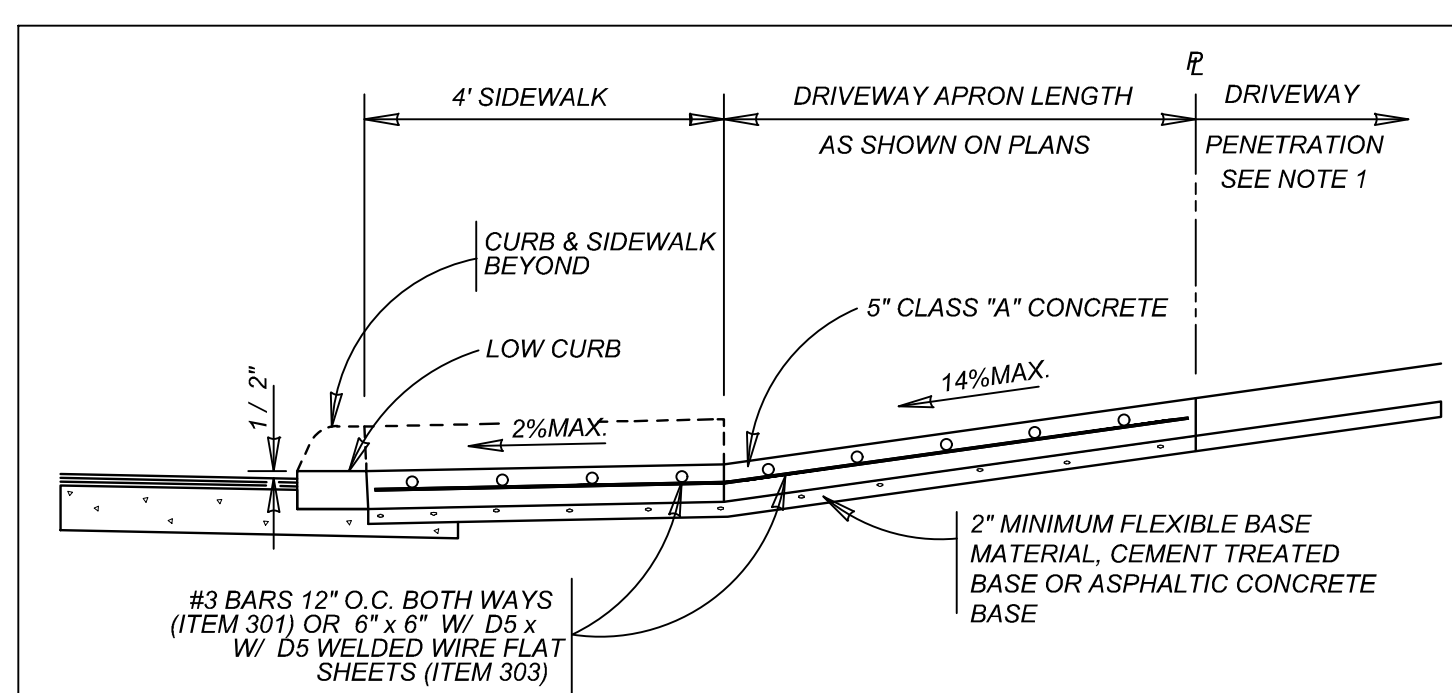
SAN ANTONIO BEXAR COUNTY TEXAS

NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
TBE'S Form: 10194550

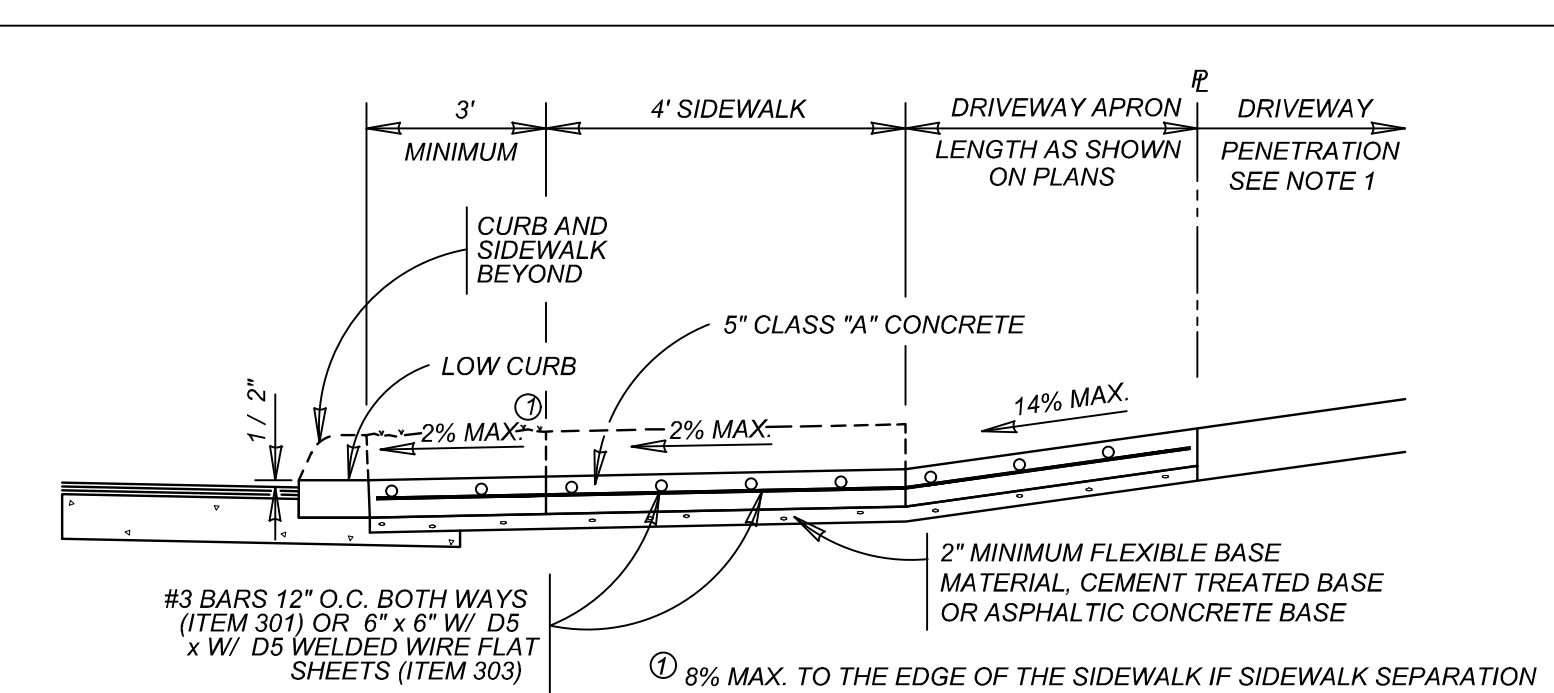
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	FEB. 2026	MF	DA
PROJECT NUMBER:	DRAWING NAME:		
391-10-21	LEDET GREEN STA. 18+00.00 - END		

SHEET TITLE:
OFFSITE IMPROVEMENTS

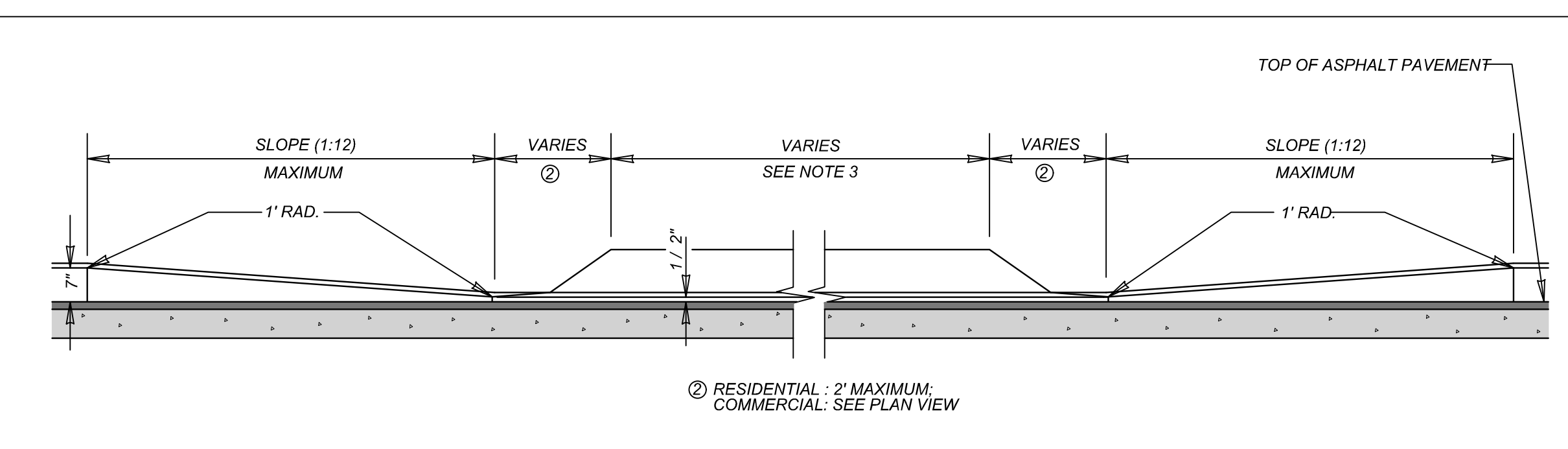
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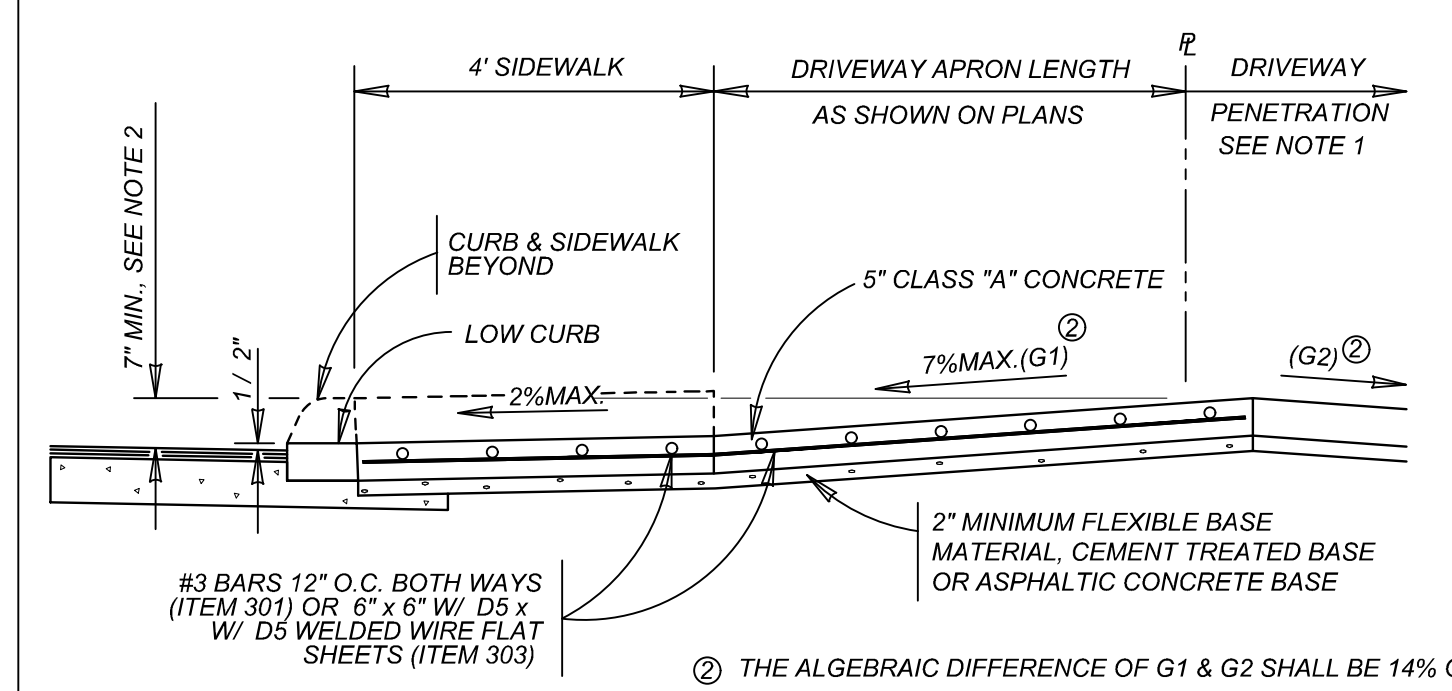
TYPICAL RESIDENTIAL DRIVEWAY SECTION
WITH SIDEWALK ABUTTING CURB
ITEM 503.1



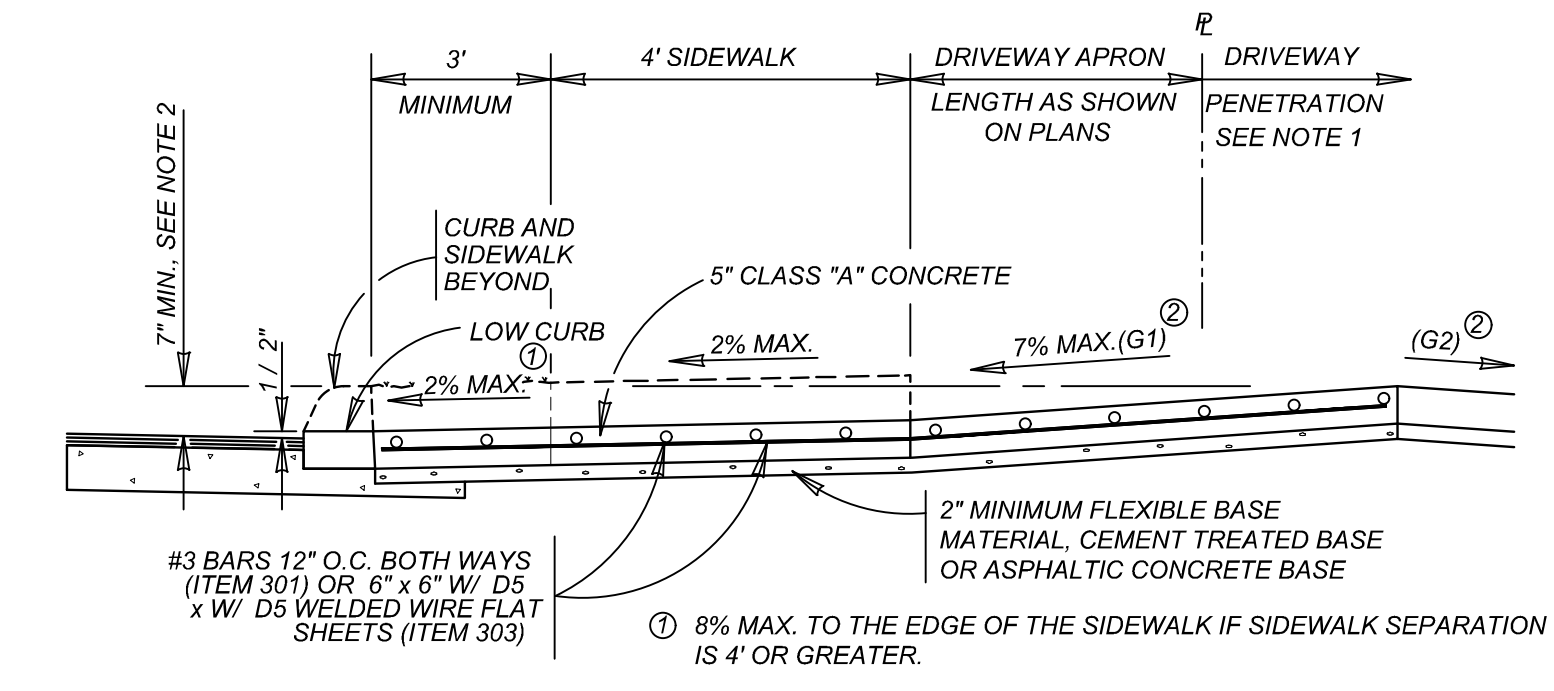
TYPICAL RESIDENTIAL DRIVEWAY SECTION
WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.1



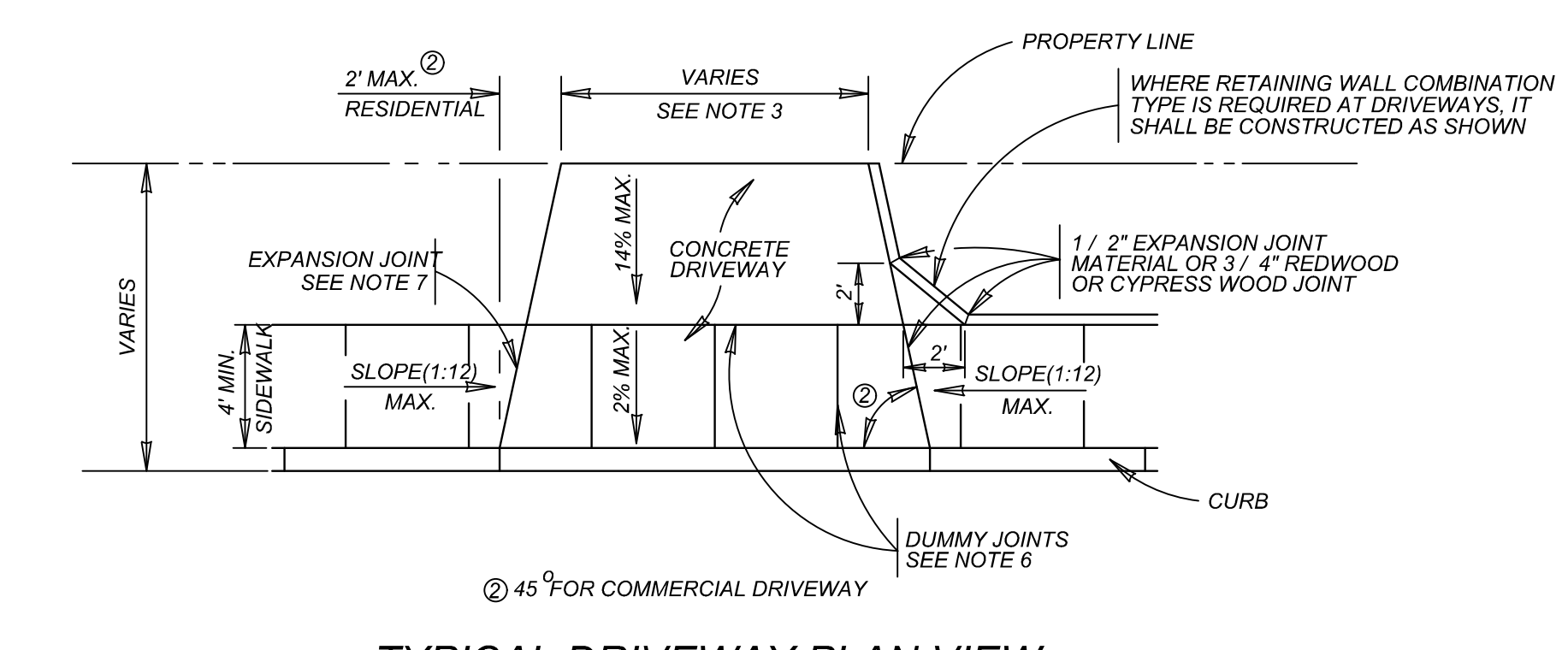
CURB PROFILE AT DRIVEWAY
WITH SIDEWALK ABUTTING CURB
RESIDENTIAL: 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW



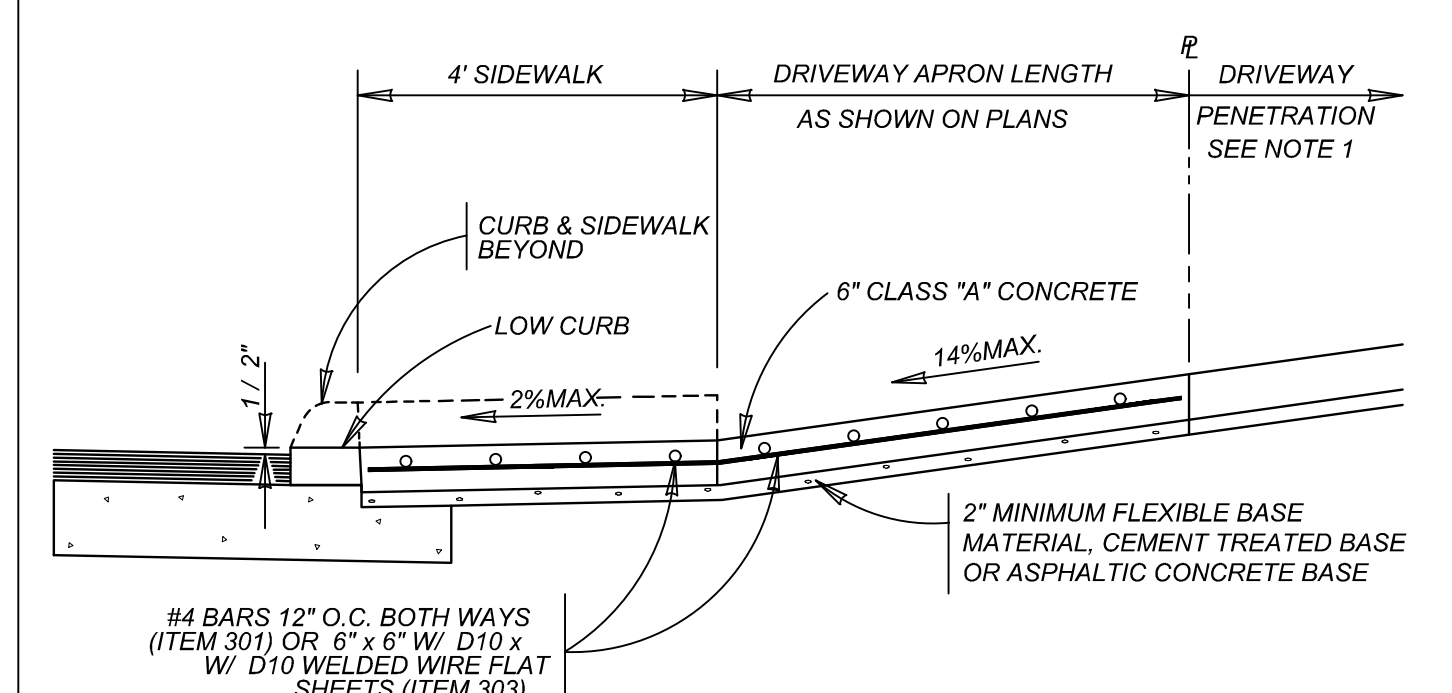
TYPICAL RESIDENTIAL DRIVEWAY SECTION
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB
ITEM 503.1



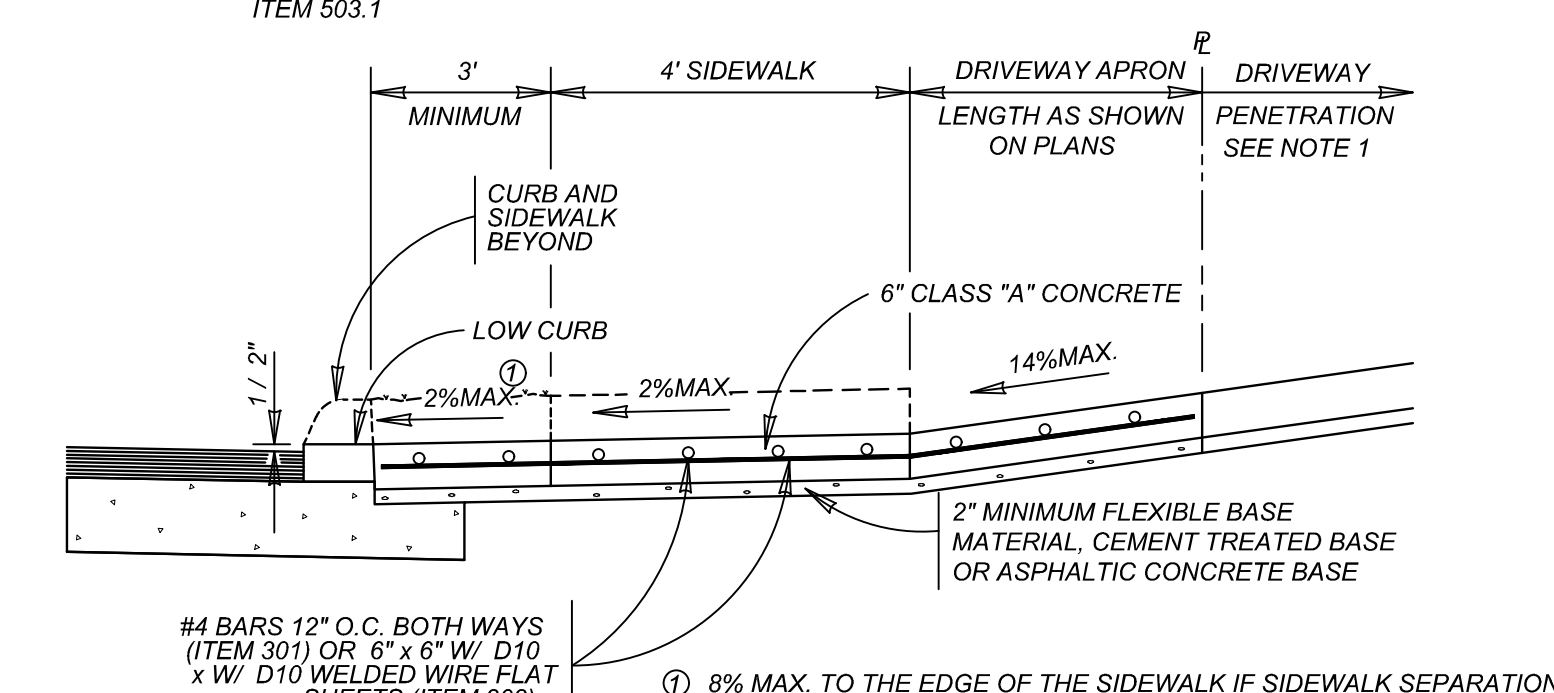
TYPICAL RESIDENTIAL DRIVEWAY SECTION
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB
ITEM 503.1



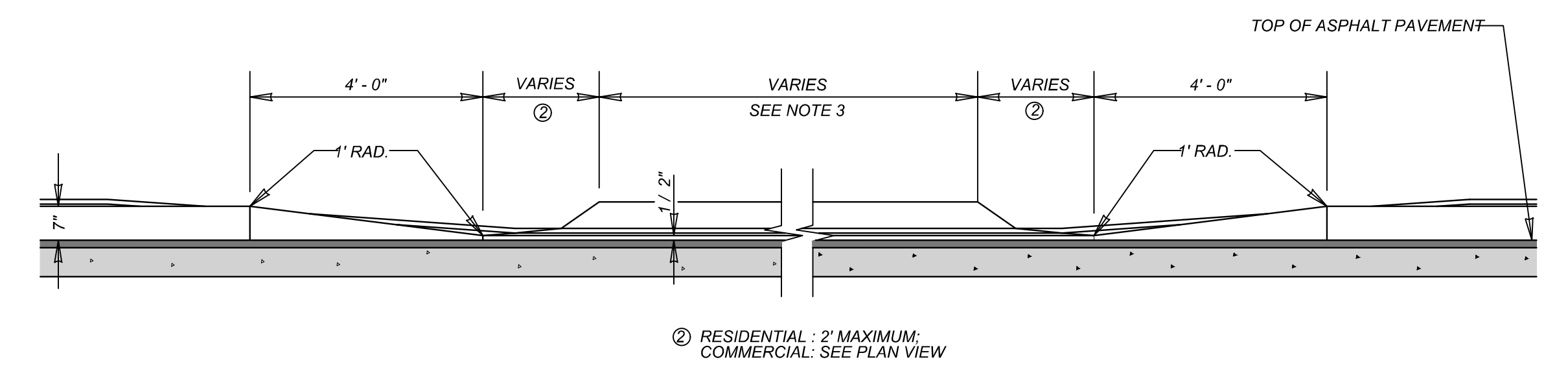
TYPICAL DRIVEWAY PLAN VIEW
WITH SIDEWALK ABUTTING CURB
RESIDENTIAL: 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW



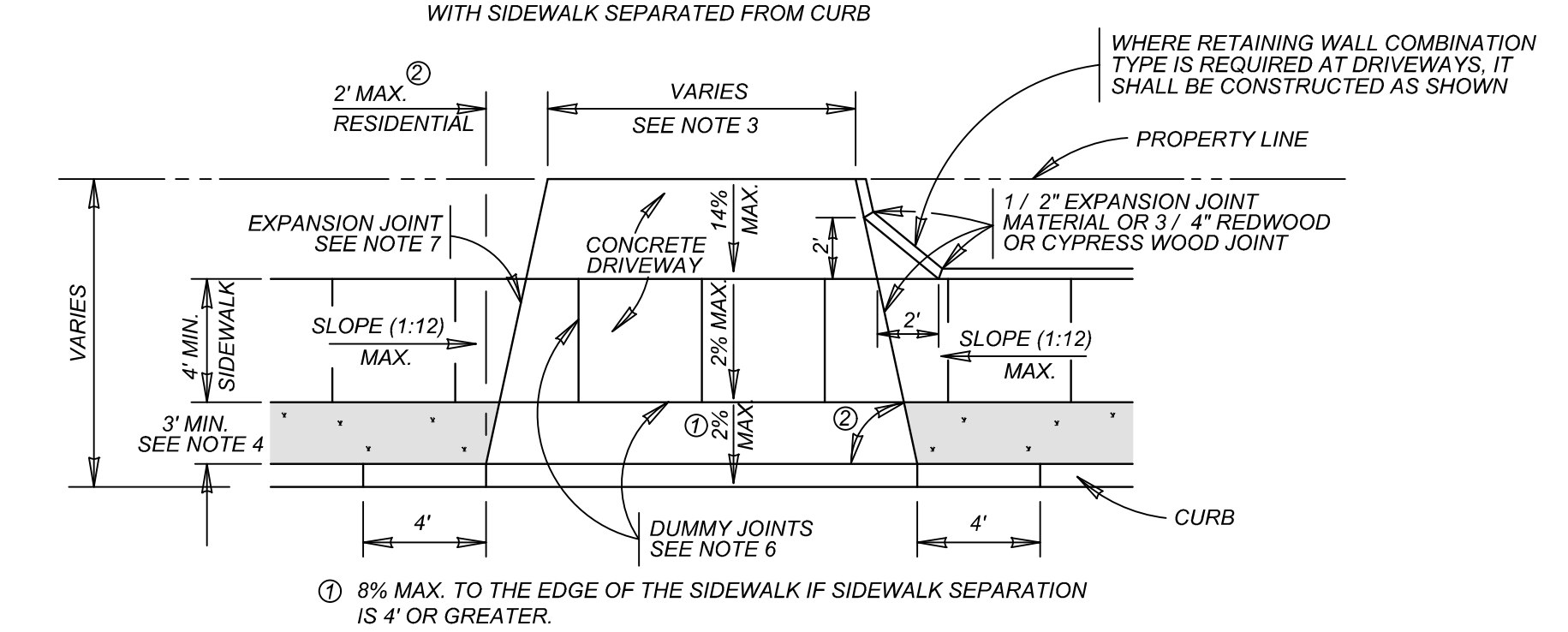
TYPICAL COMMERCIAL DRIVEWAY SECTION
WITH SIDEWALK ABUTTING CURB
ITEM 503.2



TYPICAL COMMERCIAL DRIVEWAY SECTION
WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.2



CURB PROFILE AT DRIVEWAY
WITH SIDEWALK SEPARATED FROM CURB
RESIDENTIAL: 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW



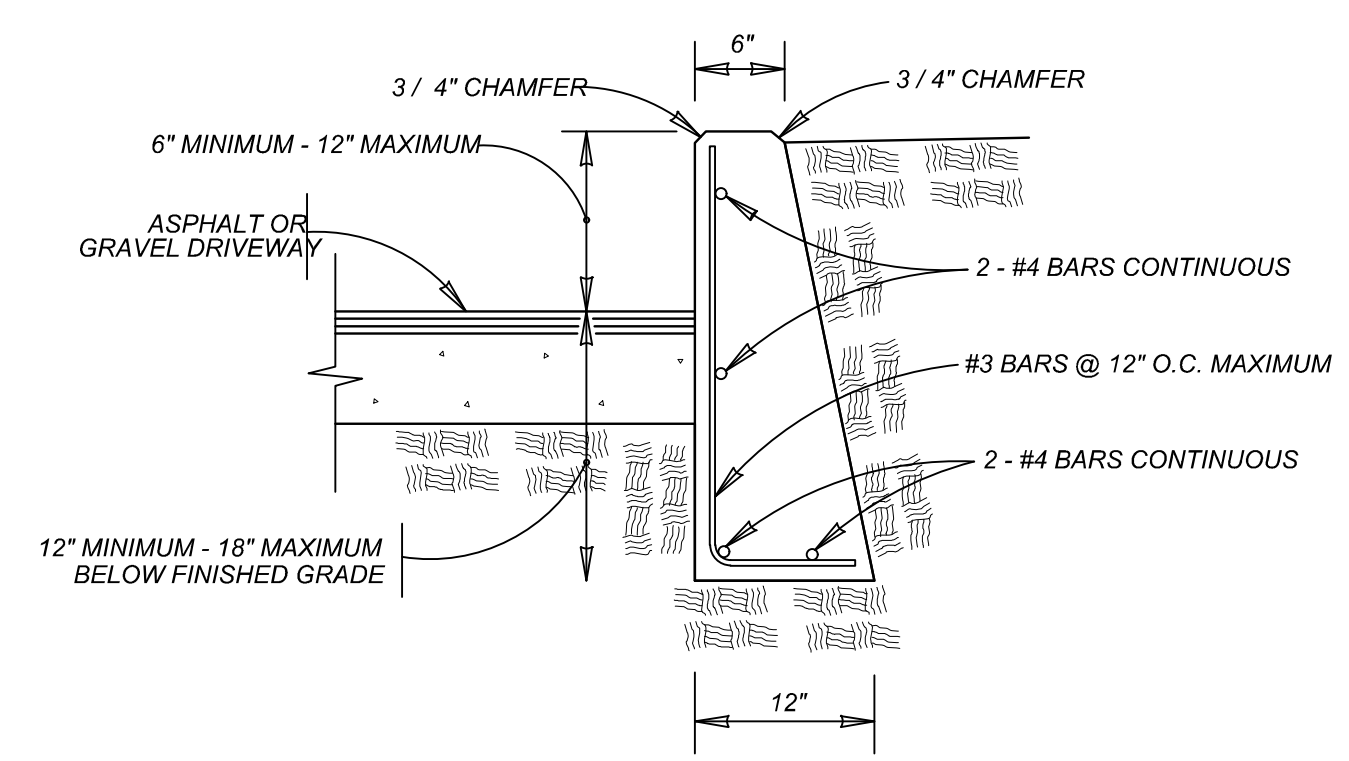
TYPICAL DRIVEWAY PLAN VIEW
WITH SIDEWALK SEPARATED FROM CURB
RESIDENTIAL: 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW

CONCRETE DRIVEWAY NOTES

- DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:
A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2
B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE
C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
- 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
- THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL - ONE WAY	12'	20'
COMMERCIAL - TWO WAY	24'	30'

- FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
- FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
- DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
- A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3/8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
- SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



NOTE:
1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

DRIVEWAY - CONCRETE RETAINING WALL
ON COMPACTED SUBGRADE
ITEM 307.1

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CONCRETE DRIVEWAY STANDARDS

% SUBMITTAL	PROJECT NO.:	DATE:
DRWN. BY: V. YASQUEZ	DSGN. BY:	CHKD. BY: R.S. HOSSEINI, P.E.
		SHEET NO.: OF

STATE OF TEXAS
DENIS A. AYENDANO
137588
LICENSED PROFESSIONAL ENGINEER
03/05/2026
D. Alder P.E.

VIDA WEST-EAST
COLLECTOR PHASE 3
PLAT# 24-11800319

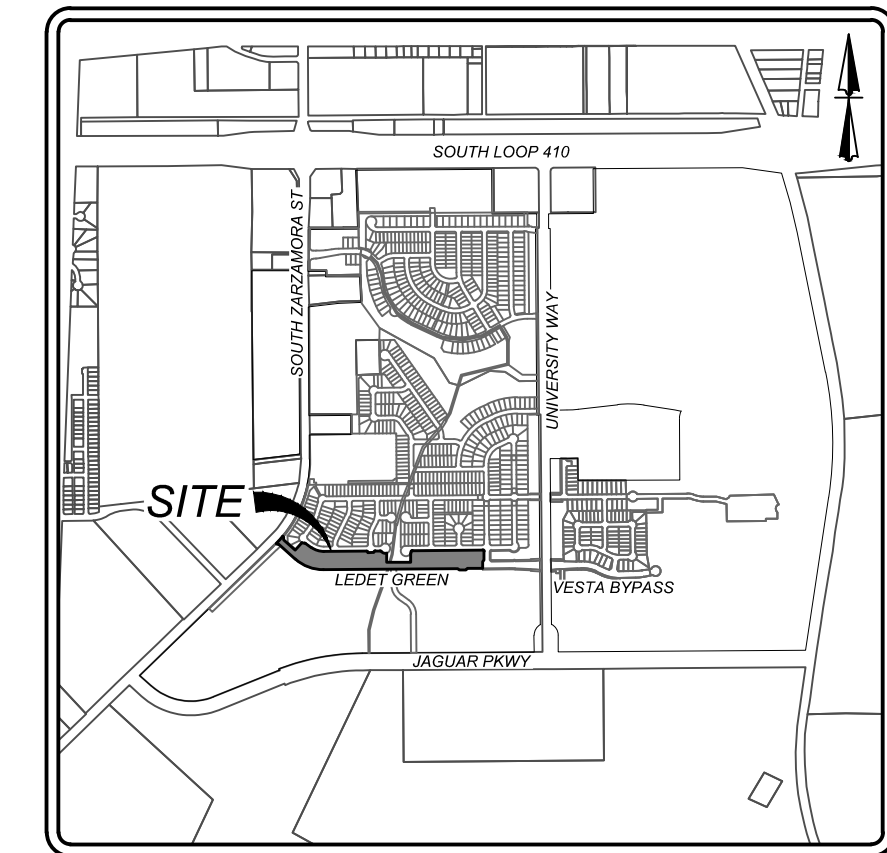
SAN ANTONIO
BEXAR COUNTY
TEXAS

NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN INC.
1805 Farm 101-9650

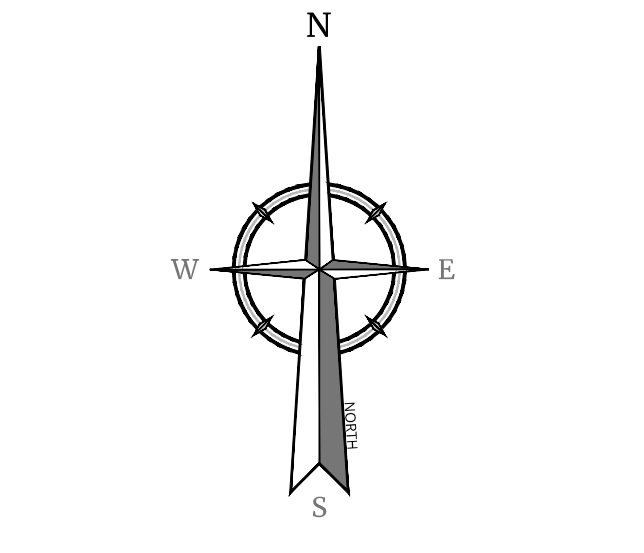
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	JULY 2024	MF	DA
PROJECT NUMBER:	DRAWING NAME:	DETAILS	
391-10-21	WHEELCHAIR RAMP	DETAILS	

SHEET TITLE:
**CONCRETE DRIVEWAY
DETAILS**

SHEET NUMBER:
5.4



LOCATION MAP
N.T.S.

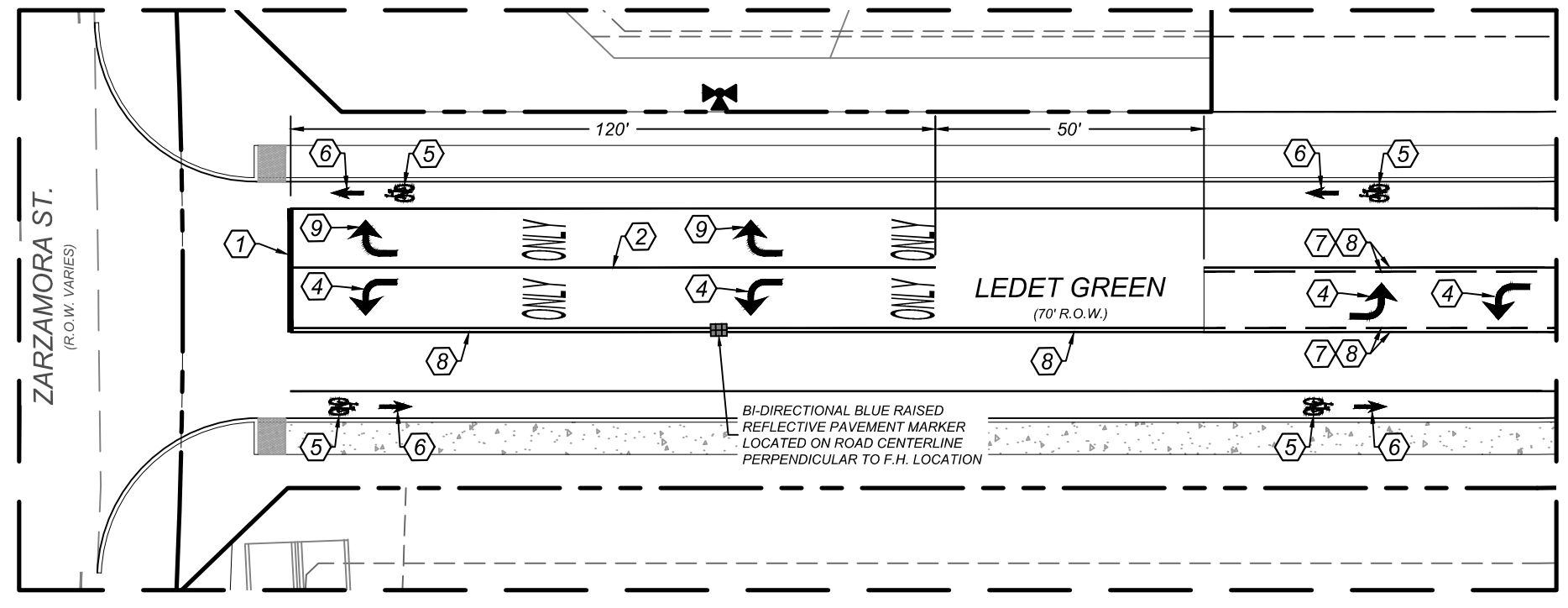


SCALE: 1" = 50'
SELECT LINEAR UNIT OF MEASURE

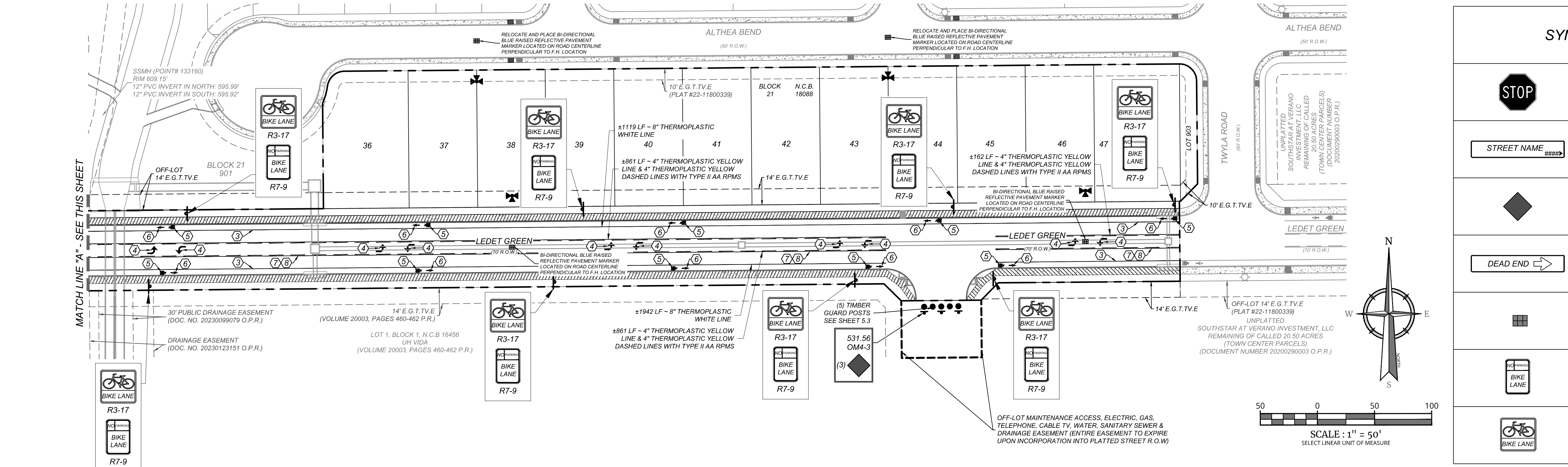
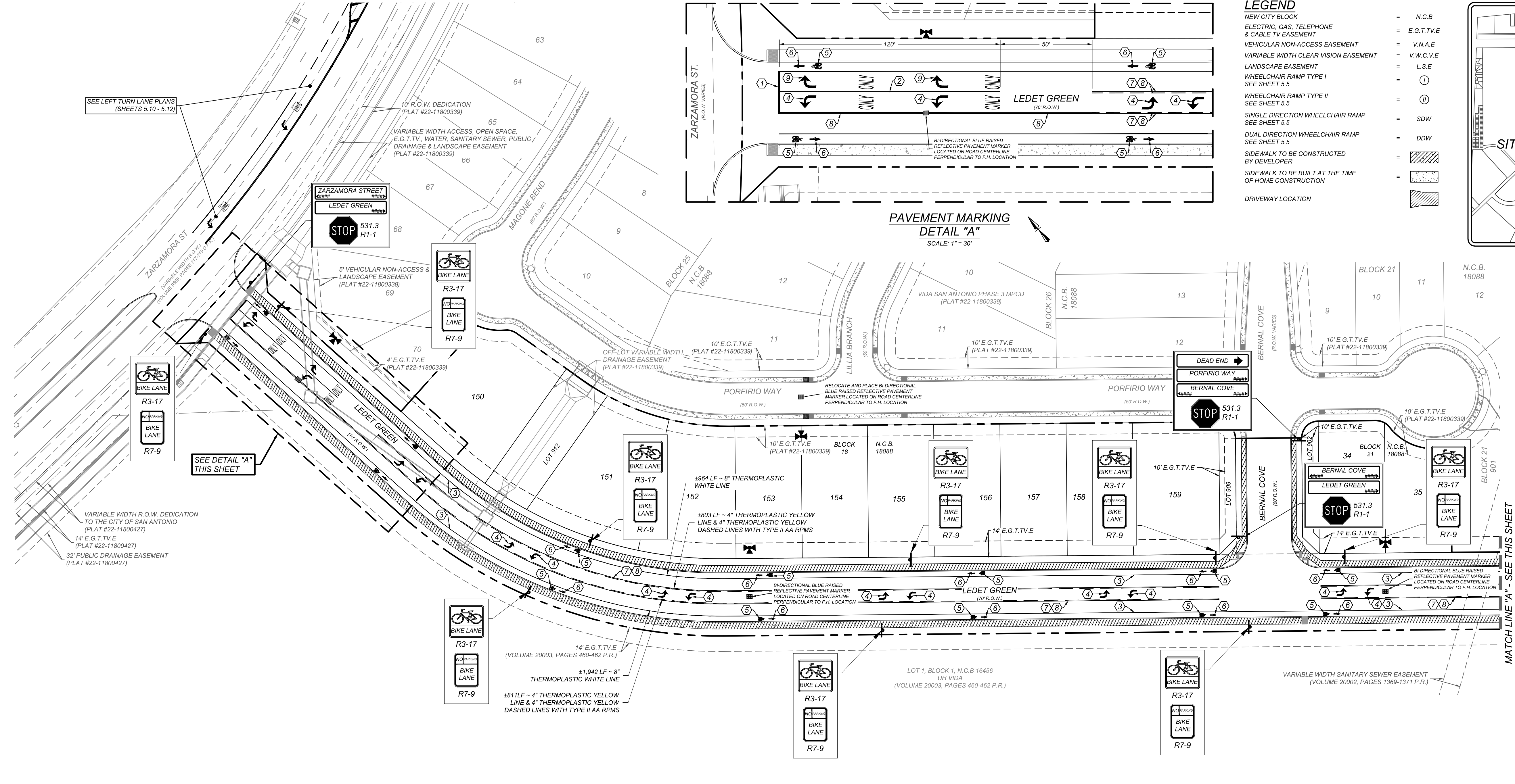
KEYNOTES:

- ① = 24" WHITE STRIPE STOP BAR
- ② = 8" SOLID WHITE LINE WITH TYPE I-C REFLECTIVE MARKERS @ 20' O.C.
- ③ = 4" SOLID WHITE STRIPE
- ④ = LEFT TURN ARROW PAVEMENT MARKING THERMOPLASTIC LINES
- ⑤ = BICYCLE PAVEMENT MARKING THERMOPLASTIC LINES
- ⑥ = ARROW PAVEMENT MARKING THERMOPLASTIC LINES
- ⑦ = 4" BROKEN YELLOW THERMOPLASTIC LINES WITH TYPE II-A RPMs
- ⑧ = 4" SOLID YELLOW THERMOPLASTIC LINES
- ⑨ = RIGHT TURN ARROW PAVEMENT MARKING THERMOPLASTIC LINES

- LEGEND**
- NEW CITY BLOCK
 - ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT
 - VEHICULAR NON-ACCESS EASEMENT
 - VARIABLE WIDTH CLEAR VISION EASEMENT
 - LANDSCAPE EASEMENT
 - WHEELCHAIR RAMP TYPE I SEE SHEET 5.5
 - WHEELCHAIR RAMP TYPE II SEE SHEET 5.5
 - SINGLE DIRECTION WHEELCHAIR RAMP SEE SHEET 5.5
 - DUAL DIRECTION WHEELCHAIR RAMP SEE SHEET 5.5
 - SIDEWALK TO BE CONSTRUCTED BY DEVELOPER
 - SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION
 - DRIVEWAY LOCATION
- = N.C.B.
 - = E.G.T.V.E.
 - = V.N.A.E.
 - = V.W.C.V.E.
 - = L.S.E.
 - ①
 - ②
 - = SDW
 - = DDW
 - [Symbol]
 - [Symbol]



PAVEMENT MARKING
DETAIL "A"
SCALE: 1" = 30'



SYMBOL	ITEM NUMBER
[STOP SIGN]	R1-1 30 X 30 531.3
[STREET NAME SIGN]	STANDARD COSA STREET NAME SIGN STD X 9 531.57
[Diamond Marker]	OM4-3 END-OF-ROADWAY MARKER 531.56
[DEAD END SIGN]	W14-1A 36" x 8" 531.58
[Blue Pavement Marker]	TYPE II BLUE PAVEMENT MARKER 537.8
[Bike Lane Sign]	R7-9 BIKE LANE 531
[Bike Lane Sign]	R3-17 BIKE LANE 30" x 24" 531.68

VIDA WEST-EAST
COLLECTOR PHASE 3
PLAT# 24,-11800319

SAN ANTONIO
BEXAR COUNTY
TEXAS

NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
TBE Form 1-1809
TBE Form 1019050

SCALE: AS SHOWN	DATE: FEB. 2026	DRAWN BY: MF	CHECKED BY: DA
PROJECT NUMBER: 391-10-21	TRAFFIC SIGNAGE & PEDESTRIAN ACCESSIBILITY PLAN		

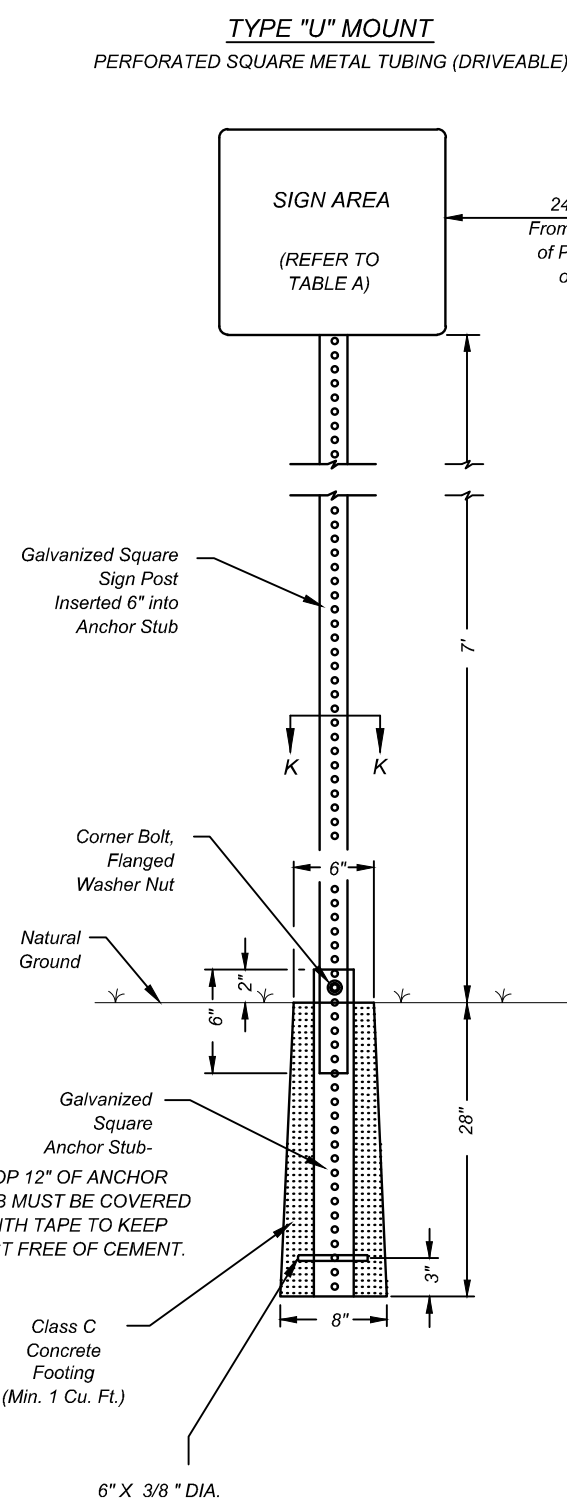
TRAFFIC SIGNAGE &
PEDESTRIAN ACCESSIBILITY
PLAN

SHEET NUMBER: 5.6

GENERAL NOTES

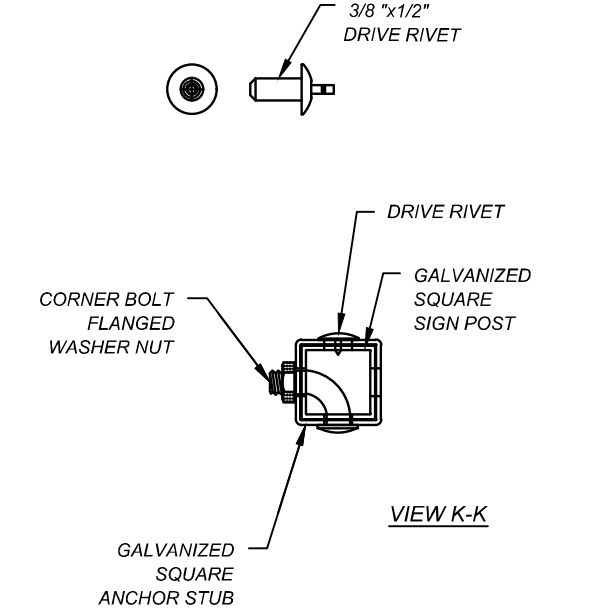
- 1.) THE EXISTING SIGNS LOCATED ON THE JOBSITE ARE THE PROPERTY OF THE CITY OF SAN ANTONIO. THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY. SUCH PROTECTION SHALL INCLUDE THE PERIOD AFTER SIGNS ARE REMOVED FROM INSTALLATION AND STORED BY THE CONTRACTOR OR DELIVERED TO TRAFFIC OPERATIONS. THE ASSISTANT TRAFFIC SUPERINTENDENT (207-7765) MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO DELIVERY.
- 2.) AFTER SIGNS ARE REMOVED FROM INSTALLATION AND ARE BEING STORED BY THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS SECTION OF THE PUBLIC WORKS DEPARTMENT (207-7765) AND ARRANGE FOR A CONVENIENT TIME TO DELIVER CITY SIGNS AND POLES.
- 3.) PRIOR TO THE START OF CONSTRUCTION, ALL EXISTING SIGNS WITHIN THE AREA OF CONSTRUCTION WILL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE TRAFFIC ENGINEERING (207-7720) CONSTRUCTION INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING THE SIGN TYPE, SIGN SIZE, SIGN CONDITION, SIGN LOCATION, REFLECTIVITY ADEQUACY, ETC. THE CONTRACTOR IS HELD ACCOUNTABLE FOR THESE SIGNS THROUGHOUT THE PROJECT AND AT THE PROJECTS COMPLETION.
- 4.) ALL GROUND MOUNTED SHALL USE HIGH INTENSITY REFLECTIVE SHEETING.
- 5.) ALL OVERHEAD SIGNS SHALL USE DIAMOND GRADE REFLECTIVE SHEETING.
- 6.) ALL BLANKS TO BE ALUMINUM ALLOY NO. 5052-H38.
- 7.) "T" DENOTES THICKNESS OF SIGN BLANKS.
- 8.) ALL HOLES SHALL BE 3/8" DIAMETER DRILLED OR PUNCHED AS SHOWN ON EACH BLANK DETAIL AND SHALL BE FREE OF BURRS AND/OR ROUGH EDGES.
- 9.) SIGN BLANK CORNERS TO BE ROUNDED AS SHOWN ON EACH DETAIL.
- 10.) ALL SIGN BLANK TO BE ETCHED, DEGREASED, AND HAVE AN ALODINE FINISH PRIOR TO APPLICATION OF LEGENDS.
- 11.) ALL DETAILS ARE NOT TO SCALE.
- 12.) ALL DIMENSIONS ARE IN INCHES.
- 13.) ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN CONFORMANCE TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND STANDARD HIGHWAY SIGNS (FHWA) LATEST EDITION.
- 14.) REINSTALLATION OF PREVIOUSLY EXISTING SIGNS, WHERE REQUIRED BY THE CITY TRAFFIC ENGINEER, SHALL BE AT THE CONTRACTOR'S EXPENSE.

TYPICAL GROUND SIGN INSTALLATION



METAL TUBING	SIGN AREA	
	< 10 SQ. FT.	> 10 SQ. FT.
GALVANIZED SQUARE SIGN POST (Perforated)	1-3/4" x 1-3/4" (14 Gauge)	2" x 2" (12 Gauge)
GALVANIZED SQUARE ANCHOR STUB (Perforated)	2" x 2" (14 Gauge)	2-1/4" x 2-1/4" (14 Gauge)

TABLE A



NO.	REVISION	BY	DATE
X	XXX	XXX	XXX

CITY OF SAN ANTONIO
TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

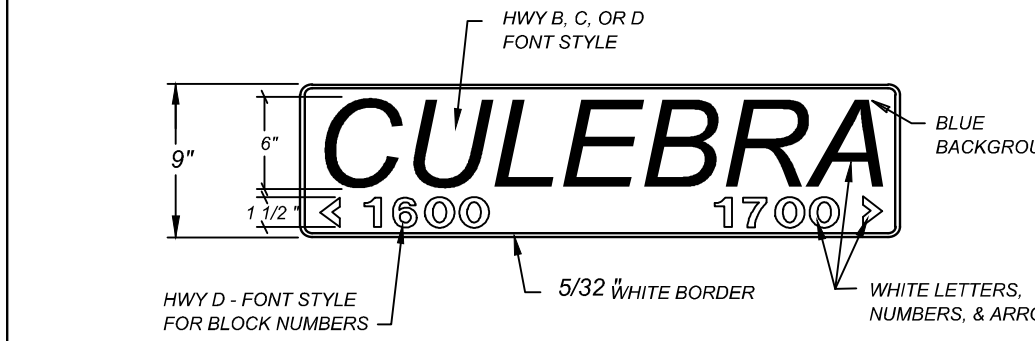
TRAFFIC SIGN STANDARDS
GENERAL NOTES AND
GROUND SIGN MOUNTING

TE-SGN(1)-06

DRWN/ENR	APVD/ENR	DATE	1.30.09	SHT. NO.
				1 OF 4

DRWN/APP/ENR DATE 2.6.06

RVSD/APP/DATE SCALE: NOT TO SCALE



9" D3 - STREET NAME SIGN

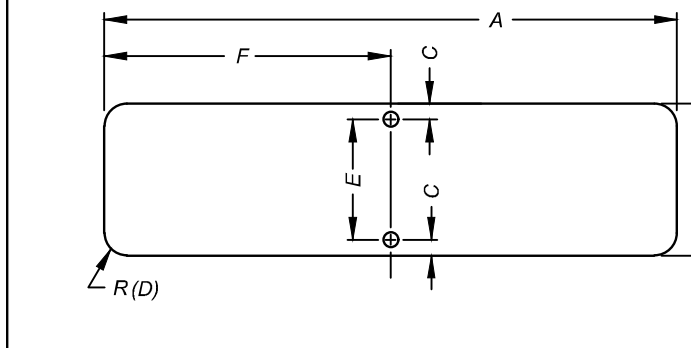


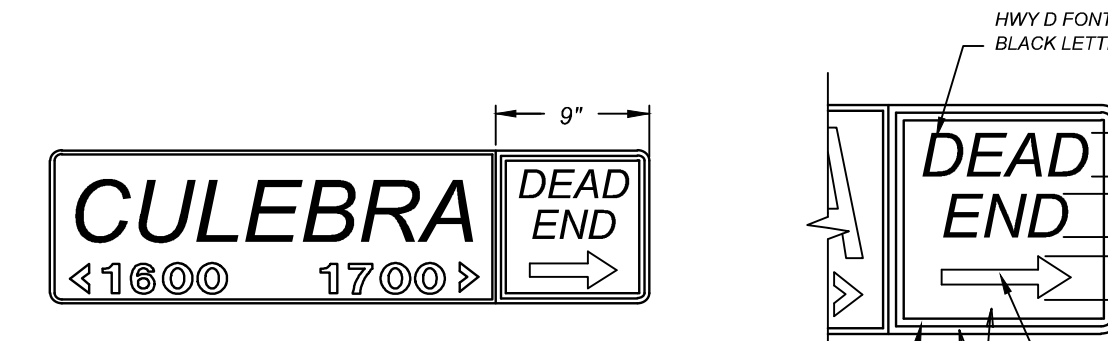
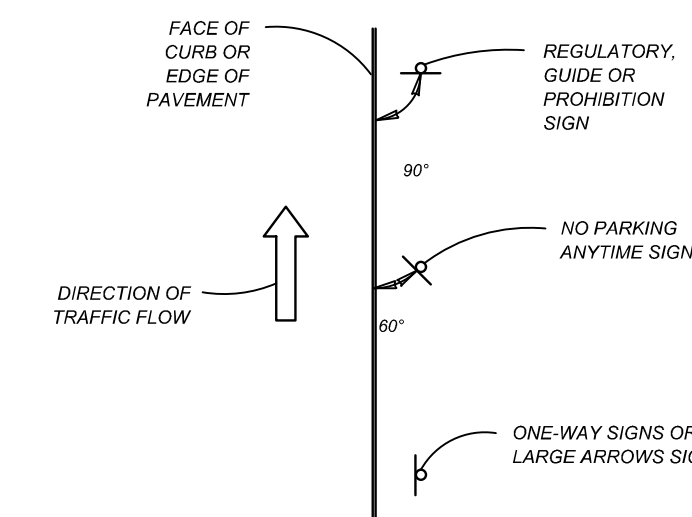
TABLE - D3 SIGNS

A	B	C	D	E	F	T
24"	9"	1/2"	3/4"	8"	12"	0.125"
30"	9"	1/2"	3/4"	8"	15"	0.125"
36"	9"	1/2"	3/4"	8"	18"	0.125"
42"	9"	1/2"	3/4"	8"	21"	0.125"
48"	9"	1/2"	3/4"	8"	24"	0.125"
54"	9"	1/2"	3/4"	8"	27"	0.125"

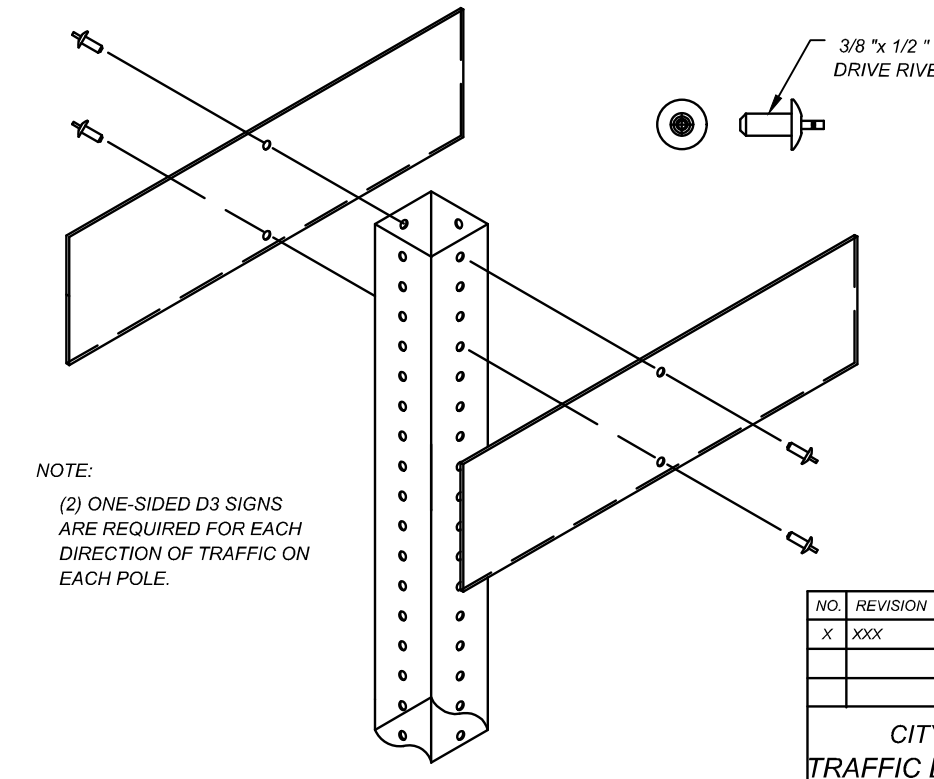
NOTE: A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A 'DEAD END' OR 'NO OUTLET' SUPPLEMENT IS REQUIRED.

HEIGHT	9" (228 mm)
LENGTH	24" (600mm) MIN. 54" (1350mm) MAX. 6" (150mm) INCREMENTS OF LENGTH
THICKNESS	0.125" (3mm)
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH
SIGN FACE MATERIALS	BLUE FILM OVER HIGH INTENSITY FP-85, SECTION 718 AND L-S-300C
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK, IF NECESSARY
COLOR	WHITE LEGEND ON BLUE BACKGROUND
LETTER TRACKING	10%

TYPICAL GROUND MOUNTED SIGN PLACEMENT



NEW 9" D3 w/ DEAD END OR NO OUTLET SIGNAGE



D3 SIGN TO POLE INSTALLATION

NO.	REVISION	BY	DATE
X	XXX	XXX	XXX

CITY OF SAN ANTONIO
TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

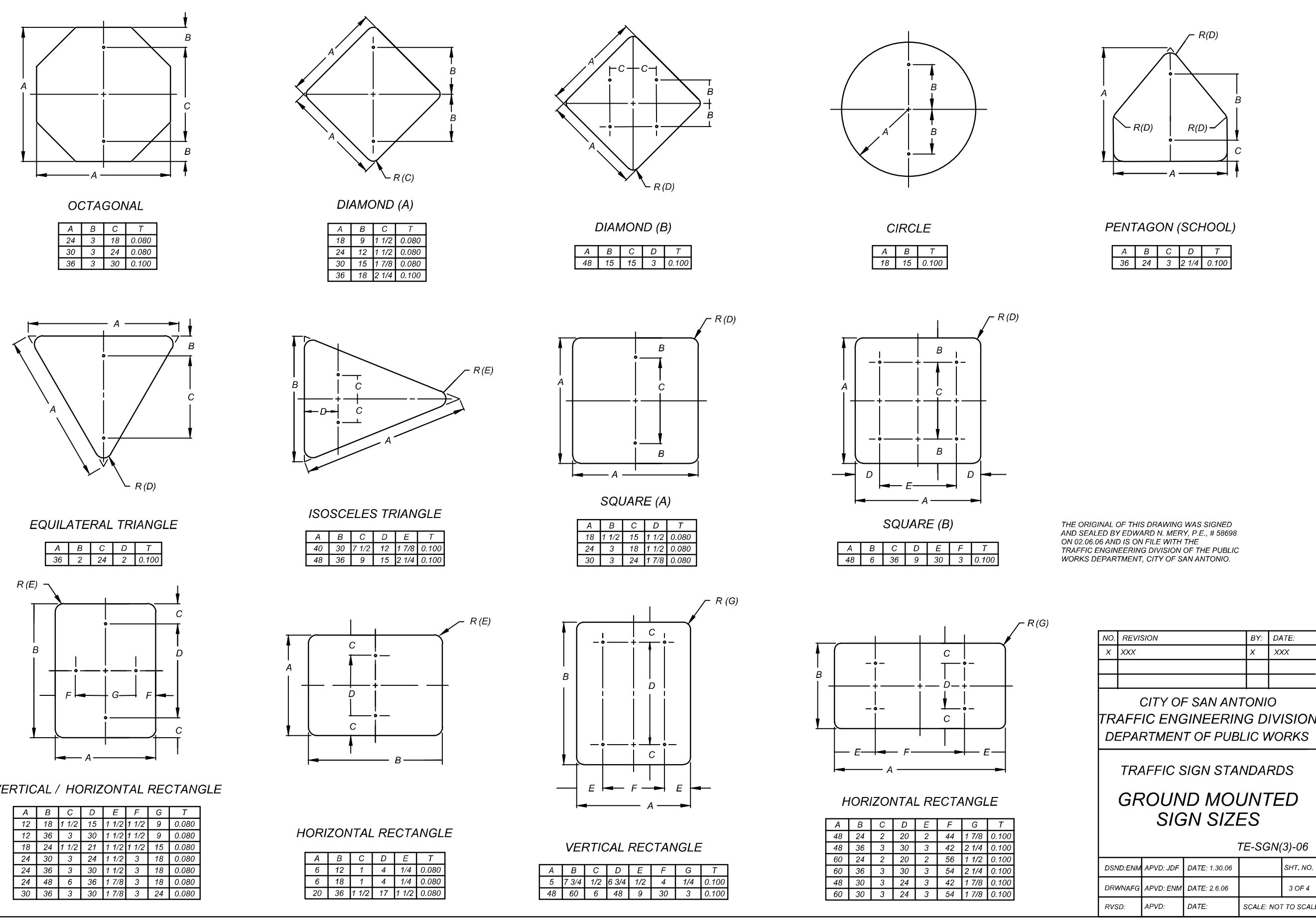
TRAFFIC SIGN STANDARDS
D3 STREET NAME SIGN
AND SIGN MOUNTING

TE-SGN(2)-06

DRWN/ENR	APVD/ENR	DATE	1.30.09	SHT. NO.
				2 OF 4

DRWN/APP/ENR DATE 2.6.06

RVSD/APP/DATE SCALE: NOT TO SCALE



NO.	REVISION	BY	DATE
X	XXX	XXX	XXX

CITY OF SAN ANTONIO
TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

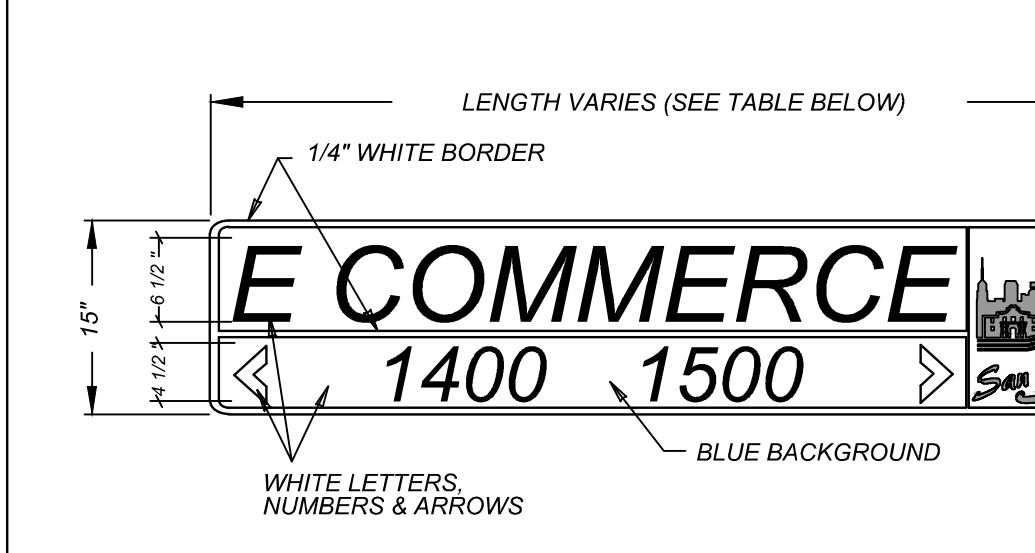
TRAFFIC SIGN STANDARDS
GROUND MOUNTED
SIGN SIZES

TE-SGN(3)-06

DRWN/ENR	APVD/ENR	DATE	1.30.09	SHT. NO.
				3 OF 4

DRWN/APP/ENR DATE 2.6.06

RVSD/APP/DATE SCALE: NOT TO SCALE



15" METRO - STREET NAME SIGNS



15" METRO w/ CITY SKY LINE

HEIGHT	15" (381 mm)
LENGTH	48" (1200 mm) MIN. 72" (1800 mm) MAX.** 1" (30mm) INCREMENTS OF LENGTH
THICKNESS	0.125" (3mm)
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH
SIGN FACE MATERIALS	BLUE FILM OVER DIAMOND GRADE FP-85, SECTION 718 AND L-S-300C
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK, IF NECESSARY
COLOR	WHITE LEGEND ON BLUE BACKGROUND
LETTER TRACKING	17% (USUAL) 10% (MIN.)

NO.	REVISION	BY	DATE
X	XXX	XXX	XXX

CITY OF SAN ANTONIO
TRAFFIC ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

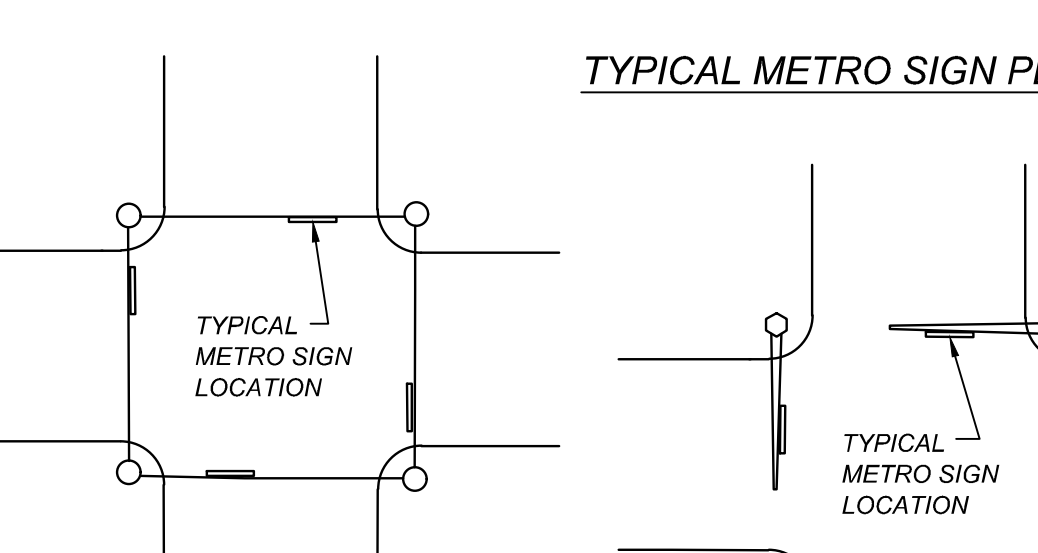
TRAFFIC SIGN STANDARDS
METRO
STREET NAME SIGN
AND SIGN PLACEMENT

TE-SGN(4)-06

DRWN/ENR	APVD/ENR	DATE	1.30.09	SHT. NO.
				4 OF 4

DRWN/APP/ENR DATE 2.6.06

RVSD/APP/DATE SCALE: NOT TO SCALE



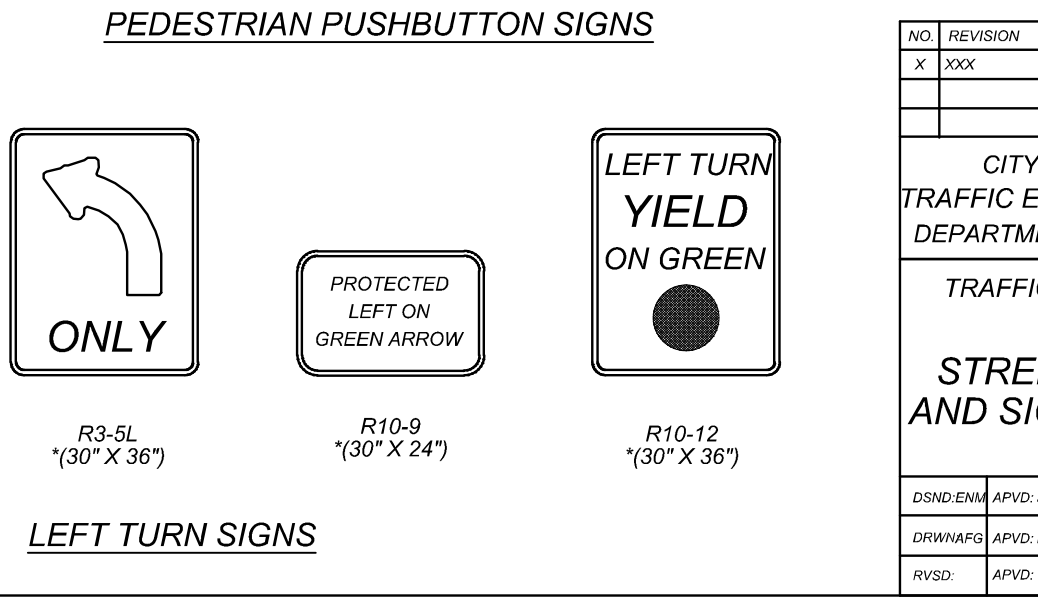
TYPICAL METRO SIGN PLACEMENT

SPAN WIRE INSTALLATION

MAST ARM INSTALLATION

PEDESTRIAN PUSHBUTTON SIGNS

LEFT TURN SIGNS



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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

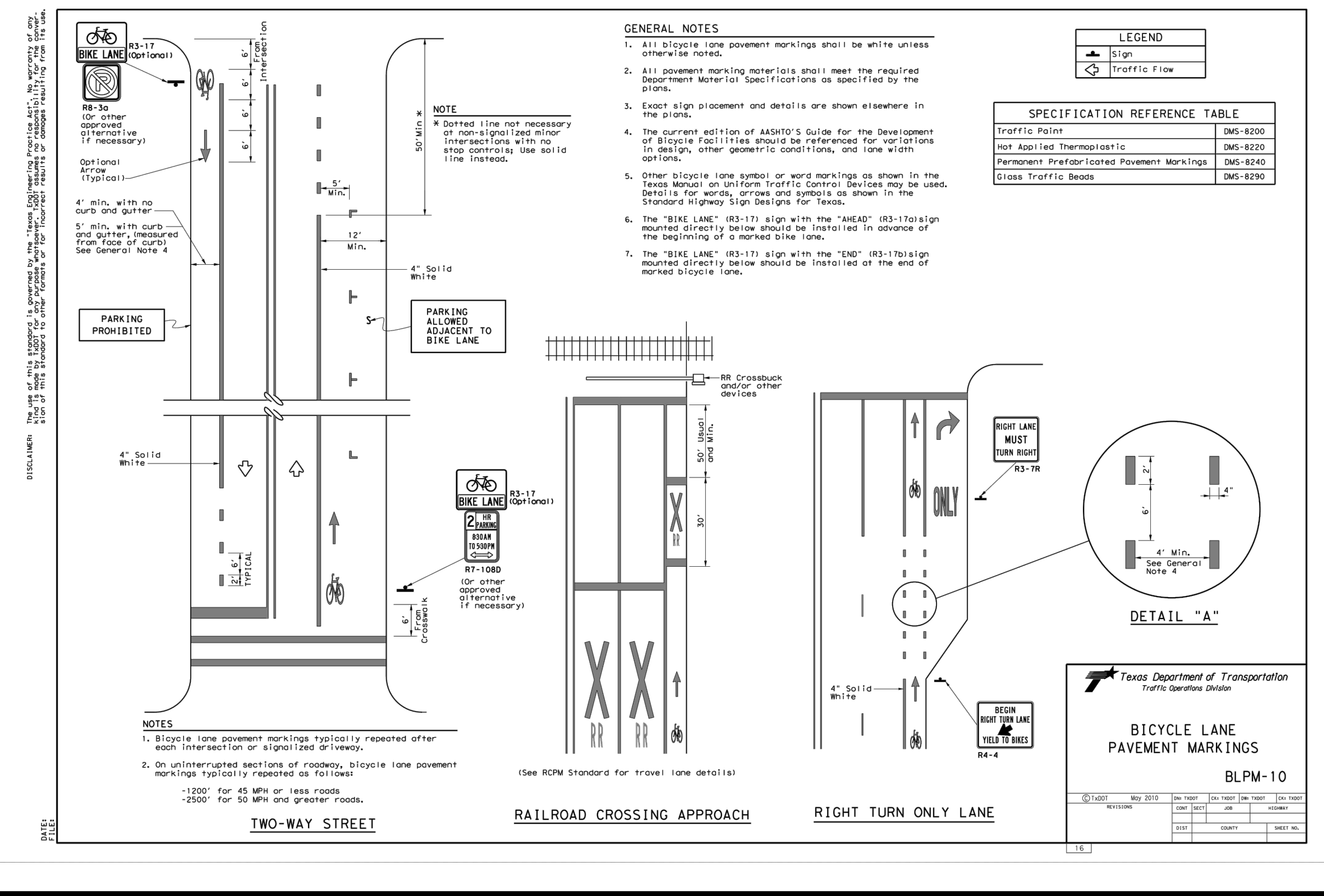
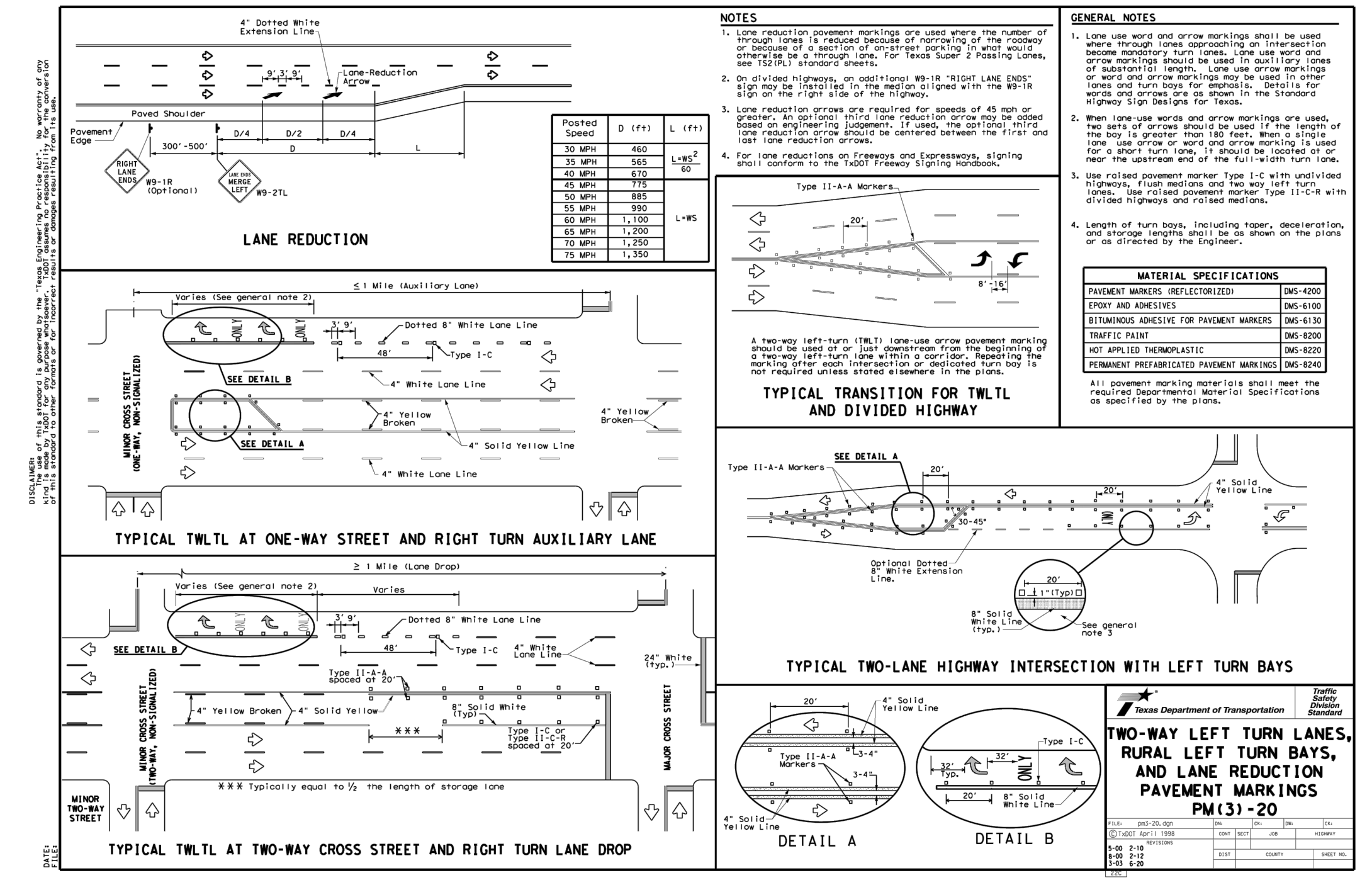
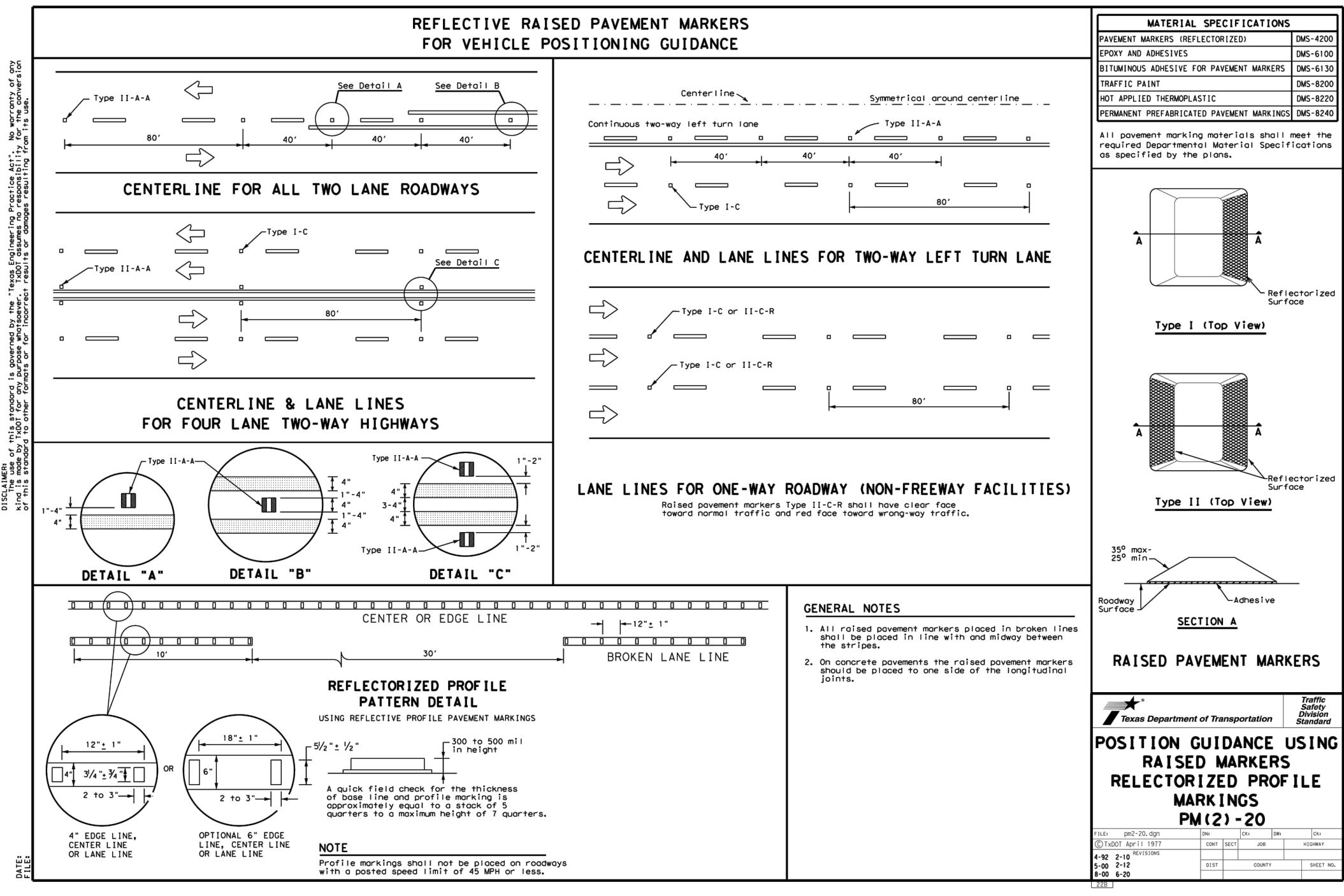
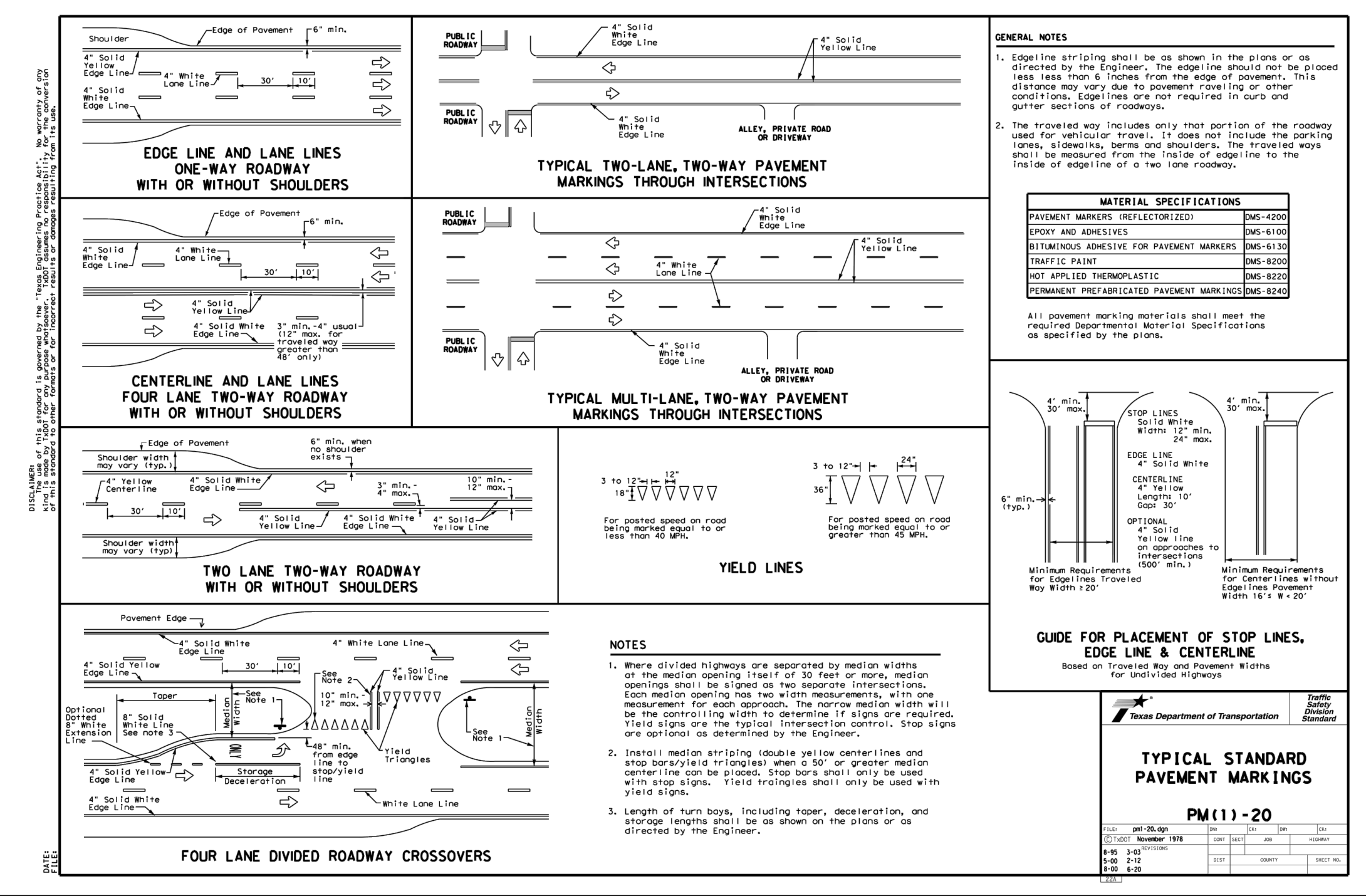
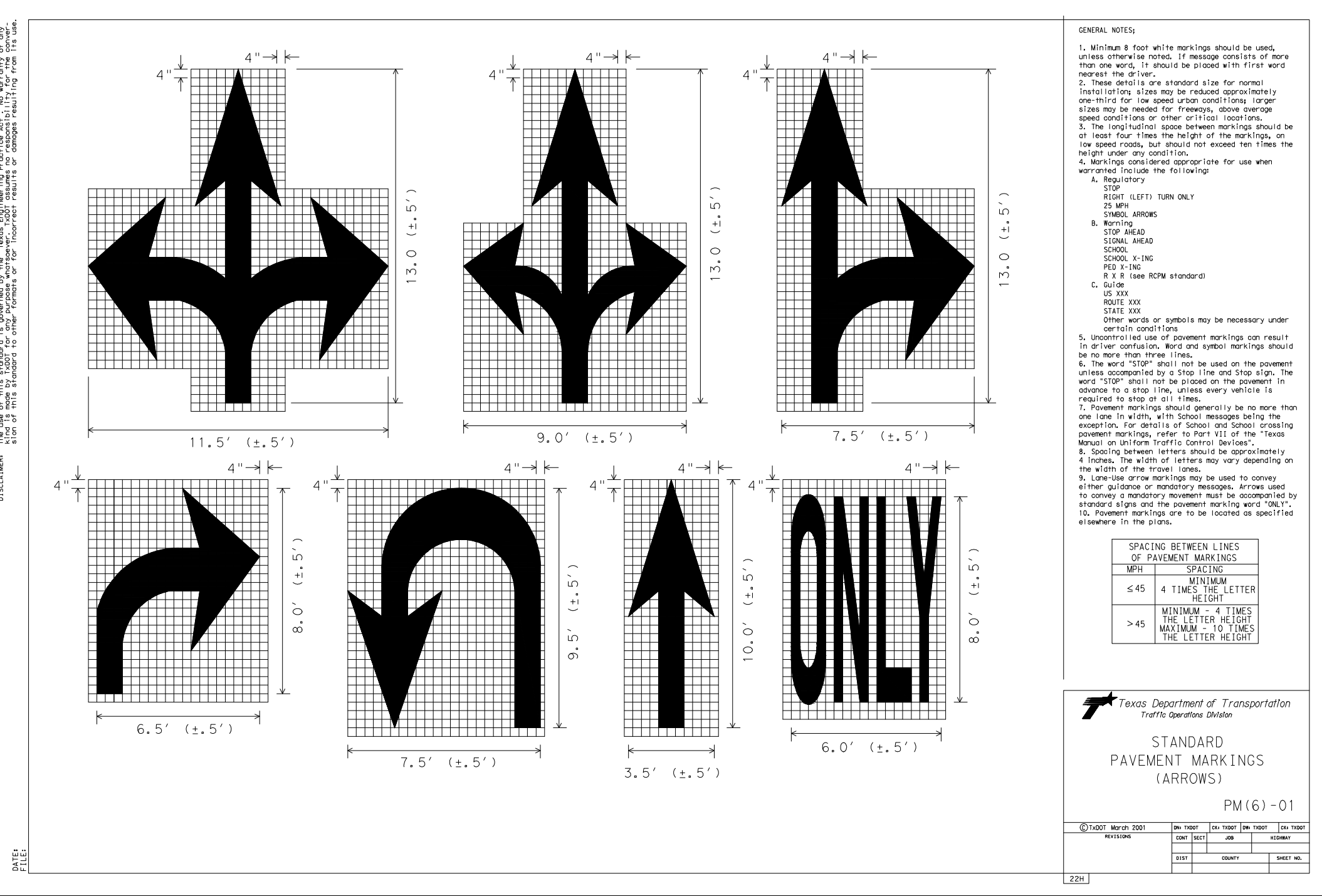
REV.	DATE	DRAWN BY	DESCRIPTION

STATE OF TEXAS
DENIS A. AYENDANO
137588
PROFESSIONAL ENGINEER
03/05/2026
D. Ayendano P.E.

VIDA WEST-EAST
COLLECTOR PHASE 3
PLAT# 24-11800319
SAN ANTONIO
BEXAR COUNTY
TEXAS

NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
1895 S. FARMER
10194550

SCALE: AS SHOWN
DATE: JULY 2024
DRAWN BY: MF
CHECKED BY: DA
PROJECT NUMBER: 391-10-21
SHEET NUMBER: 5.7



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STATE OF TEXAS
 DENIS A. AYENDANO
 137588
 LICENSED PROFESSIONAL ENGINEER

03/05/2026

VIDA WEST-EAST COLLECTOR PHASE 3 PLAT# 24-11800319

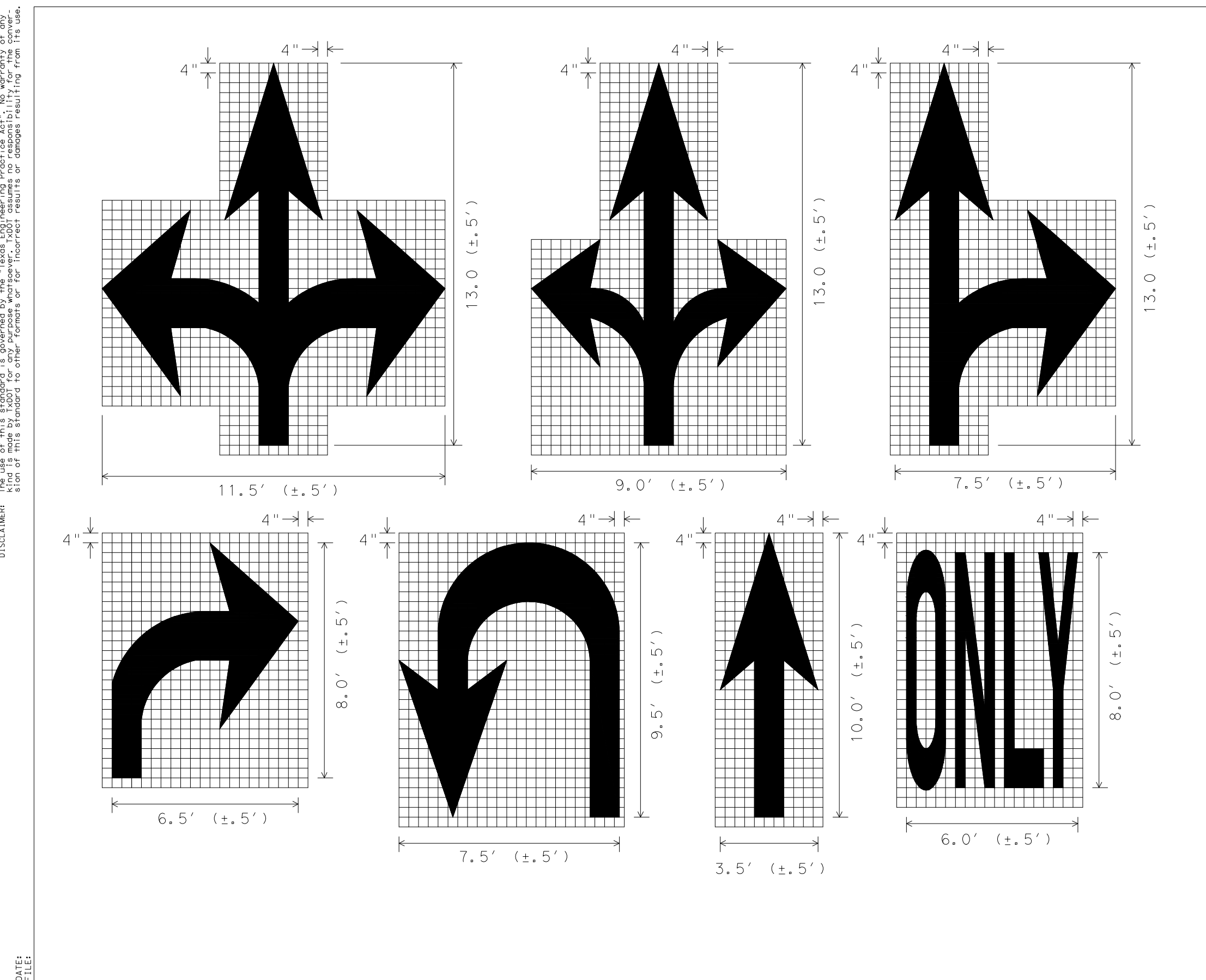
SAN ANTONIO BEXAR COUNTY TEXAS

NEW BRAUNFELS (KFW)
 640 North Walnut Ave.
 Suite 1101
 New Braunfels, TX 78130
 Phone: 830.220.6042
 COLLIERS ENGINEERING & DESIGN, INC.
 TDS Form 11-009
 TDS Form 10196500

Engineering & Design

SCALE: AS SHOWN DATE: JULY 2024 DRAWN BY: MF CHECKED BY: DA
 PROJECT NUMBER: 3911-10-21 DRAWING NUMBER: TS3911021

SHEET TITLE: STREET SIGNAGE DETAILS
 SHEET NUMBER: 5.9



GENERAL NOTES:

1. Minimum 8 foot white markings should be used, unless otherwise noted. If message consists of more than one word, it should be placed with first word nearest the driver.
2. These details are standard size for normal installation. Signs for reduced speed should be approximately one-third the size for low speed urban conditions; larger signs may be needed for freeways above average speed conditions or other critical locations.
3. The longitudinal space between markings should be at least four times the height of the markings, on low speed roads, but should not exceed ten times the height under any condition.
4. Markings considered appropriate for use when warranted include the following:
 - A. Regulatory
 - B. Warning
 - C. Guide

SPACING BETWEEN LINES OF PAVEMENT MARKINGS

Other words or symbols may be necessary under certain conditions.

5. Uncontrolled use of pavement markings can result in driver confusion, and such markings should be no more than three lines.

6. The word "STOP" shall not be used on the pavement unless accompanied by a Stop Line and Stop Sign. The word "STOP" shall not be placed on the pavement in advance to a stop line, unless every vehicle is required to stop at all times.

7. Pavement markings should generally be no more than one line in width, with slight message being the exception. For details of School and School Crossing pavement markings, refer to Part III of the Texas Manual on Uniform Traffic Control Devices.

8. Spacing between letters should be equal to the height of the letters.

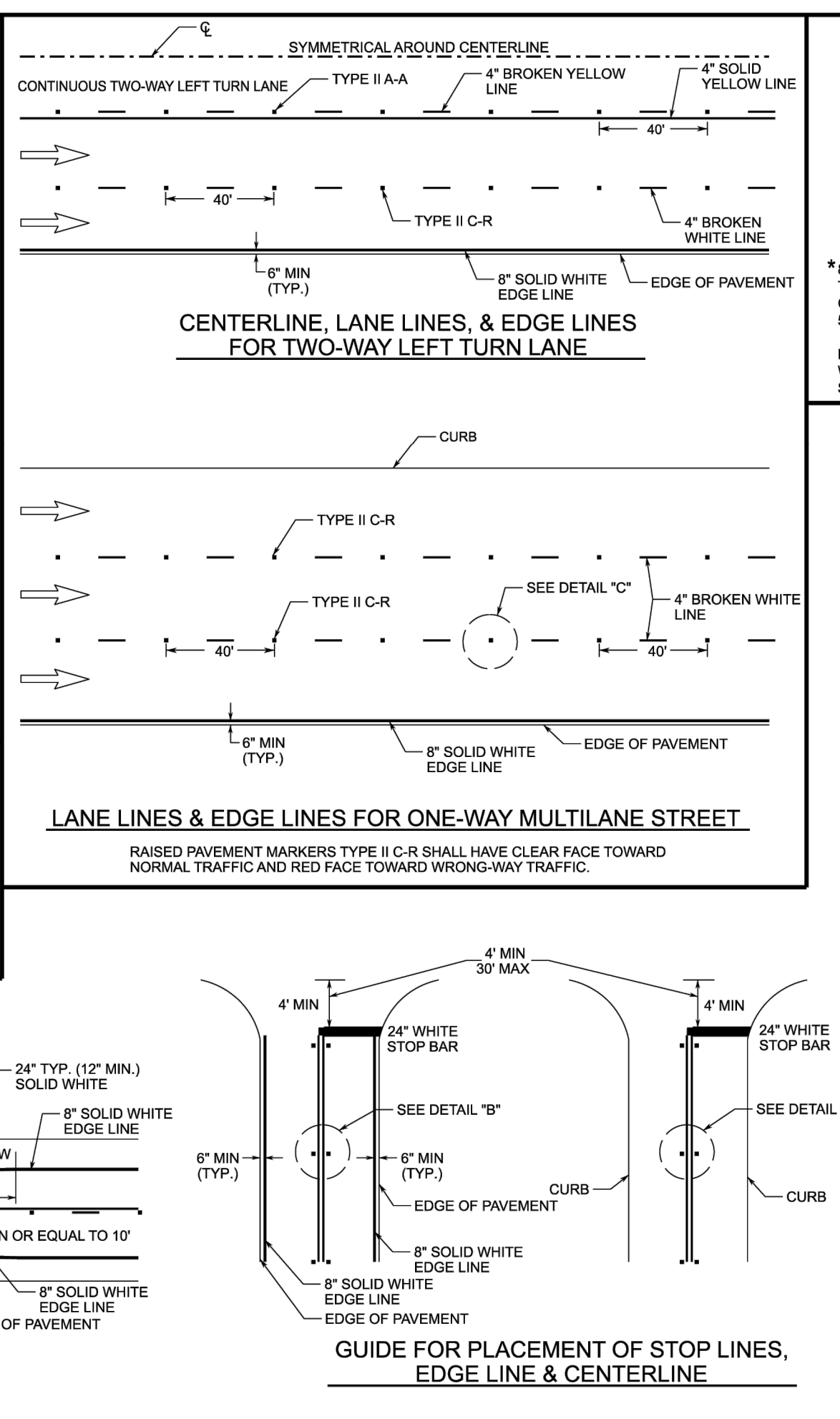
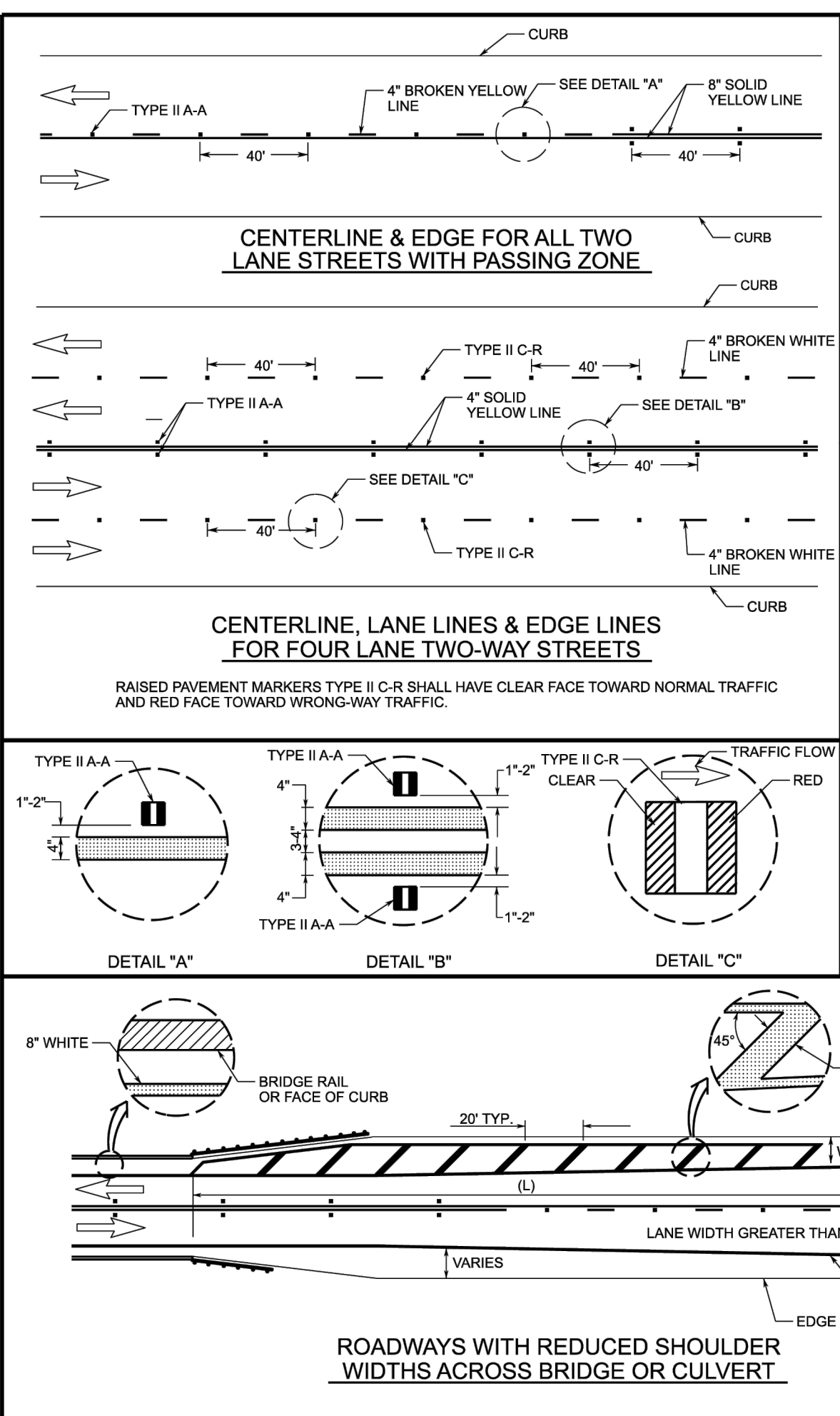
9. Lane-use arrow markings may be used to convey either guidance or mandatory message. Arrows used to convey a mandatory message must be accompanied by standard signs and the pavement marking word "ONLY". Pavement markings are to be located as specified elsewhere in the plans.

Texas Department of Transportation
Traffic Operations Division

STANDARD PAVEMENT MARKINGS (ARROWS)

PM(6)-01

DATE	BY	DESCRIPTION
09/20/20



POSTED SPEED FORMULA

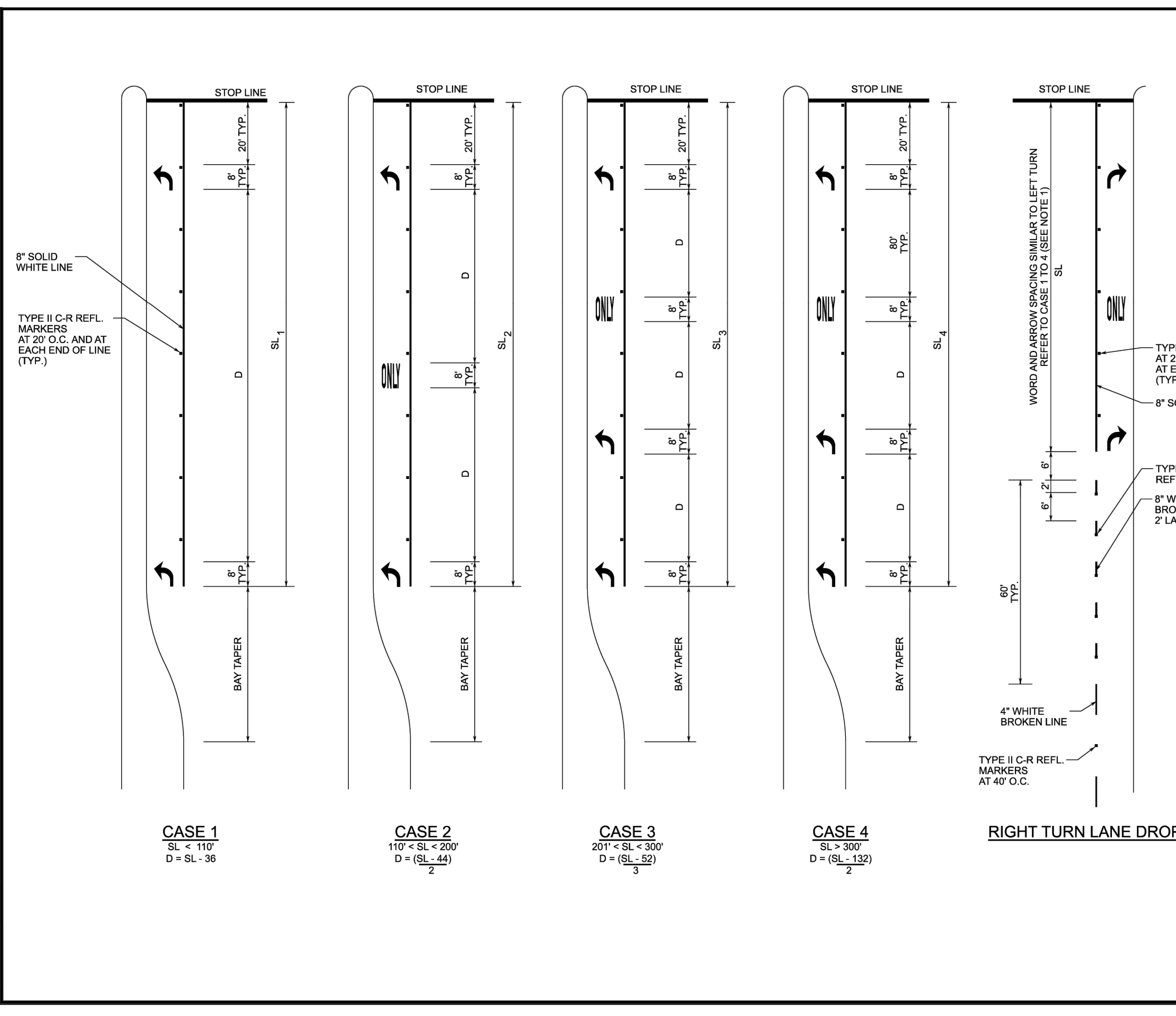
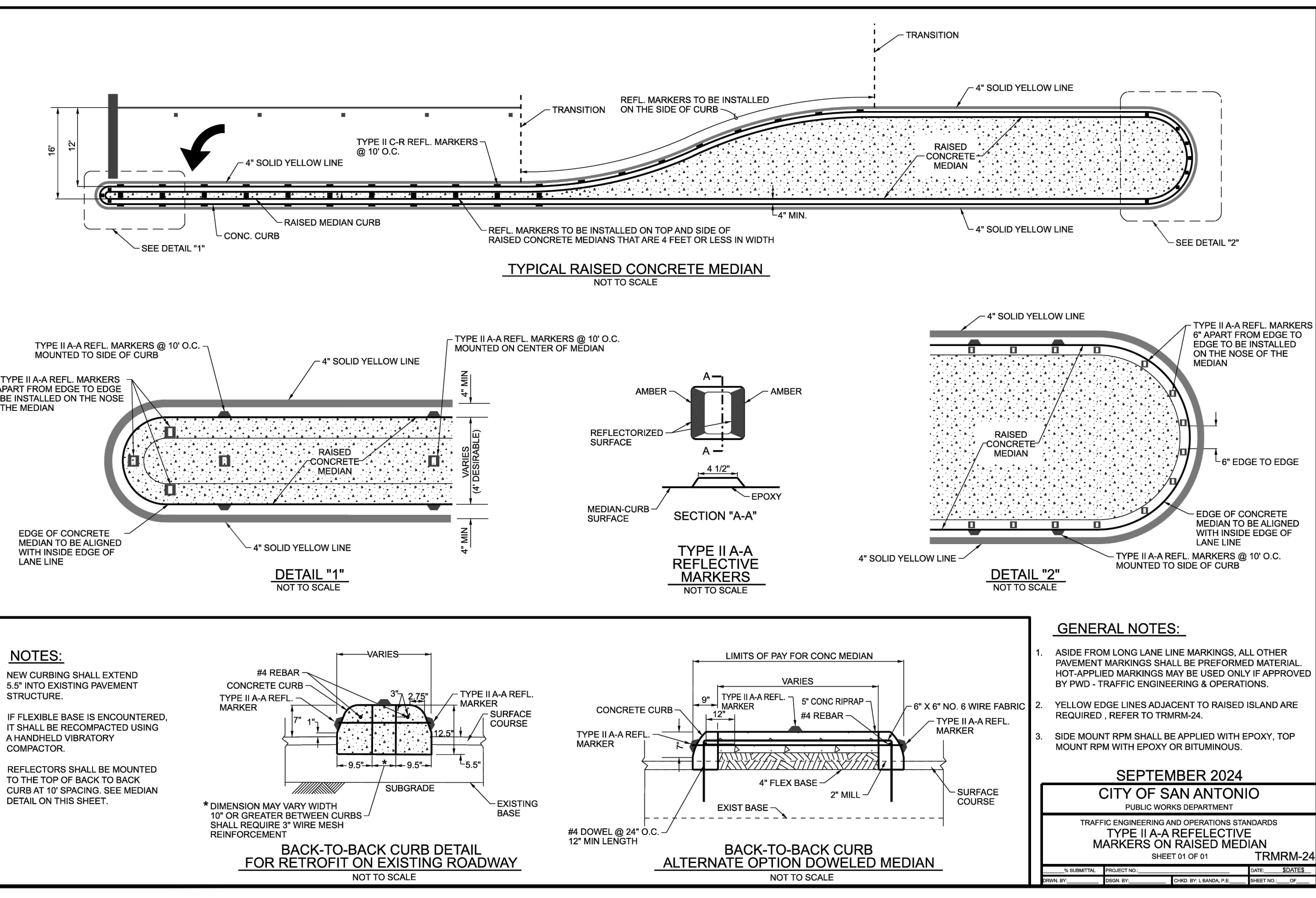
POSTED SPEED	FORMULA
≤ 45	$L = \frac{WS^2}{60}$
≥ 45	$L = WS$

TABLE 1 - TYPICAL LENGTH (L)

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

GENERAL NOTES:

1. EDGE LINE ADJACENT TO CURB AND GUTTER IS NOT REQUIRED IN ALL CASES, HOWEVER SHALL BE PLACED AS DIRECTED BY THE ENGINEER.
2. THE TRAVELED WAY INCLUDES ONLY THAT PORTION OF THE ROADWAY USED FOR VEHICULAR TRAVEL AND NOT THE PARKING LANES, SIDEWALKS, BERMS AND SHOULDERS. THE TRAVELED WAYS SHALL BE MEASURED FROM THE INSIDE OF EDGE LINE TO INSIDE OF EDGE LINE OF A TWO LANE ROADWAY.
3. ALL RAISED PAVEMENT MARKERS PLACED IN BROKEN LINES SHALL BE PLACED IN LINE WITH AND MIDWAY BETWEEN THE STRIPES.
4. ON CONCRETE PAVEMENTS THE RAISED PAVEMENT MARKERS SHOULD BE PLACED TO ONE SIDE OF THE LONGITUDINAL JOINTS.
5. ALL PAVEMENT MARKING MATERIAL SHALL MEET THE REQUIRED MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF SAN ANTONIO STANDARD SPECIFICATIONS.
6. ASIDE FROM LONG LANE LINE MARKINGS, ALL OTHER PAVEMENT MARKINGS SHALL BE PERFORMED MATERIAL HOT-APPLIED MARKINGS MAY BE USED ONLY IF APPROVED BY PWD - TRAFFIC ENGINEERING AND OPERATIONS.
7. FOR GUARD FENCE DETAILS, REFER ELSEWHERE IN THE PLANS.
8. YELLOW EDGE LINES ADJACENT TO RAISED ISLAND ARE REQUIRED. REF TRMRM-24



KEY

SL - STORAGE LENGTH (FEET)
D - DISTANCE BETWEEN ARROWS AND LEGENDS (FEET)

GENERAL NOTES:

1. LEFT-TURN STORAGE LANE DETAILS ALSO APPLY TO RIGHT-TURN STORAGE LANES.
2. SL DIMENSION IS FROM STOP LINE TO END OF TURN LANE, WHICH DOES NOT INCLUDE TAPER LENGTH.
3. PAVEMENT ARROWS AND "ONLY" LEGEND MARKINGS ARE TYPICALLY USED AT SIGNALIZED INTERSECTIONS AND AT UNSIGNALIZED INTERSECTIONS WHERE A DEMONSTRATED NEED EXISTS.
4. MINIMUM SL = 110'. SL MAY BE LESS THAN 110 FEET AS DIRECTED BY THE CITY TRAFFIC ENGINEER.
5. ASIDE FROM LANE LINE MARKINGS, ALL OTHER PAVEMENT MARKINGS SHALL BE PERFORMED MATERIAL HOT-APPLIED MARKINGS MAY BE USED ONLY IF APPROVED BY PWD TRAFFIC ENGINEERING & OPERATIONS.
6. FOR DUAL-TURN LANES, DIMENSIONS SHALL BE THE SAME FOR EACH LANE.
7. YELLOW EDGE LINES ADJACENT TO RAISED ISLAND ARE REQUIRED. REFER TO TRMRM-24.

NOTES:

1. NEW CURBING SHALL EXTEND 5.5' INTO EXISTING PAVEMENT STRUCTURE.
2. IF FLEXIBLE BASE IS ENCOUNTERED, IT SHALL BE RECOMPACTED USING A HANDHELD VIBRATORY COMPACTOR.
3. REFLECTORS SHALL BE MOUNTED TO THE TOP OF BACK TO BACK CURB AT 10' SPACING. SEE MEDIAN DETAIL ON THIS SHEET.

BACK-TO-BACK CURB DETAIL FOR RETROFIT ON EXISTING ROADWAY

BACK-TO-BACK CURB ALTERNATE OPTION DOWELED MEDIAN

GENERAL NOTES:

1. ASIDE FROM LONG LANE LINE MARKINGS, ALL OTHER PAVEMENT MARKINGS SHALL BE PERFORMED MATERIAL HOT-APPLIED MARKINGS MAY BE USED ONLY IF APPROVED BY PWD - TRAFFIC ENGINEERING & OPERATIONS.
2. YELLOW EDGE LINES ADJACENT TO RAISED ISLAND ARE REQUIRED. REFER TO TRMRM-24.
3. SIDE MOUNT RPM SHALL BE APPLIED WITH EPOXY, TOP MOUNT RPM WITH EPOXY OR BITUMINOUS.

SEPTEMBER 2024
CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

TRAFFIC ENGINEERING AND OPERATIONS STANDARDS
TYPE II A-A REFLECTIVE MARKERS ON RAISED MEDIAN

SHEET 01 OF 01 TRMRM-24

DATE	BY	DESCRIPTION
09/20/20

THIS DOCUMENT IS RELEASED BY AUTHORITY OF OMAR ESPINOSA, P.E. # 125560 FOR BID SET ONLY AND NOT TO BE USED FOR CONSTRUCTION.

VIDA WEST-EAST COLLECTOR PHASE 3 PLAT# 24-11800319

SAN ANTONIO BEXAR COUNTY TEXAS

NEW BRAUNFELS (KFW)
640 North Walnut Ave. Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
18955 Fwy. 10190550

SCALE: AS SHOWN DATE: FEB. 2026 DRAWN BY: MF CHECKED BY: DA
PROJECT NUMBER: 39110-21 DRAWING NAME: LEFT TURN LANE DEMOLITION PLAN

LEFT TURN LANE PLAN DETAILS (1 OF 2)

DATE: Jun 30, 2026, 11:16am User ID: schwaner
C:\Users\schwaner\OneDrive\Desktop\VIDA WEST-EAST COLLECTOR PHASE 3 PLAT# 24-11800319\VIDA WEST-EAST COLLECTOR PHASE 3 PLAT# 24-11800319\LEFT TURN LANE DEMOLITION PLAN.dwg

SHEET NUMBER: 5.12

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

VIDA WEST-EAST COLLECTOR PHASE 3

BEXAR COUNTY, TEXAS

SANITARY SEWER IMPROVEMENTS

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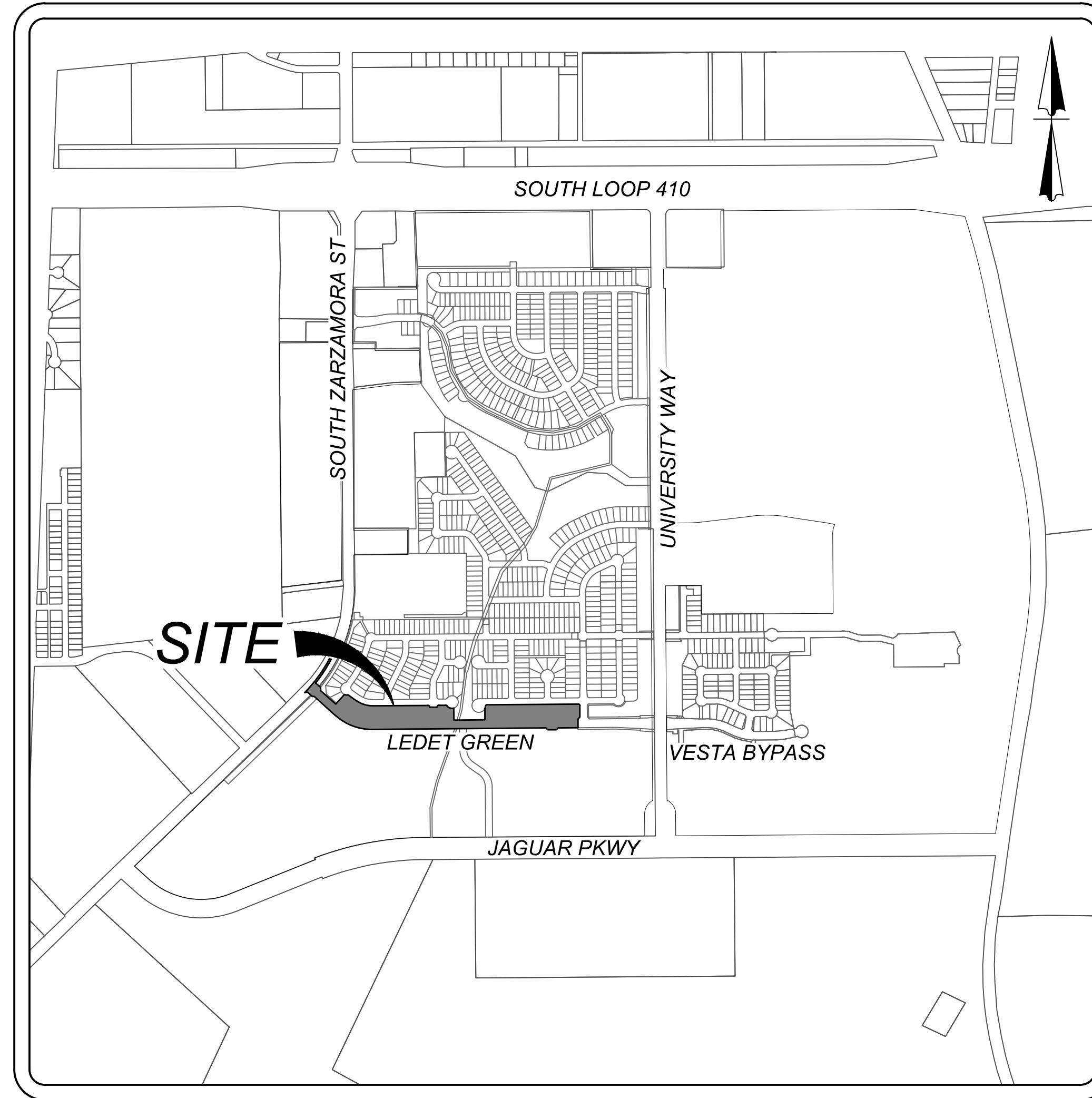
SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT
January 2022

General Section

- All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
 - Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
 - Current TxDOT "Standard Specifications for Construction of Highways, Streets and Drainage".
 - Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
 - Current City of San Antonio "Standard Specifications for Public Works Construction".
 - Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
- The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.
- The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
- The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.
- Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
- The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:
 - SAWS Utility Locates: <http://www.saws.org/Service/Locates>
 - COSA Drainage (210) 207-0724 or (210) 207-6026
 - COSA Traffic Signal Operations (210) 206-6400
 - COSA Traffic Signal Damages (210) 207-3951
 - Texas State Wide One Call Locator 1-800-545-6005 or 811
- The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.
- All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
- The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
- The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
- Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org. Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
- Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.
- A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

Sewer Notes

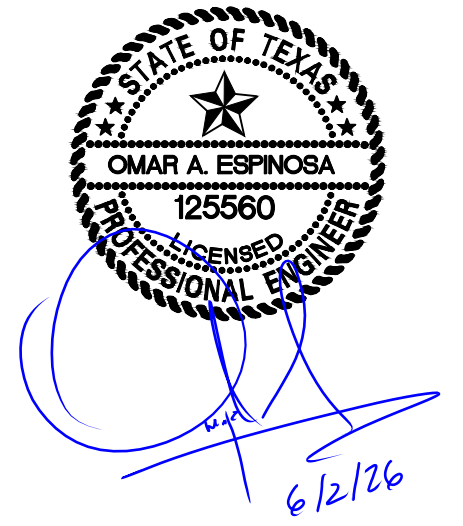
- The Contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:
 - Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at (210) 233-2014. Provide the address of the spill and an estimated volume or flow.
 - Attempt to eliminate the source of the SSO.
 - Contain sewage from the SSO to the extent of preventing a possible contamination of waterways.
 - Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
 - Clean the affected sewer mains and remove any debris.
 - Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours.
 Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies. No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and SAWS.
- If bypass pumping is required, the Contractor shall perform such work in accordance with SAWS Standard Specification for Water and Sanitary Sewer Construction, Item No. 864, "Bypass Pumping".
- Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.
- Sewer pipe where water line crosses shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(e)(4)(B). Contractor shall center a 20' joint of 160 psi pressure rated PVC at the proposed water crossing.
- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (NSR)
- Spills, Overflows, or Discharges of Wastewater: All spills, overflows, or discharges of wastewater, recycled water, petroleum products, or chemicals must be reported immediately to the SAWS Inspector assigned to the Counter Permit or General Construction Permit (GCP). This requirement applies to every spill, overflow, or discharge regardless of size.
- Manhole and all pipe testing (including the TV inspection) must be performed and passed prior to Final Field Acceptance by SAWS Construction Inspection Division, as per the SAWS Specifications For Water and Sanitary Sewer Construction.
- All PVC pipe over 14 feet of cover shall be extra strength with minimum pipe stiffness of 115 psi.



LOCATION MAP
N.T.S.

INDEX	
DESCRIPTION	SHEET NO.
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OVERALL SANITARY SEWER PLAN	6.1
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LINE B STA. 1+00.00 - END	6.3

REV.	DATE	DRAWN BY	DESCRIPTION



VIDA WEST-EAST
COLLECTOR PHASE 3
PLAT# 24,-11800319

SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers
Engineering & Design
NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
TBEALS Form: 10194550

SEWER - WEST SEWERSHED - LEON CREEK W.R.C.

DEVELOPER'S NAME: SOUTHSTAR AT VERANO DEVELOPER, LLC	DATE: FEB. 2026	DRAWN BY: MF	CHECKED BY: DA
DEVELOPER'S ADDRESS: 651 N BUSINESS IH 35, SUITE 420 BOX 310880	PROJECT NUMBER: 39110-21	DRAWING NAME: CV053911021	
CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78131	PHONE: FAX: TOTAL ACRES: 8.39 ACRES	SAWS BLOCK MAP#: 148536 / 150536 TOTAL EDU'S: 24	TOTAL LINEAR FOOTAGE OF PIPE: 2,181 LF ~ 8" SDR 26 PLAT NO.: 24-11800319
NUMBER OF LOTS: 24 SAWS JOB#: 26-1536			

SCALE: AS SHOWN	DATE: FEB. 2026	DRAWN BY: MF	CHECKED BY: DA
PROJECT NUMBER: 39110-21	DRAWING NAME: CV053911021		

SHEET TITLE:
SANITARY SEWER COVER SHEET

SHEET NUMBER:
6.0

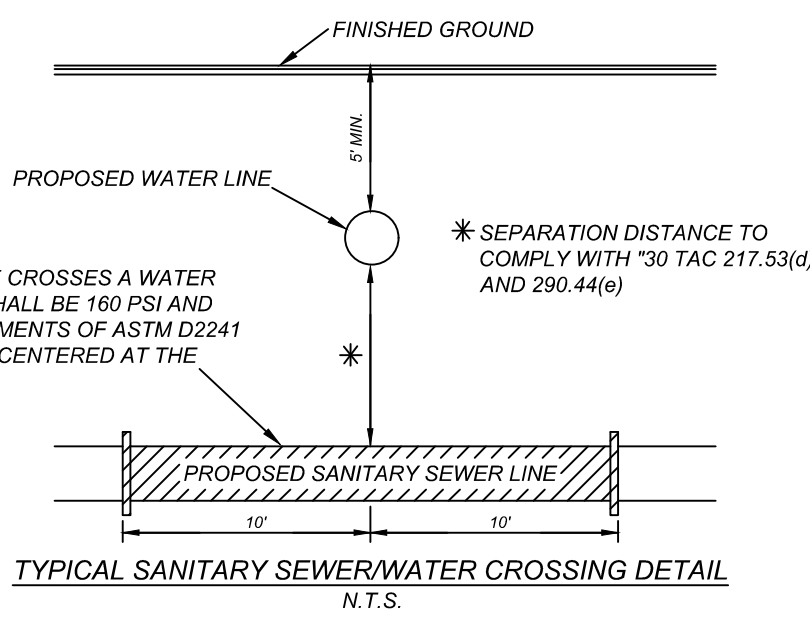
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

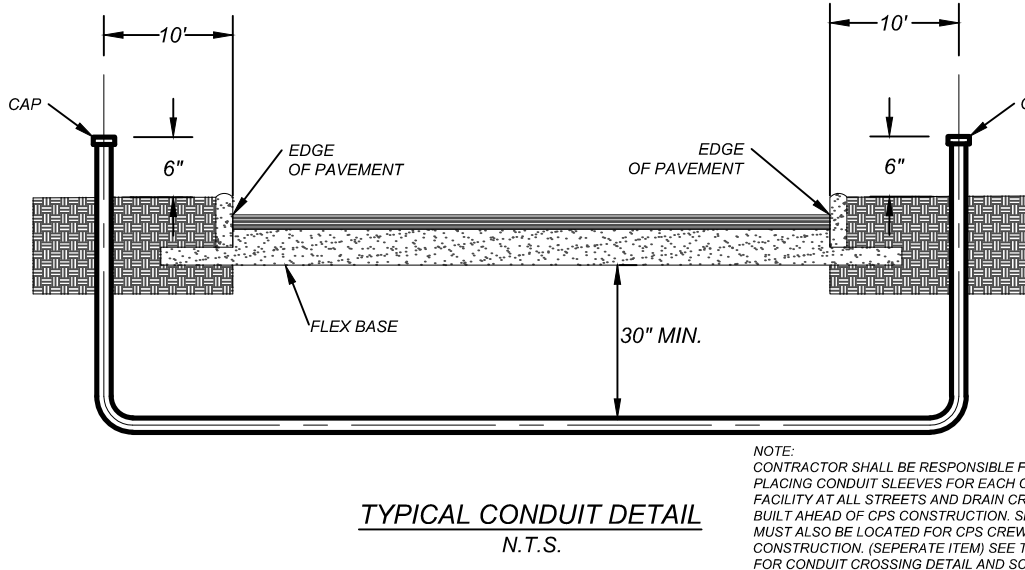
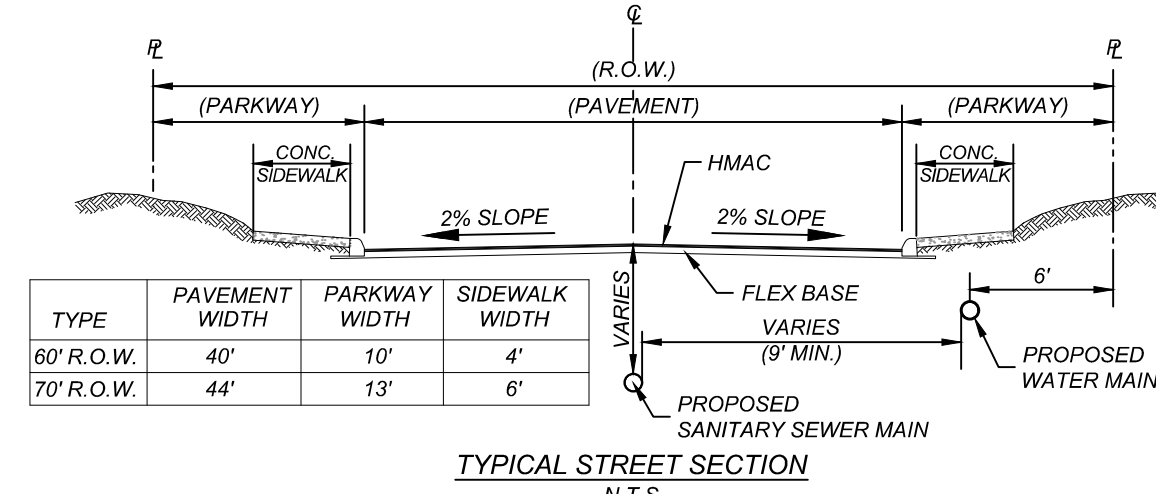
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

COMPACTION NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

- NOTE:**
- SEWER PIPE WHERE WATER LINE CROSSES SHALL MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT FOOT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). SEE SHEET ## FOR BENCHMARK INFORMATION.
 - PIPE TYPE DESIGNATIONS ARE SDR 26.
 - SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
 - ALL MANHOLES SHALL HAVE CONCRETE RING ENCASUREMENT AND A WATER TIGHT RING.
 - ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.



CAUTION!!
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TEST A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.



LEGEND

- PROPOSED WATER MAIN
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER LATERAL
- ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT (PLAT #24-11800319)
- E.G.T.V.E
- EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE



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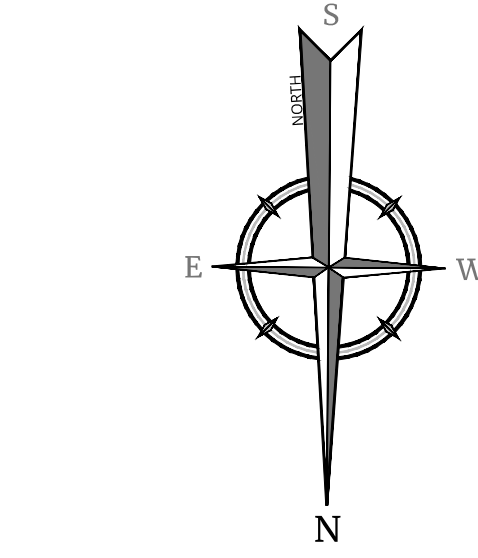
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PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATIONS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM



SCALE: 1" = 50'
Linear unit of measure: US Survey Foot (1 ft = 1.20003937 m)

SEWER - WEST SEWERSHED - LEON CREEK W.R.C.

DEVELOPER'S NAME: SOUTHSTAR AT VERANO DEVELOPER, LLC
 DEVELOPER'S ADDRESS: 651 N BUSINESS IH 35, SUITE 420 BOX 310880
 CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78131
 PHONE: FAX: TOTAL ACREAGE: 8.39 ACRES
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REV.	DATE	DRAWN BY	DESCRIPTION



VIDA WEST-EAST
COLLECTOR PHASE 3
PLAT# 24-11800319

SAN ANTONIO
BEXAR COUNTY
TEXAS

NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
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COLLIERS ENGINEERING & DESIGN, INC.
1805 E. Highway 161
1805 E. Highway 161, Suite 101
New Braunfels, TX 78130

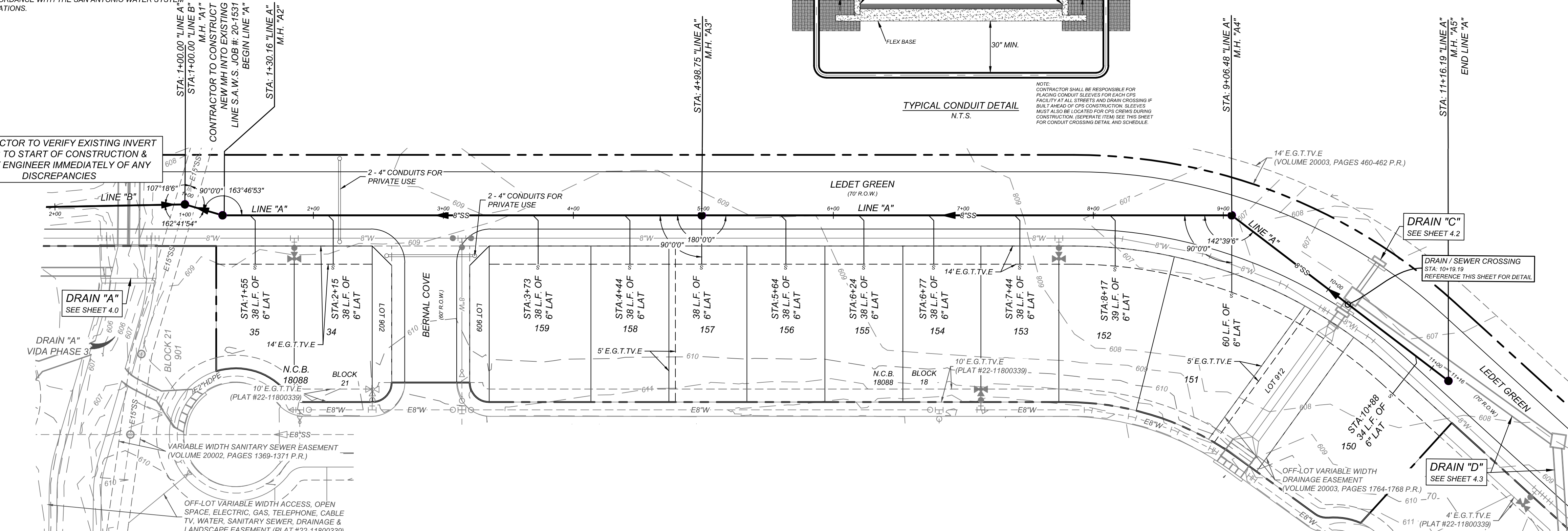
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	FEB. 2026	MF	DA

PROJECT NUMBER: 391-10-21 DRAWING NAME: SSP3911021_A1

SHEET TITLE: LINE A STA. 1+00.00 - END

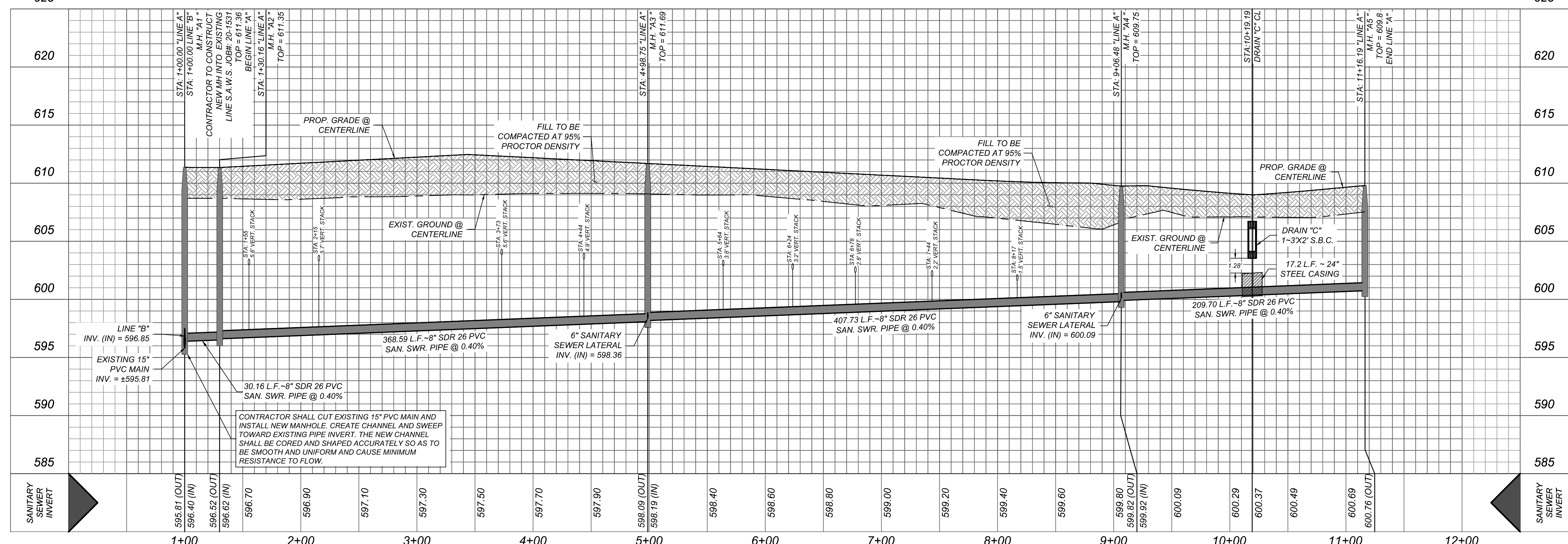
SHEET NUMBER: 6.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



LINE A
STA: 1+00.00 - END

HORZ SCALE: 1"=50'
VERT SCALE: 1"=5'



Date: Jun 02, 2026, 11:18am User ID: michael.votaw@colliers.com

VIDA WEST-EAST COLLECTOR PHASE 3

BEXAR COUNTY, TEXAS

WATER DISTRIBUTION PLAN



Engineering & Design

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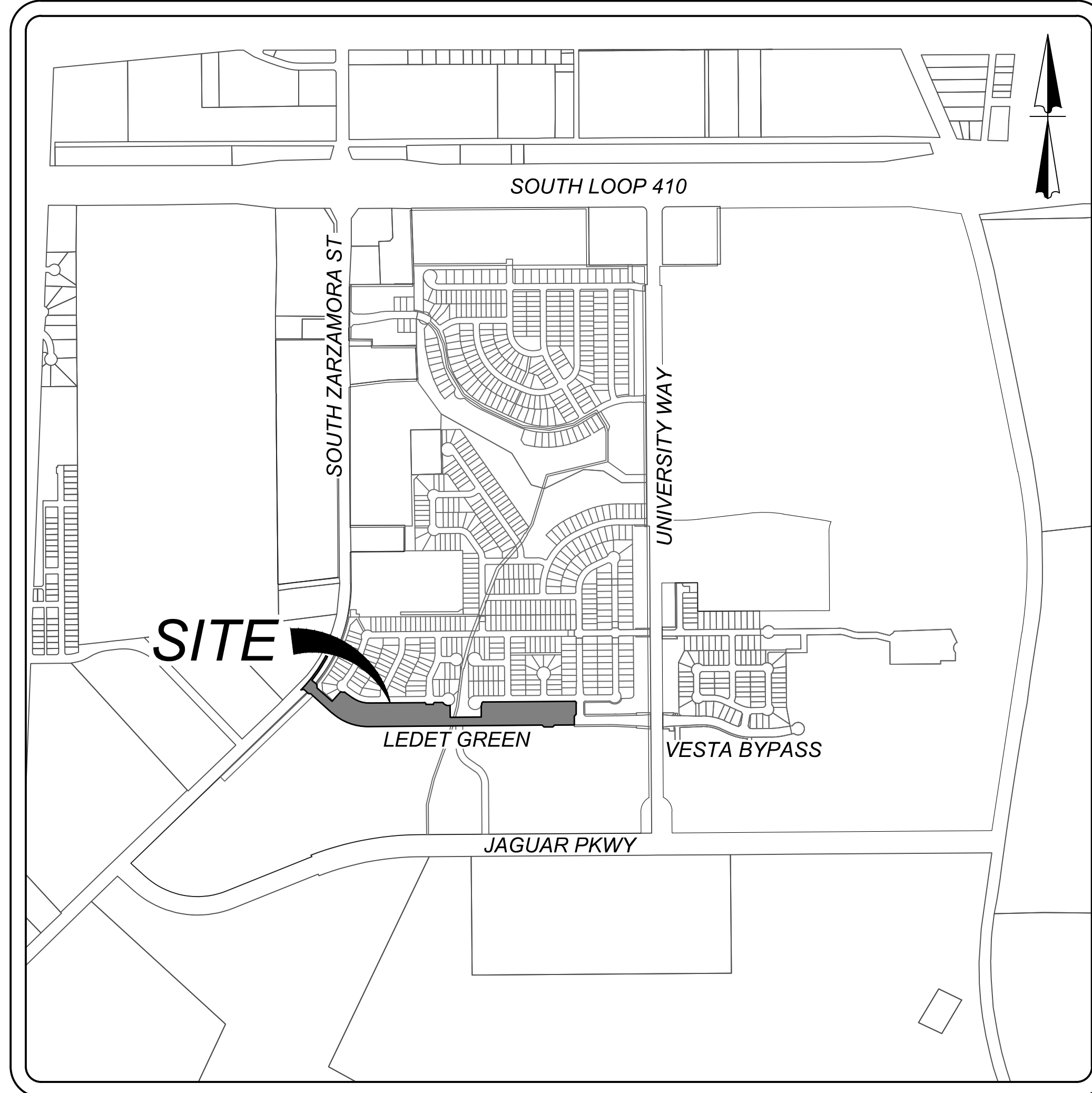
SAWS CONSTRUCTION NOTES
 COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT
 January 2022

General Section

- All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
 - Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
 - Current TxDOT "Standard Specifications for Construction of Highways, Streets and Drainage".
 - Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
 - Current City of San Antonio "Standard Specifications for Public Works Construction".
 - Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
- The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the Inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractor and/or the developer.
- The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_centers/pdfs. Unless otherwise noted within the design plans.
- The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.
- Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and protect them during construction at no cost to SAWS.
- The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:
 - SAWS Utility Locates: <http://www.saws.org/Service/Locates>
 - COSA Drainage (210) 207-0724 or (210) 207-6026
 - COSA Traffic Signal Operations (210) 245-4485
 - COSA Traffic Signal Damages (210) 207-3951
 - Texas State Wide One Call Locator 1-800-545-6005 or 811
- The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damage is made as a result of the project's construction.
- All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
- The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
- The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
- Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org. Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org. Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
- Compaction notes (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.
- A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

Water Section

- Prior to tie-ins, any shutdowns of existing mains of any size must be coordinated with the SAWS Construction Inspection Division at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.
 - For water mains 12" or higher: SAWS Emergency Operations Center (210) 233-2014
- Asbestos Cement (AC) pipe, also known as transit pipe which is known to contain asbestos containing material (ACM), may be located within the project limits. Special waste management procedures and health and safety requirements will be applicable when removal and/or disturbance of this pipe occurs. Such work is to be made under Special Specification Item No. 3000, "Special Specification for Handling Asbestos Cement Pipe".
- Valve removal: Where the contractor is to abandon a water main, the control valve located on the abandoning branch will be removed and replaced with a capplug. (NSP)
- Suitable anchorage/thrust blocking or joint restraint shall be provided at all of the following main locations: dead ends, plugs, caps, tees, crosses, valves, and bends, in accordance with the Standard Drawings DD-839 Series and Item No. 839, in the SAWS Standard Specifications for Construction.
- All valves shall read "open right".
- PRVs Required: Contractor to verify that no portion of the tract is below ground elevation of 602 feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below 602 feet, the Developer or Builder shall install at each lot, on the customer's side of the meter, an approved type pressure regulator in conformance with the Plumbing Code of the City of San Antonio. No dual services allowed for any lot(s) if "PRV" is required for such lot(s), only single service connections shall be allowed.
 - Note: A pressure regulator is also known as a pressure reducing valve (PRV).
- Pipe Disinfection with Dry HTH for Projects less than 800 linear feet. (Item No. 847.3):
 - Mains shall be disinfected with dry HTH where shown in the contract documents or as directed by the Inspector, and shall not exceed a total length of 800 feet. This method of disinfection will also be followed for main repairs. The Contractor shall utilize all appropriate safety measure to protect his personnel during disinfection operations.
- Backflow Prevention Devices:
 - All irrigation services within residential areas are required to have backflow prevention devices.
 - All commercial backflow prevention devices must be approved by SAWS prior to installation.
- Final connection to the existing water main shall not be made until the water main has been pressure tested, chlorinated, and SAWS has released the main for tie-in and use.
- Division Valves: Division Valves shown on plans or not shown on plans but found in the field shall only be operated by SAWS Distribution and Collection staff and only with prior written approval of the SAWS Director of Production and Operations and proper coordination with all SAWS departments. Contractor shall provide written notification to the Inspector a minimum of two weeks in advance to start the coordination process and will be informed by the Inspector when the division valve will be operated by the SAWS Distribution and Collection staff. The Division Valve can only be operated by SAWS Distribution and Collection staff member not the inspector or the contractor. Operation of a Division Valve without the express prior written approval of the SAWS Distribution and Collection staff will constitute a material breach of any written SAWS contract or permit in addition to subjecting the Contractor to liability for any and all fines, fees, or other damages, direct or consequential, that may arise from or be caused by the operation of the valve without prior written permission. Please be informed that the approval of the operation or opening or closing of a division valve can take several weeks for approval. Division Valves will also have a valve lid labeled Division Valve and a locking mechanism installed with a key. The lock and key mechanism will be paid for by the contractor but will be installed by SAWS Distribution and Collection staff.



LOCATION MAP

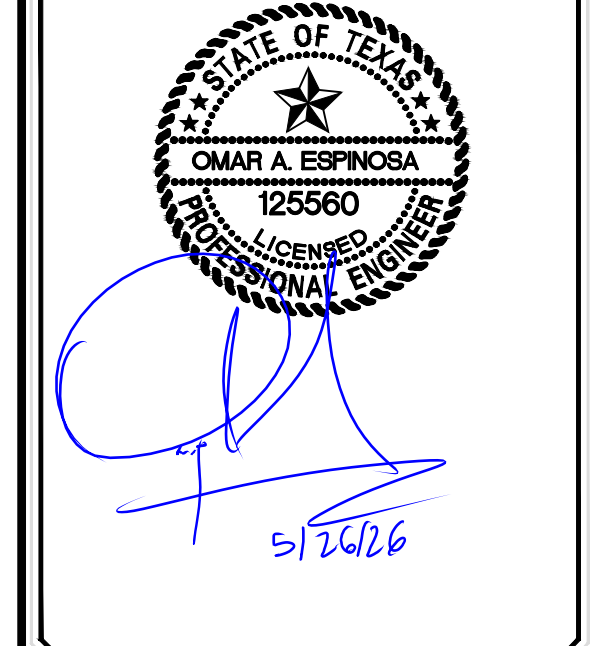
N.T.S.

OWNER/DEVELOPER:
 SOUTHSTAR AT VERANO DEVELOPER, LLC
 2055 CENTRAL PLAZA, SUITE 110
 NEW BRAUNFELS, TEXAS 78130

Sheet List Table

DESCRIPTION	SHEET NO.
WATER DISTRIBUTION COVER SHEET	7.0
WATER DISTRIBUTION PLAN	7.1

REV.	DATE	DRAWN BY	DESCRIPTION



VIDA WEST-EAST COLLECTOR PHASE 3
 PLAT# 24-11800319

SAN ANTONIO
 BEXAR COUNTY
 TEXAS



NEW BRAUNFELS (KFW)
 640 North Walnut Ave.
 Suite 1101
 New Braunfels, TX 78130
 Phone: 830.220.6042
 COLLIERS ENGINEERING & DESIGN, INC.
 TBSLS Firm #: 10194550

SAWS PRESSURE ZONE 790

DEVELOPER'S NAME: SOUTHSTAR AT VERANO DEVELOPER, LLC	DEVELOPER'S ADDRESS: 651 N BUSINESS IH 35, SUITE 420 BOX 310880
CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78130	PHONE#: FAX#: TOTAL ACREAGE: 8.39 ACRES
SAWS BLOCK MAP#: 148536 / 150536 TOTAL EDUS: 50	TOTAL LINEAR FOOTAGE OF PIPE: 2394 LF - 8" C-900 PLAT NO.: 24-11800319
NUMBER OF LOTS: 24 SAWS JOB#: 26-1045	

SCALE: AS SHOWN	DATE: FEB. 2026	DRAWN BY: MF	CHECKED BY: DA
PROJECT NUMBER: 391-10-21	DRAWING NAME: CVOW3911021		
WATER DISTRIBUTION COVER SHEET			
SHEET NUMBER: 7.0			

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Date: May 26, 2026, 10:08am User ID: schoverz
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TRENCH EXCAVATION SAFETY PROTECTION
 CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGNER/TECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

FIRE FLOW NOTE:
 IN AN EFFORT TO MEET THE CITY OF SAN ANTONIO'S FIRE FLOW REQUIREMENTS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PUBLIC WATER MAIN SYSTEM HAS BEEN DESIGNED FOR A MINIMUM FIRE FLOW DEMAND OF 1,000 GPM AT 25 PSI RESIDUAL PRESSURE. THE FIRE FLOW REQUIREMENTS FOR INDIVIDUAL STRUCTURES WILL BE REVIEWED DURING THE BUILDING PERMIT PROCESS IN ACCORDANCE WITH THE PROCEDURES SET FORTH BY THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES DEPARTMENT AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

WATER PLAN NOTES:
 1. ALL VALVES SHALL READ "OPEN RIGHT"
 2. ALL PVC PIPE TO BE C-900 CLASS 235 (DR 18)
 3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE SAN ANTONIO WATER SYSTEM (SAWS) STANDARD SPECIFICATIONS.

CONTRACTOR TO THE NEW 8" PVC MAIN TO EXISTING 20" DI PIPE AFTER CHLORINATION AND ACCEPTANCE BY S.A.W.S. (DSP-1996)
 INSTALL FOR CHLORINATION INJECTION 1-2" BLOWOFF (TEMP.) ASSEMBLY SEE SAWS STD. DETAIL DD-844-01

2-1" CORPORATION STOP, C.C. x I.P.
 2-1" COPPER TUBING, CUT AS REQUIRED
 2-1 1/2" THD. SOLID CAPS, THR.
 2-1" COMP. x 1 1/2" COUPLING, CURB STOP
 CONTRACTOR SHALL PROVIDE A 2" JUMPER CONNECTION TO LOAD NEW MAIN SEE SAWS STD. DETAIL DD-847-01

1-20" x 8" CUT IN ANCHOR TEE, M.J.
 2-20" BUTTERFLY VALVE, M.J.
 2-6" VALVE BOX COMPLETE

1-8" x 6" ANCHOR TEE, M.J.
 1-6" GATE VALVE, M.J.
 1-6" VALVE BOX COMPLETE
 25 LF - 8" C-900 PVC

1-8" x 6" ANCHOR TEE, M.J.
 1-6" GATE VALVE, M.J.
 1-6" VALVE BOX COMPLETE
 1-6 1/2" ANCHOR BEND, M.J.
 1- STANDARD FIRE HYDRANT
 6" DI PIPE, CUT AS REQUIRED
 SEE S.A.W.S. STD. DETAIL DD-834-01

5' VEHICULAR NON-ACCESS & LANDSCAPE EASEMENT (PLAT #22-11800339)
 4" E.G.T.V.E. (PLAT #22-11800339)

REF. DETAIL "A" THIS SHEET
 REF. DETAIL "B" THIS SHEET
 REF. DETAIL "C" THIS SHEET

14" E.G.T.V.E. (VOLUME 2003, PAGES 460-462 P.R.)
 32' PUBLIC DRAINAGE EASEMENT (VOLUME 2003, PAGES 460-462 P.R.)

FINISHED GROUND
 PROPOSED WATER LINE
 * SEPARATION DISTANCE TO COMPLY WITH '90 TAC 217.53(1) AND 230.44(e)

1-8" x 6" ANCHOR TEE, M.J.
 1-6" GATE VALVE, M.J.
 1-6" VALVE BOX COMPLETE
 1-6 1/2" ANCHOR BEND, M.J.
 1- STANDARD FIRE HYDRANT
 6" DI PIPE, CUT AS REQUIRED
 SEE S.A.W.S. STD. DETAIL DD-834-01

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 1-6 1/2" ANCHOR BEND, M.J.
 1- STANDARD FIRE HYDRANT
 6" DI PIPE, CUT AS REQUIRED
 SEE S.A.W.S. STD. DETAIL DD-834-01

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 1-6" GATE VALVE, M.J.
 1-6" VALVE BOX COMPLETE
 1-6 1/2" ANCHOR BEND, M.J.
 1- STANDARD FIRE HYDRANT
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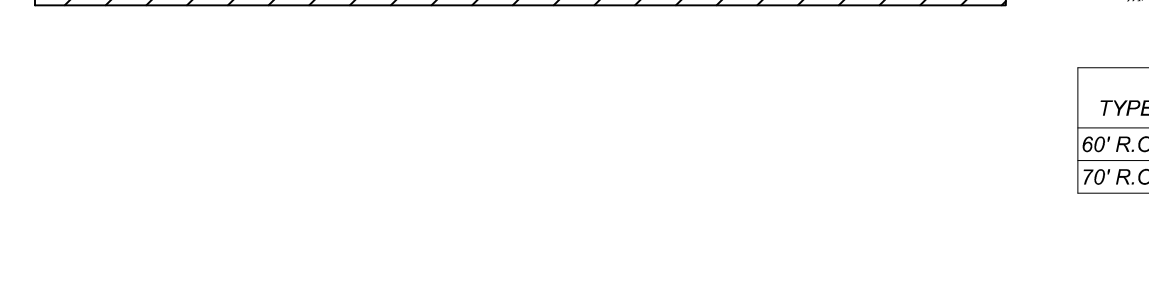
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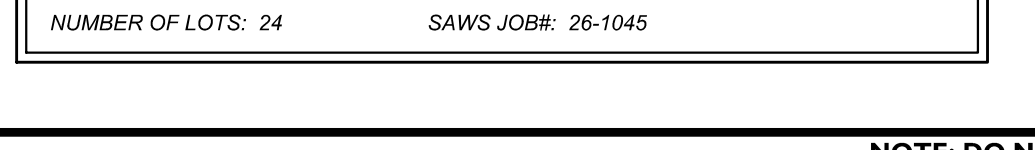
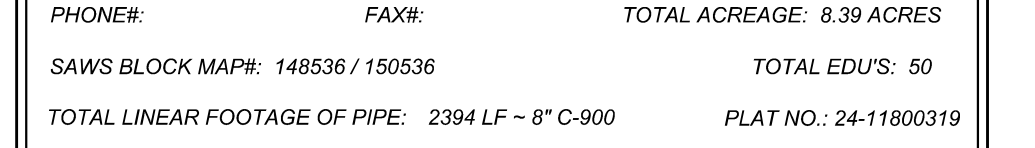
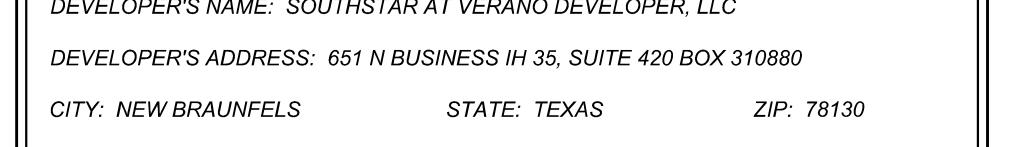
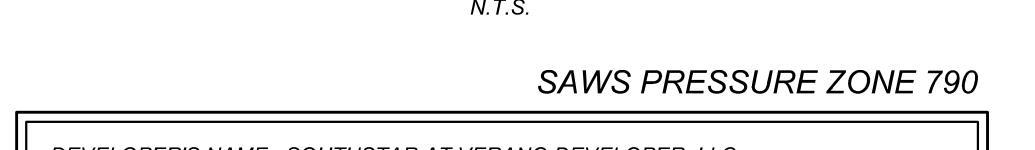
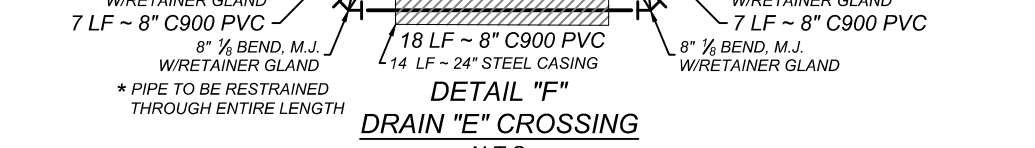
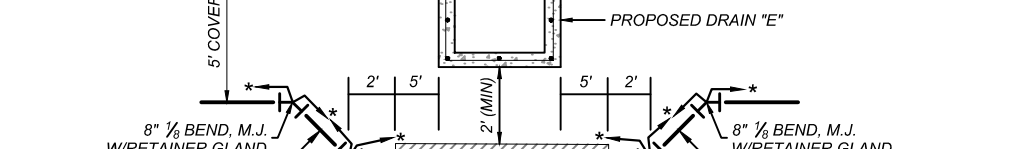
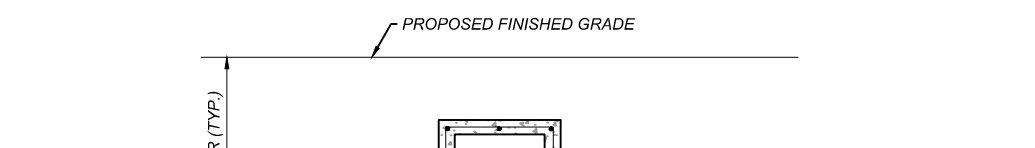
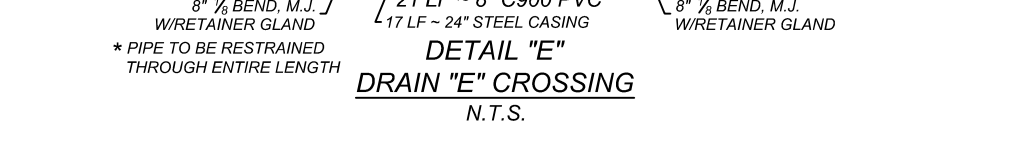
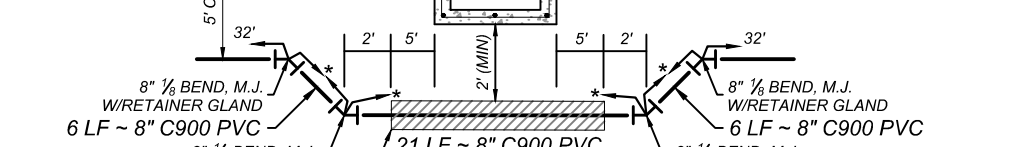
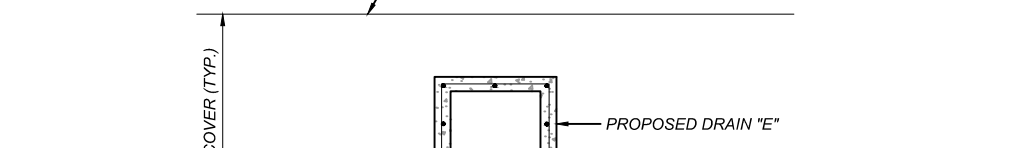
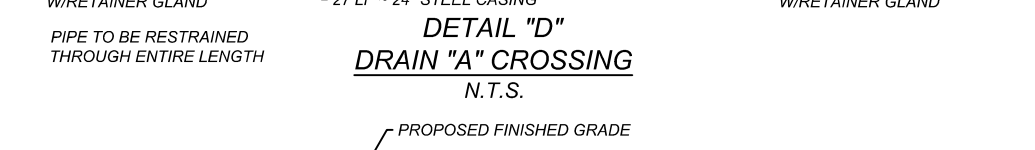
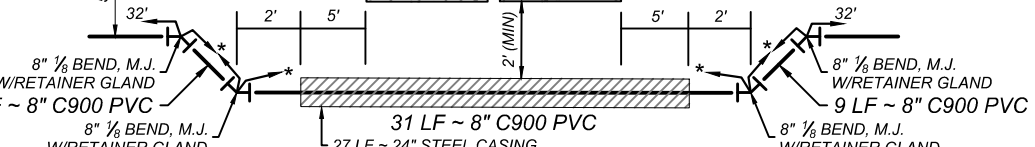
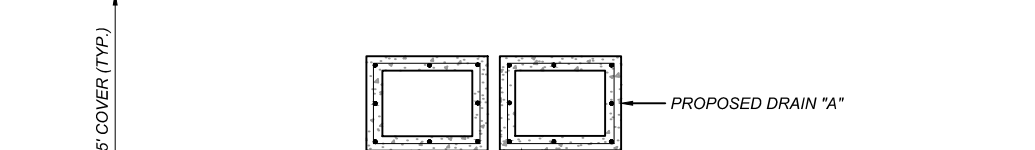
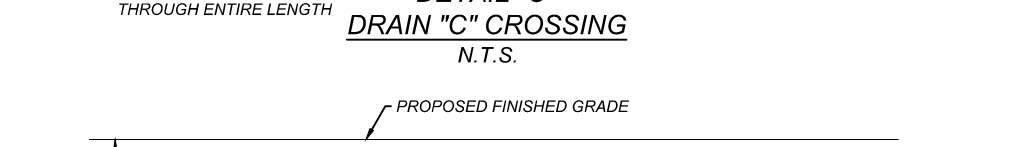
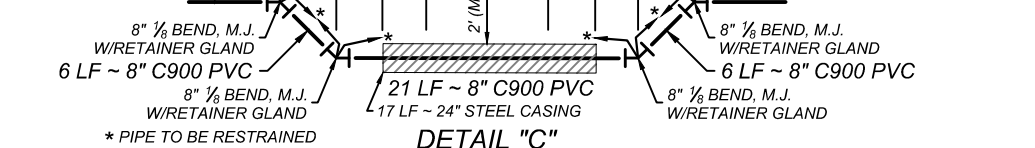
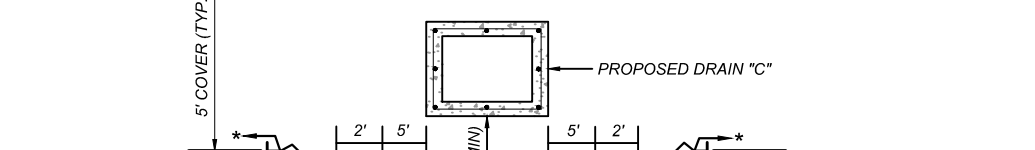
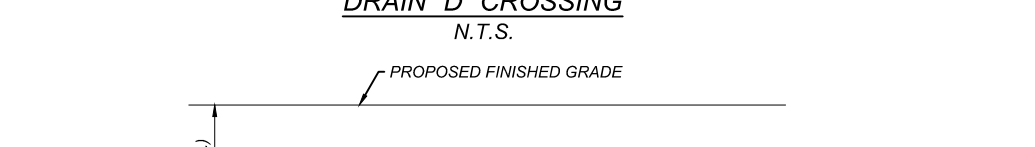
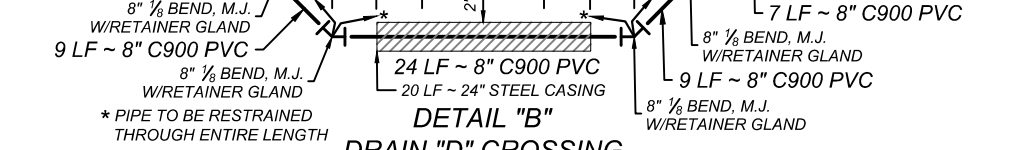
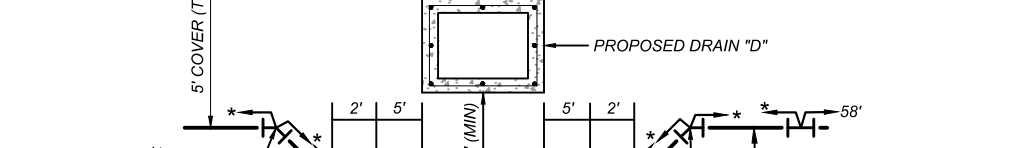
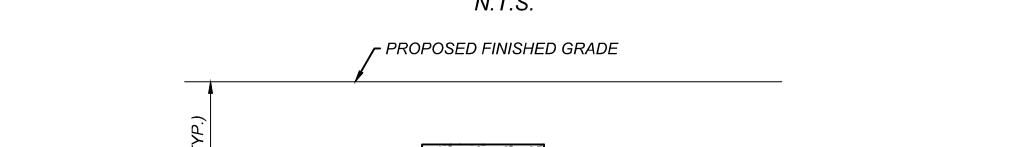
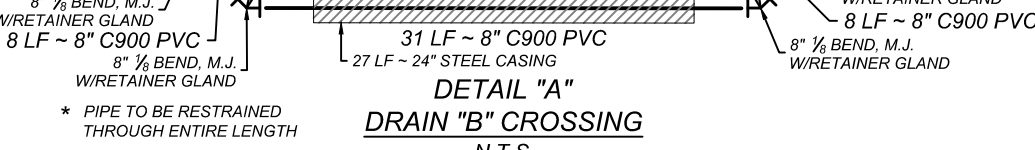
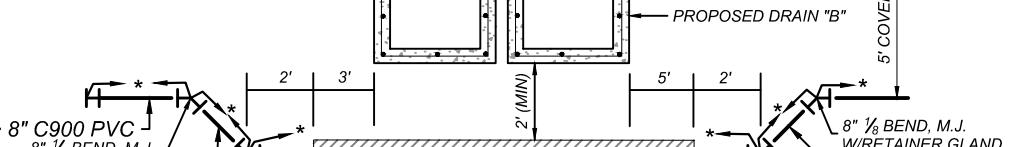
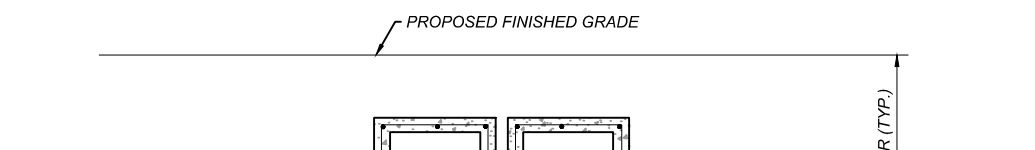
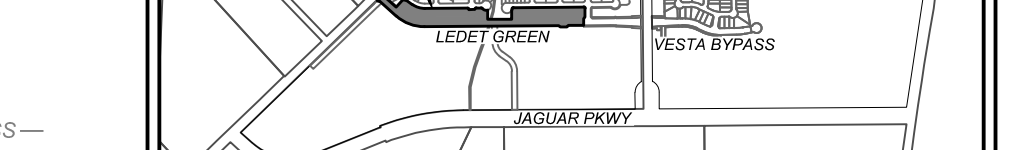
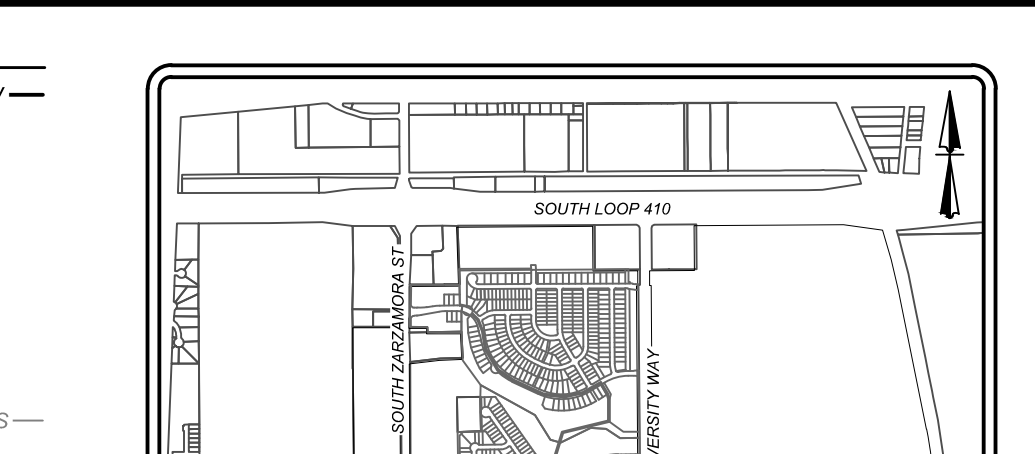
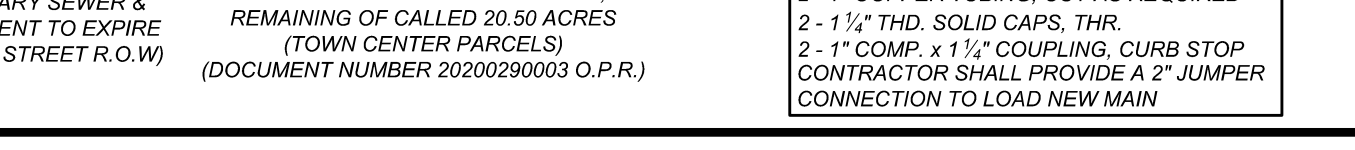
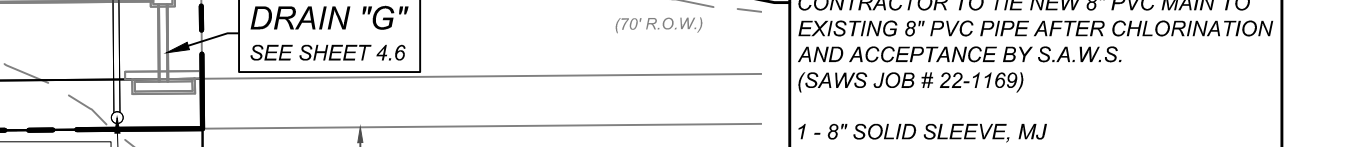
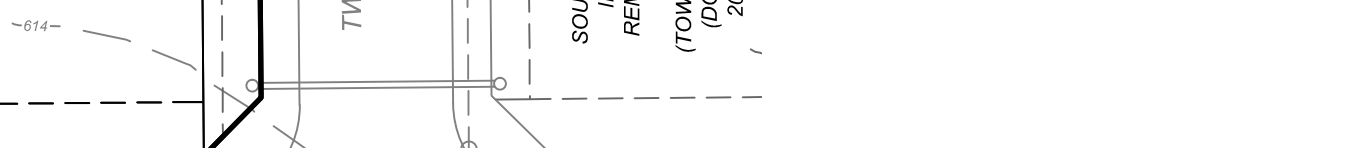
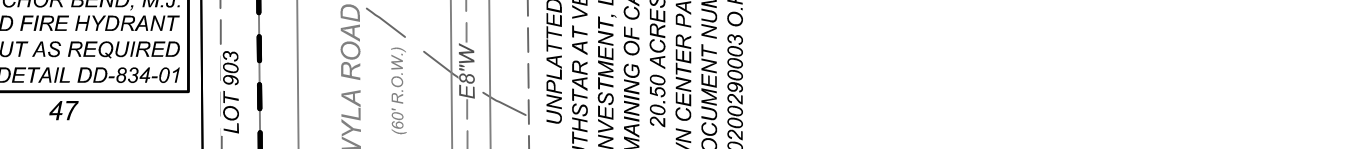
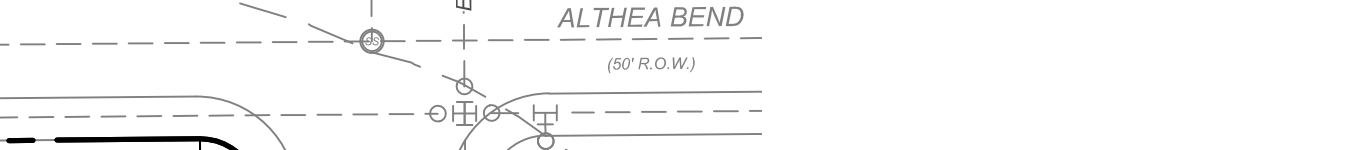
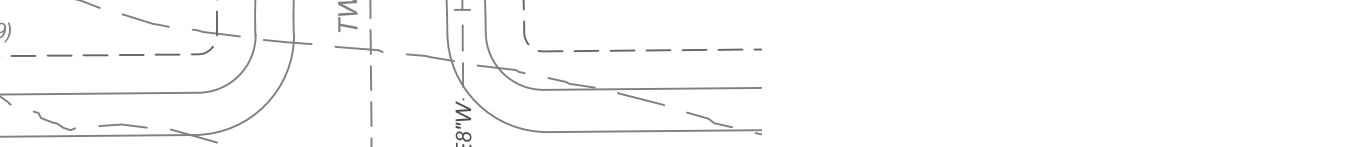
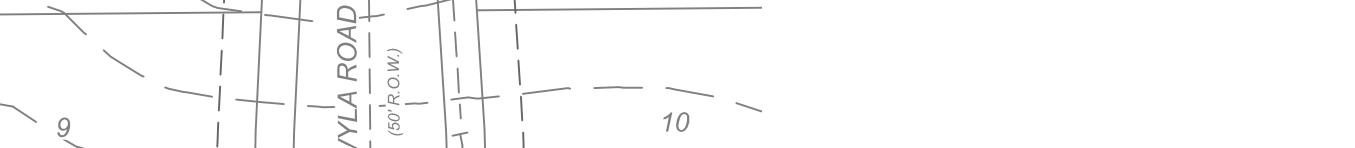
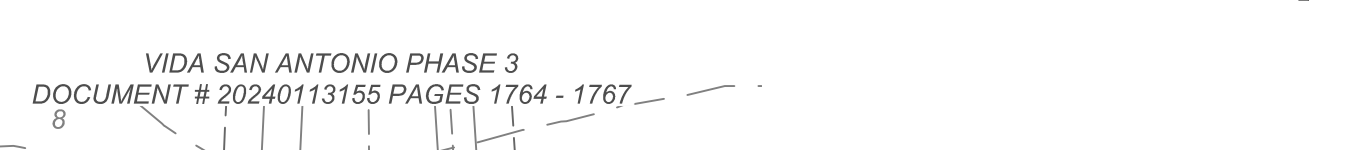
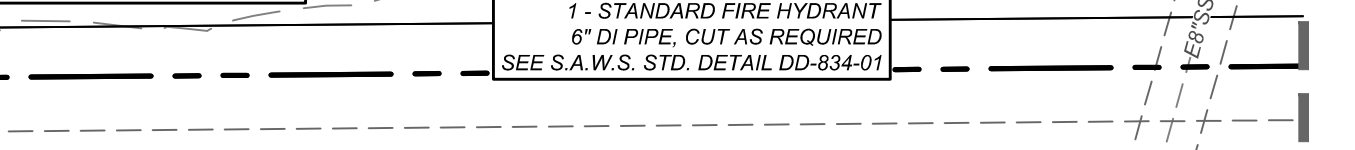
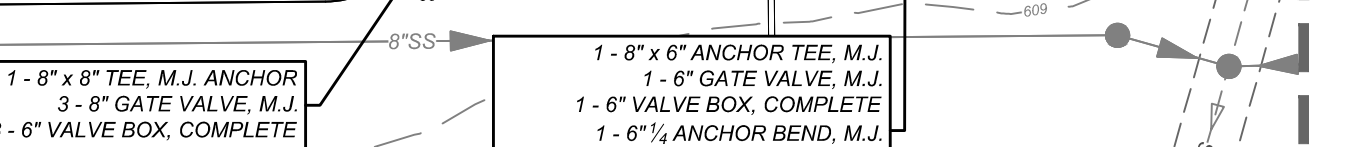
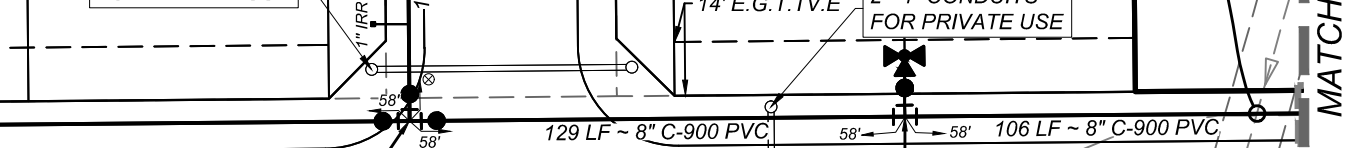
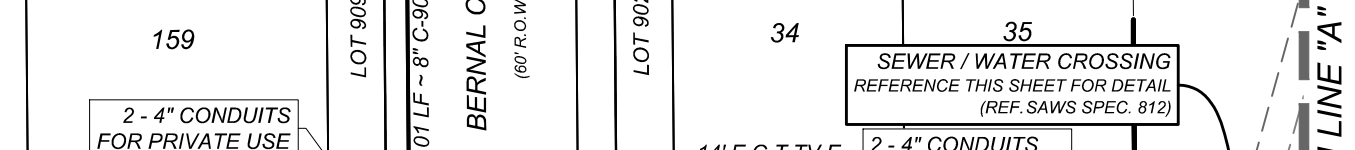
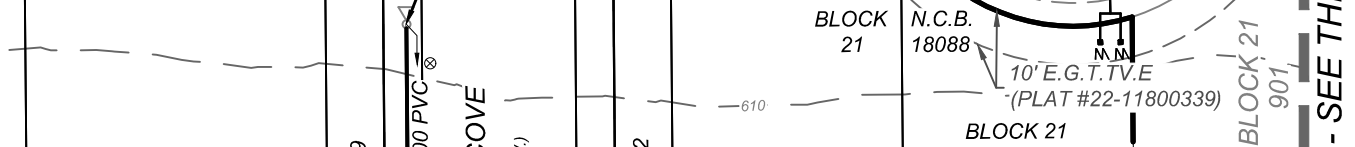
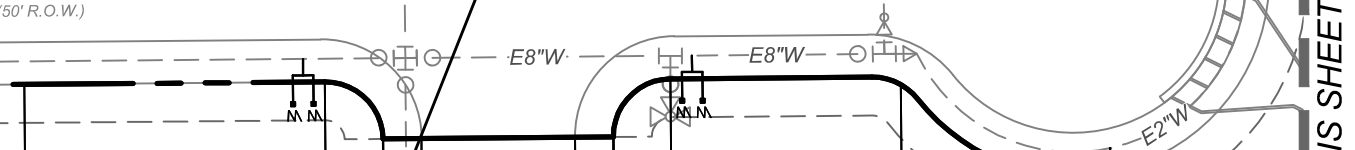
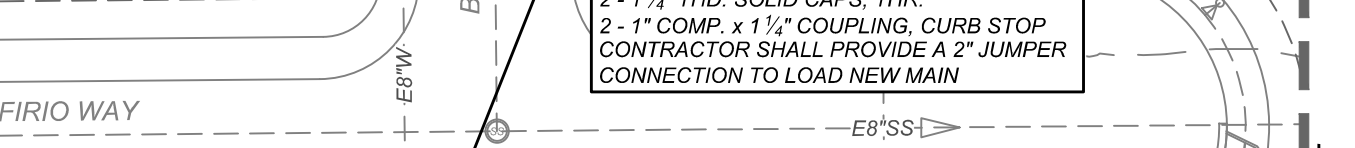
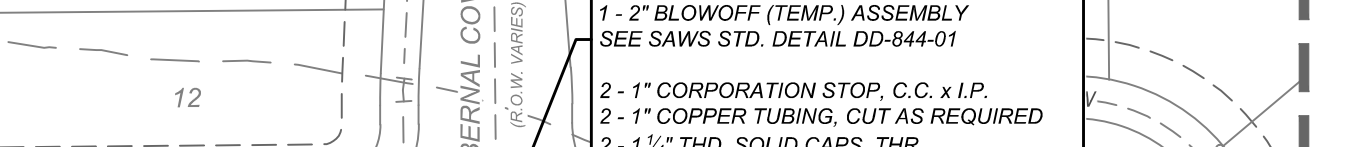
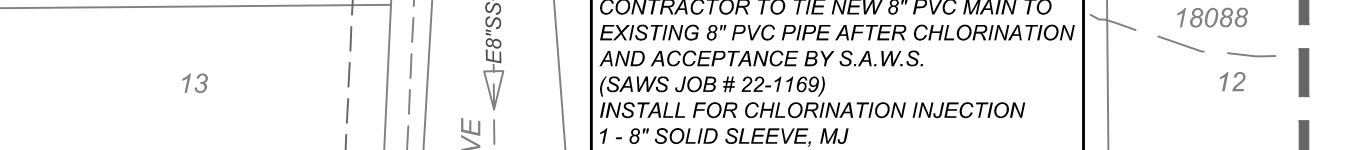
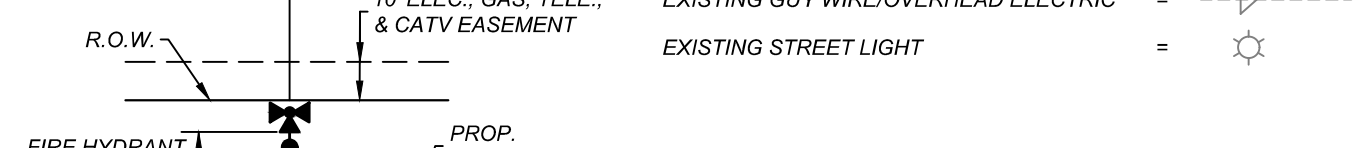
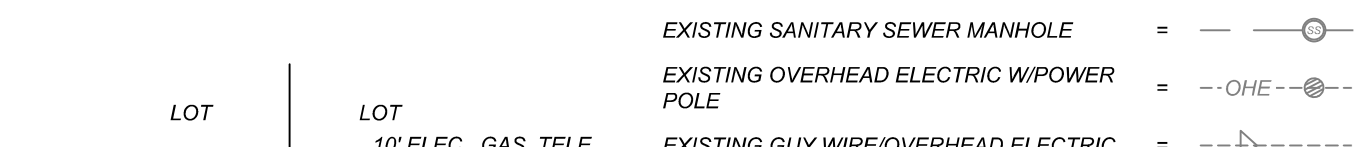
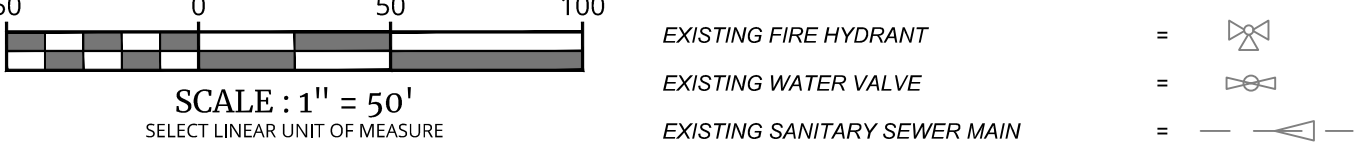
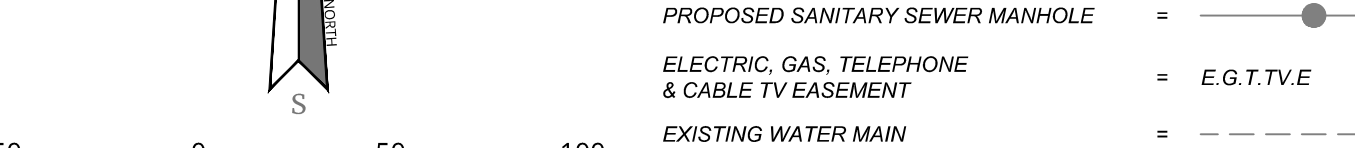
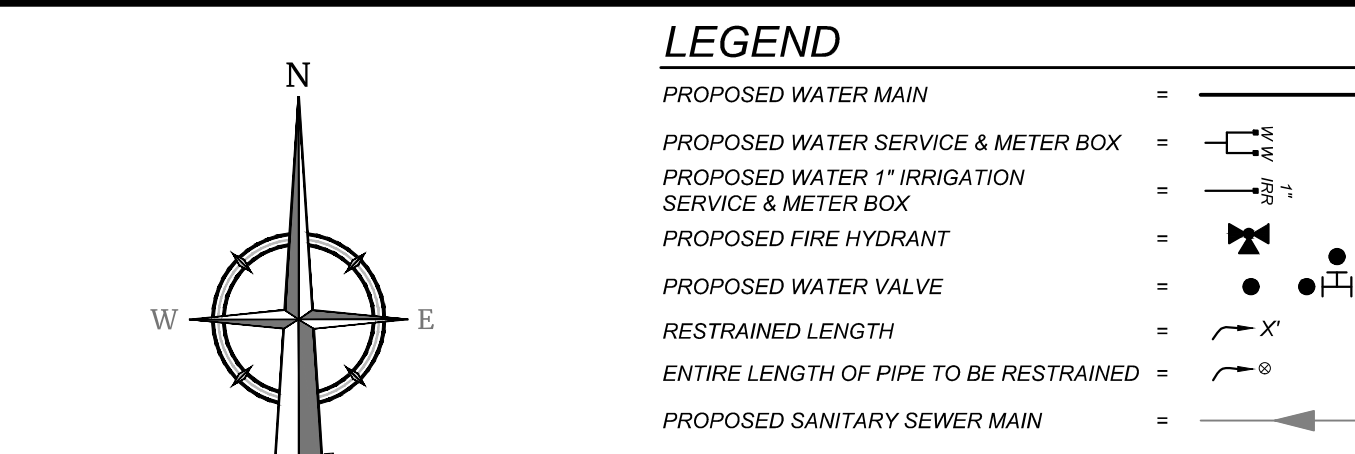
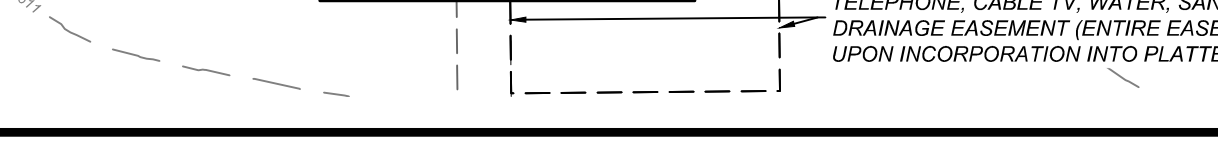
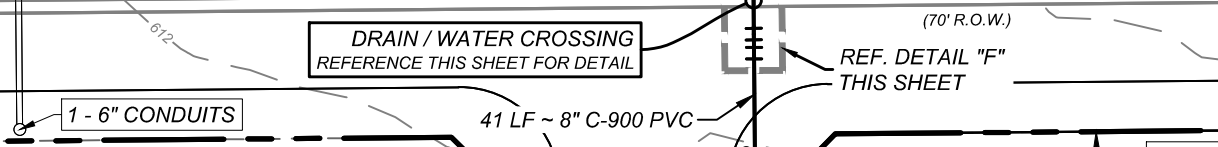
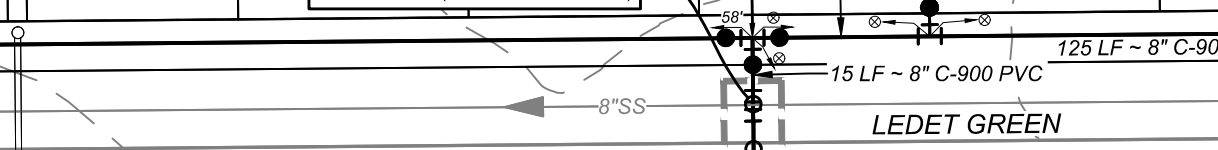
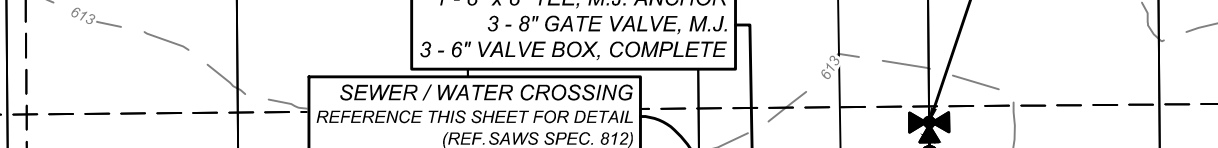
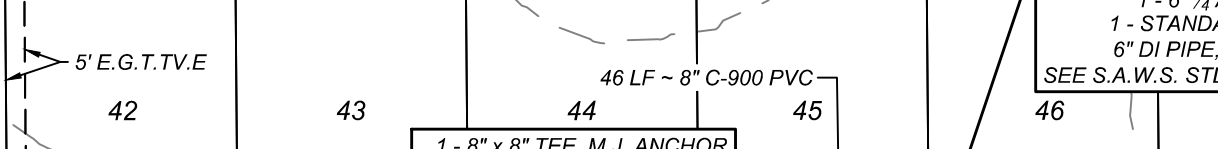
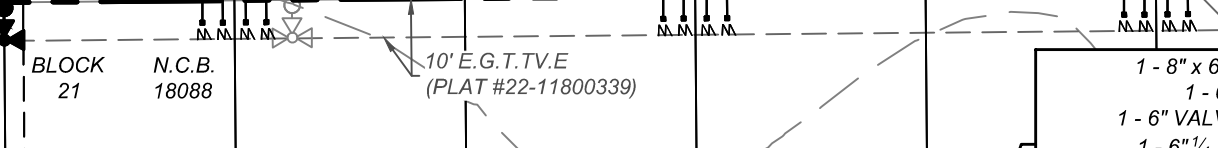
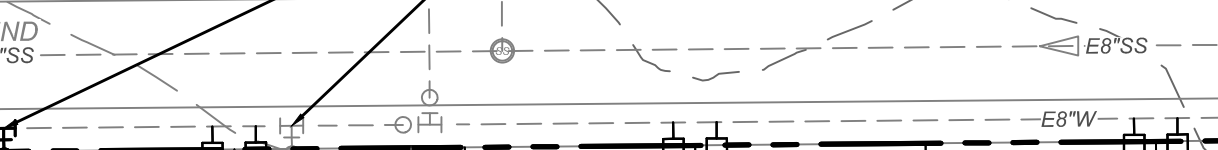
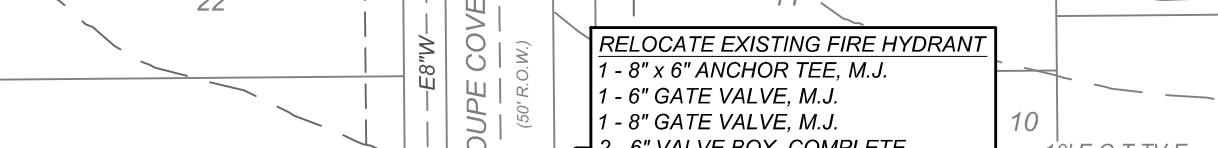
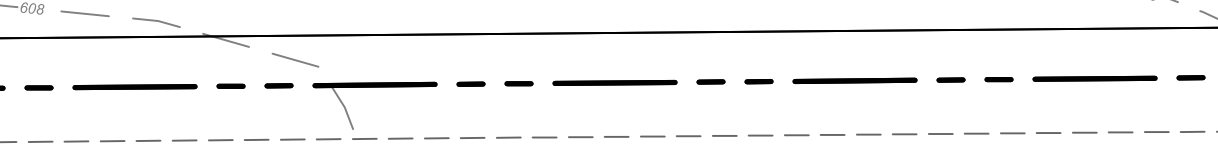
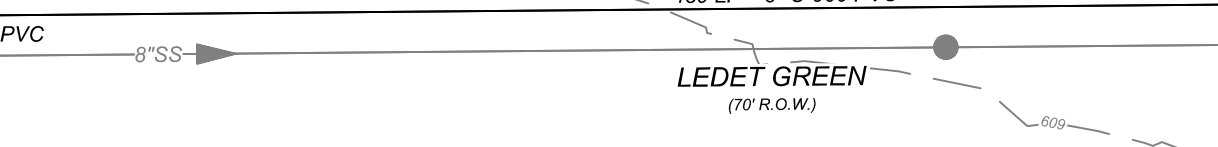
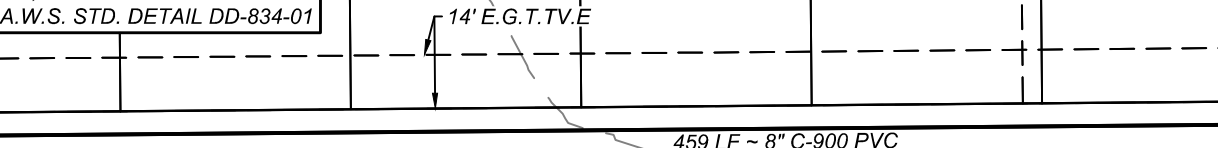
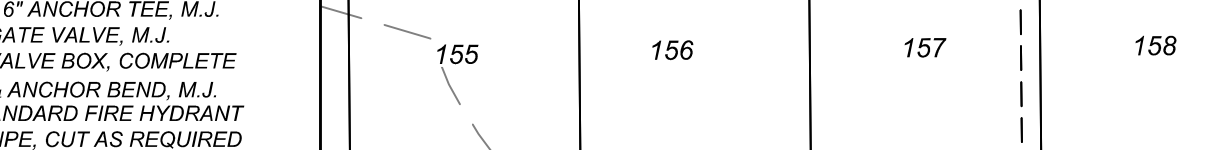
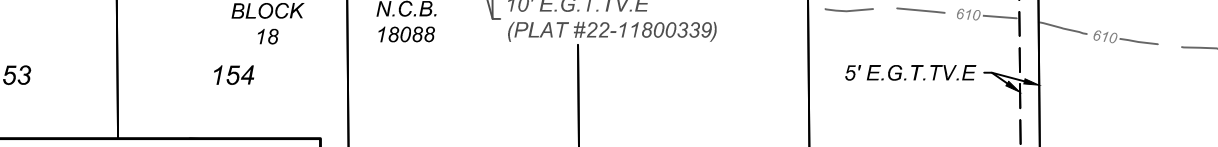
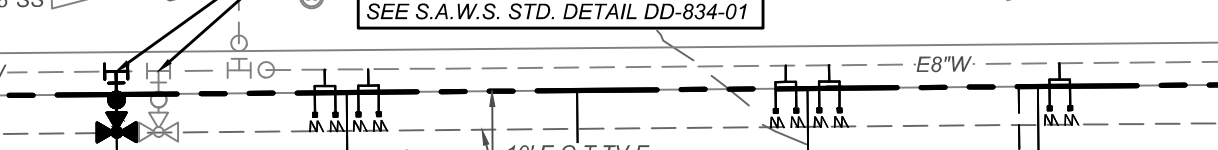
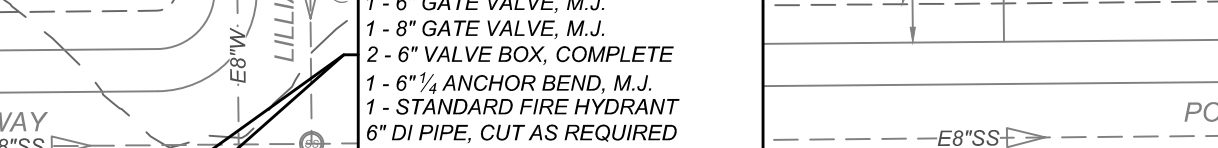
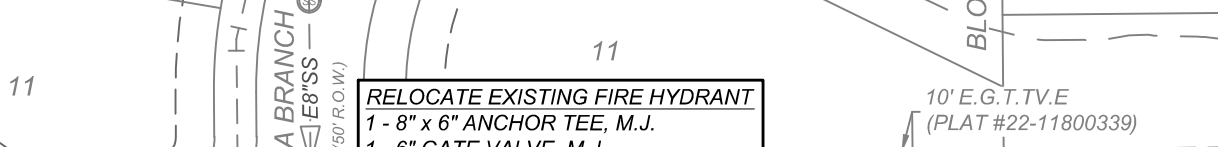
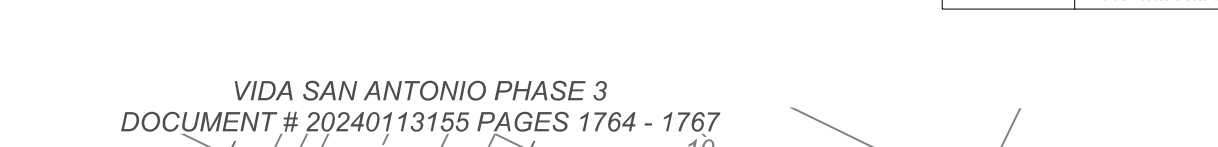
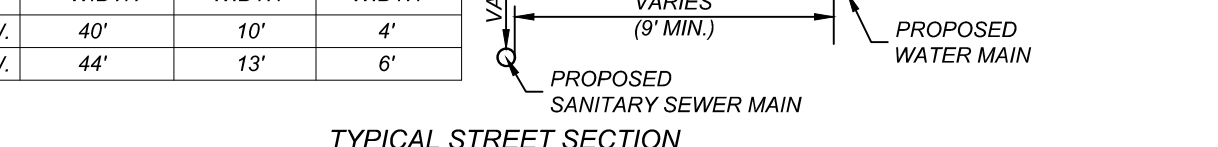
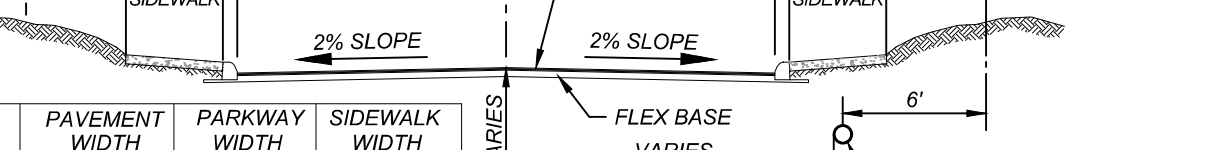
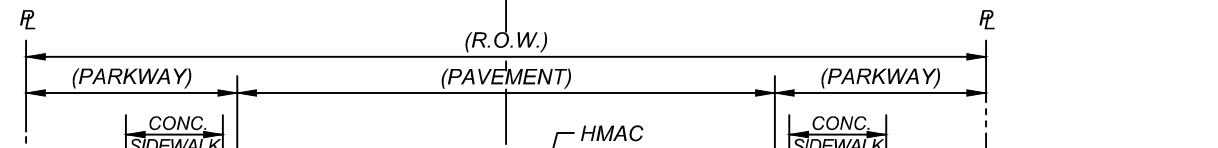
PRESSURE REDUCING VALVE (PRV) NOTE:
 CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 605 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 605 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOTS IF PRV IS REQUIRED FOR SUCH LOTS. ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. WATER SERVICES WHERE PRVS REQUIRED ARE DESIGNATED BY AN ASTERISK (*).

CAUTION!!
 THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO, WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRICAL, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TISS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.



JOINT RESTRAINT NOTE:
 CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS. THERE WILL BE NO SEPARATE PAY ITEM FOR RETAINER GLANDS AND OTHER JOINT RESTRAINING HARNESS AND GASKETS, BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED.

SAWS NOTE:
 SAWS REQUIRES GCPs AND COUNTER PERMIT TO USE LEAD FREE (<0.25% LEAD) FIRE HYDRANTS.



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Formerly known as **KFW**
 Kiewit Foundation

811
 PROTECT YOURSELF
 ALL STATES REQUIRE NOTIFICATION OF EXCAVATION, DISBURS, OR ANY PRODIG PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE.
 FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

STATE OF TEXAS
 OMAR A. ESPINOSA
 LICENSED PROFESSIONAL ENGINEER
 125560
 5/26/26

REVISIONS
 REV. DATE DRAWN BY DESCRIPTION

REVISIONS
 REV. DATE DRAWN BY DESCRIPTION

REVISIONS
 REV. DATE DRAWN BY DESCRIPTION

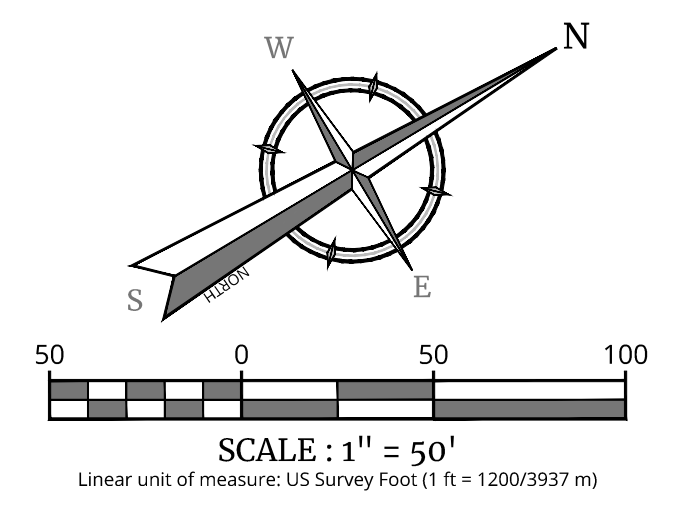
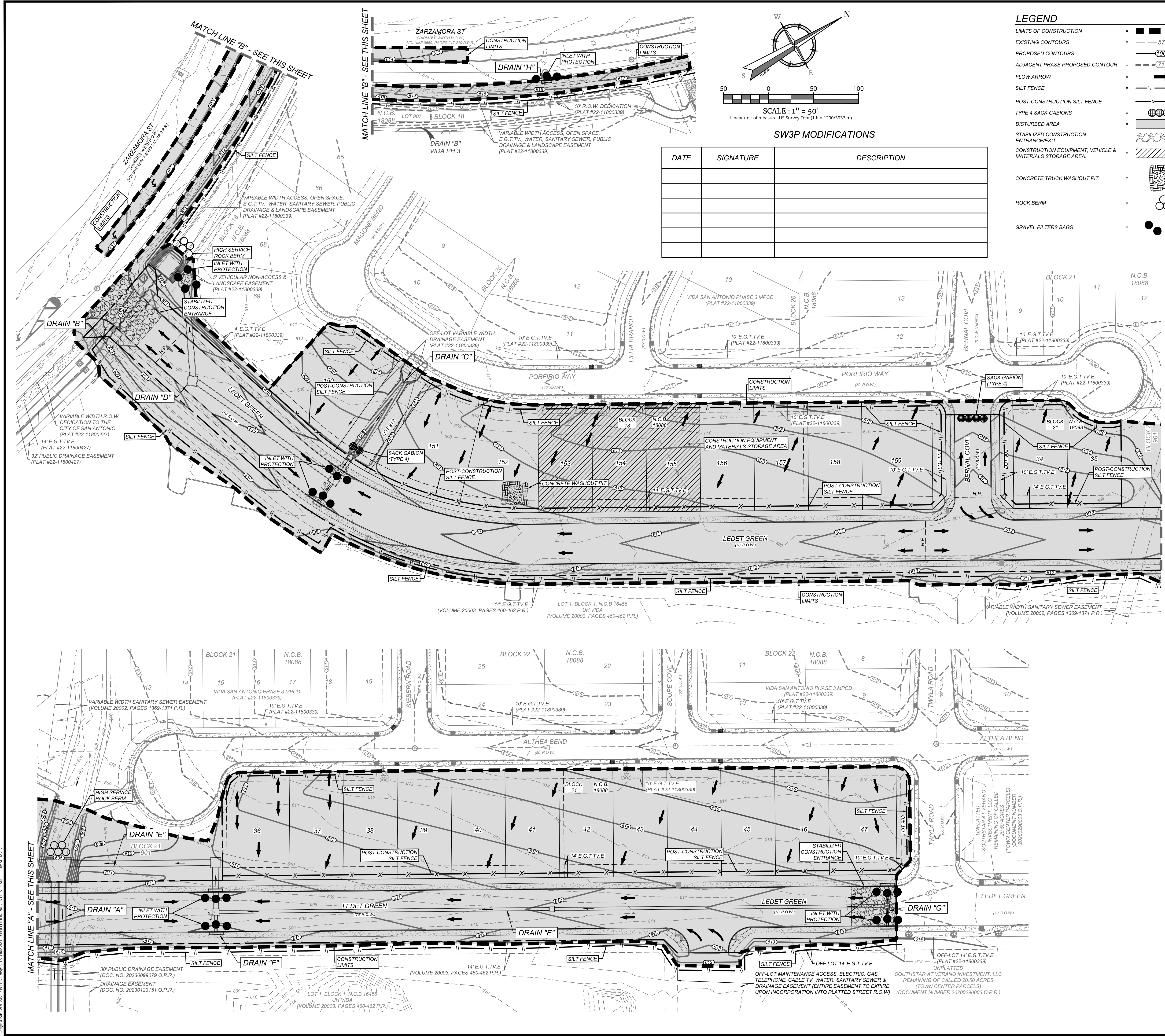
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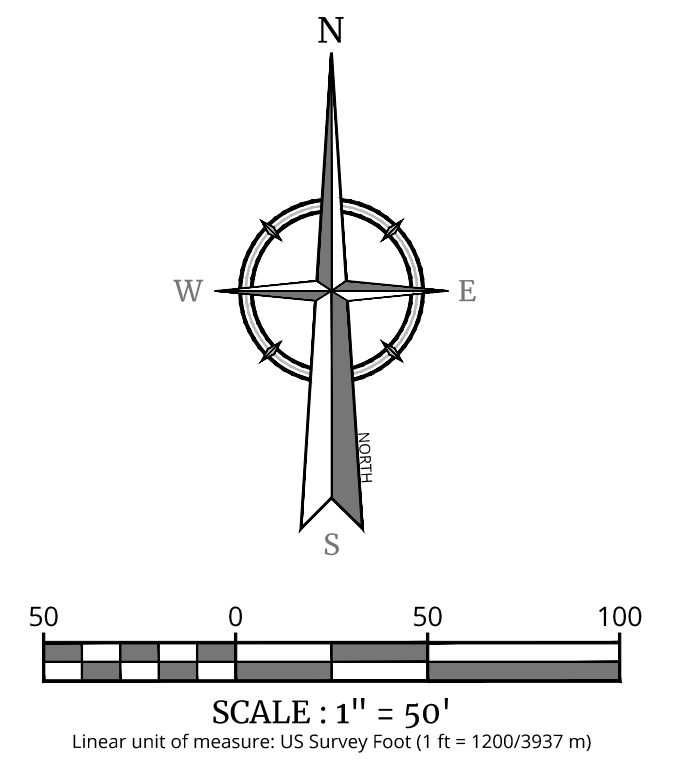
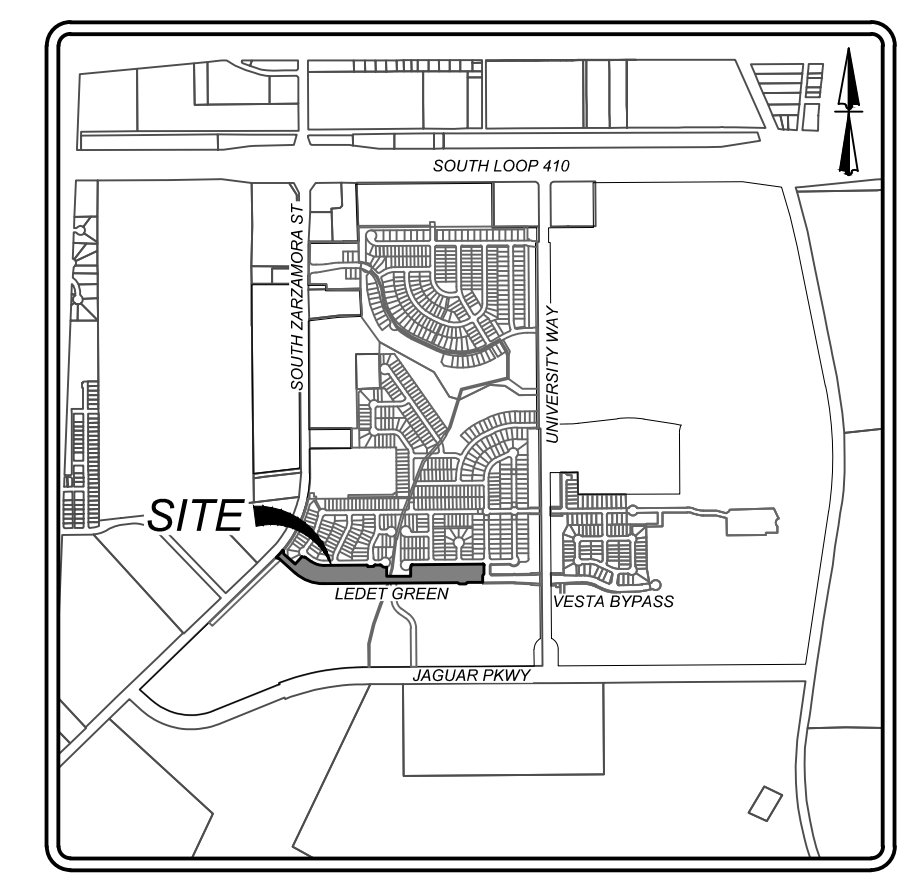
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SW3P MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

- LEGEND**
- LIMITS OF CONSTRUCTION = [Symbol]
 - EXISTING CONTOURS = [Symbol]
 - PROPOSED CONTOURS = [Symbol]
 - ADJACENT PHASE PROPOSED CONTOUR = [Symbol]
 - FLOW ARROW = [Symbol]
 - SILT FENCE = [Symbol]
 - POST-CONSTRUCTION SILT FENCE = [Symbol]
 - TYPE 4 SACK GABIONS = [Symbol]
 - DISTURBED AREA = [Symbol]
 - STABILIZED CONSTRUCTION ENTRANCE/EXIT = [Symbol]
 - CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA = [Symbol]
 - CONCRETE TRUCK WASHOUT PIT = [Symbol]
 - ROCK BERM = [Symbol]
 - GRAVEL FILTERS BAGS = [Symbol]



- MAINTENANCE AND INSPECTION:**
- CONTRACTOR SHOULD LIMIT CONSTRUCTION ACTIVITIES TO ONLY THOSE AREAS SHOWN TO BE DISTURBED ON THIS PLAN. IF ADDITIONAL VEGETATED AREAS ARE DISTURBED, THEY SHOULD BE PROTECTED WITH APPROPRIATE BEST MANAGEMENT PRACTICES UNTIL THE AREAS HAVE BEEN STABILIZED AS PER THE SPECIFICATIONS OF THE SWPPP. THE AREAS OF THIS ADDITIONAL SOIL DISTURBANCE AND THE MEASURES USED SHOULD BE SHOWN ON THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
 - CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF BMP'S AS PER THE SPECIFICATIONS OF THE SWPPP. THE CONTRACTOR MAY MODIFY THE CONTROLS AS NECESSARY TO PREVENT SEDIMENT RUNOFF. THESE MODIFICATIONS SHOULD BE SHOWN AND THE SITE PLAN AND NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
 - LOCATION OF CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND EQUIPMENT AND STORAGE ARE TO BE FIELD DETERMINED. LOCATIONS SHALL BE UPDATED ON THIS PLAN.

- COORDINATION NOTE:**
- CONTACT TIME WARNER TO COORDINATE CABLE TV SERVICE. (210) 244-0500
 - CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH CPS FOR INSPECTION. (210) 353-2246.
 - CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.
 - CONTRACTOR TO COORDINATE WITH CPS PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.
 - CONTRACTOR TO COORDINATE WITH SAWS TO PLAN WATER AND SANITARY SEWER SERVICES (210) 704-7297
 - CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

- INSTALLATION:**
- ALL OPERATORS SHALL SUBMIT A NOTICE OF INTENT (NOI) AT LEAST 48 HOURS IN ADVANCE AND ALL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE IN PLACE PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
 - CONTRACTOR TO ENSURE THAT STRUCTURAL BMP'S ARE INSTALLED WITHIN THE LIMITS OF THE SITE BOUNDARY.
 - CONTRACTOR MAY INSTALL THE BEST MANAGEMENT PRACTICES IN PHASES THAT COINCIDE WITH THE DISTURBANCE OF UP GRADIENT AREAS. THIS PHASING SHOULD BE NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
 - CONTRACTOR TO VERIFY SUFFICIENT VEGETATION IN AREAS DENOTED AS VEGETATED FILTER STRIP. IF INSUFFICIENT VEGETATION EXISTS, CONTRACTOR SHALL IMPLEMENT A DIFFERENT BEST MANAGEMENT PRACTICE AND WILL SHOW IT ON THIS PLAN WITH NOTATION IN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.

- PROJECT COMPLETION:**
- ALL DISTURBED AREAS NOT COVERED BY IMPERVIOUS COVER ARE TO BE STABILIZED PER THE SWPPP AND PROJECT SPECIFICATIONS PRIOR TO REMOVAL OF ANY BMP'S AND/OR PRIOR TO FILING A NOTICE OF TERMINATION (NOT).
 - BEST MANAGEMENT PRACTICES MAY BE REMOVED IN PHASES IF ALL UPGRADIENT AREAS HAVE BEEN STABILIZED PER SWPPP AND PROJECT SPECIFICATIONS. THIS PHASING SHOULD BE NOTED WITHIN THE MODIFICATIONS SECTION WITH THE SIGNATURE AND DATE OF THE RESPONSIBLE PARTY.
 - CONTRACTOR TO ENSURE THEY HAVE MET ALL REQUIREMENTS OF THE SWPPP BEFORE FILING A NOTICE OF TERMINATION (NOT).

- GENERAL:**
- THIS EXHIBIT IS TO BE USED FOR THE PURPOSES OF STORMWATER POLLUTION PREVENTION ONLY. ALL OTHER CIVIL ENGINEERING INFORMATION SHOULD BE OBTAINED FROM THE APPROPRIATE CONSTRUCTION DOCUMENTS.
 - THE PURPOSE OF THE SIGNATURE AND SEAL OF THE ENGINEER ON THIS DOCUMENT IS TO DEMONSTRATE COMPLIANCE WITH THE TPDES STORMWATER POLLUTION PREVENTION PLAN REGULATIONS ONLY.
 - ALL OWNERS/OPERATORS ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THE STORMWATER POLLUTION PREVENTION PLAN AND COMPLYING WITH THE REGULATIONS CONTAINED WITHIN IT.

Colliers
Engineering & Design

www.colliersengineering.com

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Formerly known as **KFW**
ENGINEERS & ARCHITECTS

811
PROTECT YOURSELF
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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV.	DATE	DRAWN BY	DESCRIPTION

**THIS DOCUMENT IS
RELEASED BY AUTHORITY
OF OMAR ESPINOSA,
P.E. # 125560 FOR BID SET
ONLY AND NOT TO BE USED
FOR CONSTRUCTION.**

**VIDA WEST-EAST
COLLECTOR PHASE 3
PLAT# 24,-11800319**

**SAN ANTONIO
BEXAR COUNTY
TEXAS**

NEW BRAUNFELS (KFW)
640 North Walnut Ave.
Suite 1101
New Braunfels, TX 78130
Phone: 830.220.6042
COLLIERS ENGINEERING & DESIGN, INC.
1895 Fwy. 1019650

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	FEB. 2026	MF	DA
PROJECT NUMBER:	DRAWING NAME:	SHEET TITLE:	
39110-21	SW3P991021	STORMWATER POLLUTION PREVENTION PLAN	
SHEET NUMBER:			
8.0			

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

Revision table with columns: REV, DATE, DRAWN BY, DESCRIPTION



Signature of Denis A. Ayenda, P.E.

VIDA WEST-EAST COLLECTOR PHASE 3 PLAT# 24-11800319

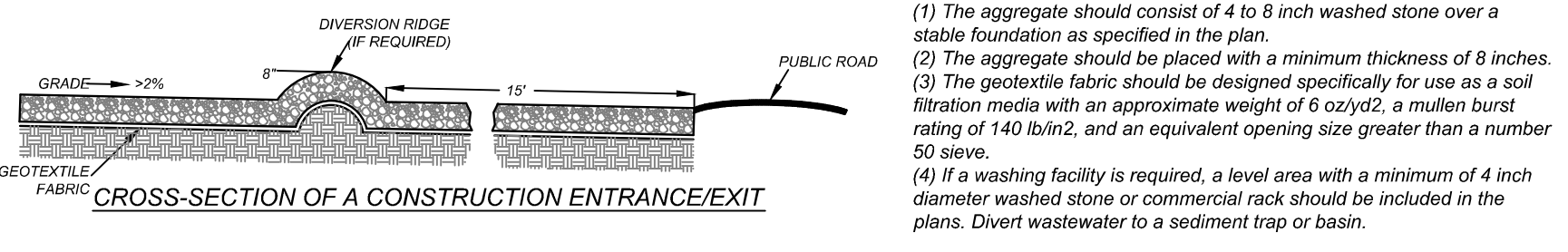
SAN ANTONIO BEXAR COUNTY TEXAS

NEW BRAUNFELS (KFW) 640 North Walnut Ave. Suite 1101 New Braunfels, TX 78130 Phone: 830.220.6042 COLLIERS ENGINEERING & DESIGN, INC. TBE 5 Form 1-1009 TBE 5 Form 10194550

Scale and Date table: SCALE: AS SHOWN, DATE: JULY 2024, DRAWN BY: MF, CHECKED BY: DA

SHEET TITLE: STORMWATER POLLUTION PREVENTION PLAN DETAILS

Materials:



- (1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan. (2) The aggregate should be placed with a minimum thickness of 8 inches. (3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve. (4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

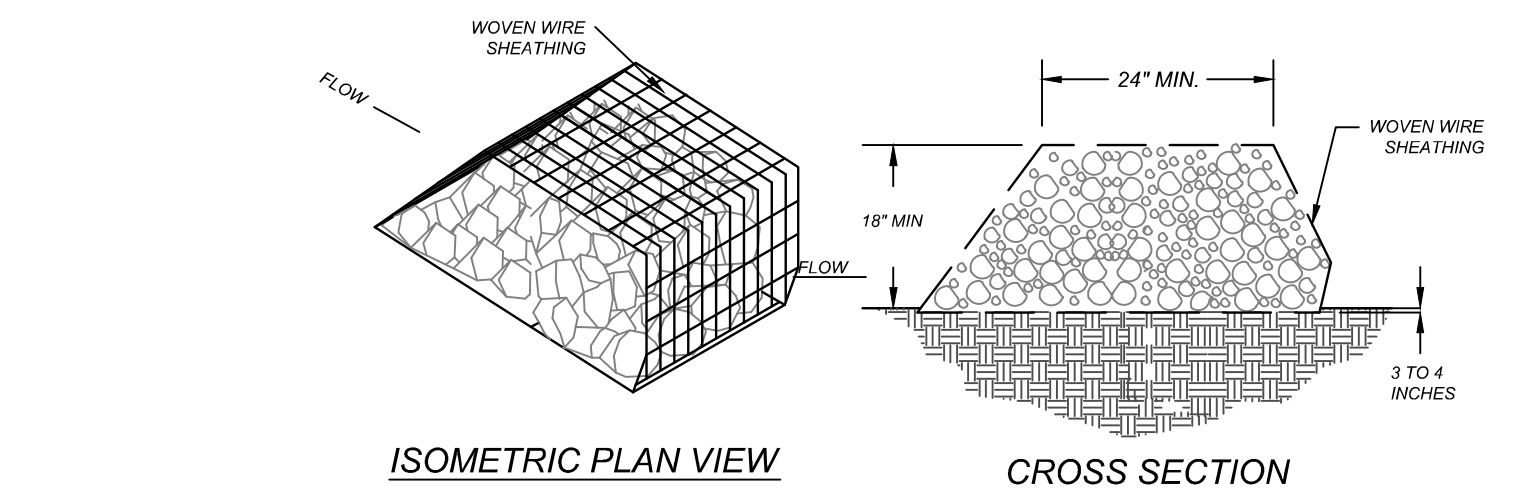
Installation: (North Carolina, 1993)

- (1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage. (2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater. (3) The construction entrance should be at least 50 feet long. (4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road. (5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated. (6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage. (7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin. (8) Install pipe under pad as needed to maintain proper public road drainage.

Inspection and Maintenance Guidelines:

- (1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. (2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor. (3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way. (4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin. (5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

STABILIZED CONSTRUCTION ENTRANCE / EXIT



Materials:

- (1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoot rings. (2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

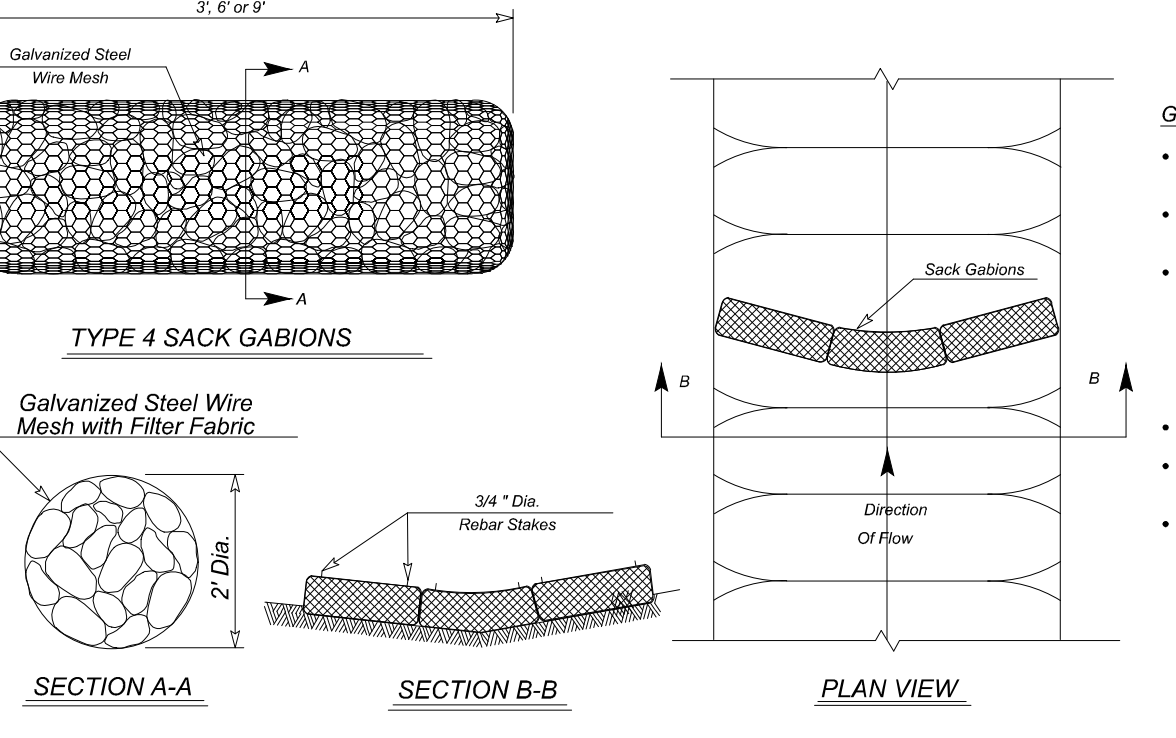
Installation:

- (1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings. (2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter. (3) Place the rock along the sheathing as shown in the diagram Figure 1-28), to a height not less than 18". (4) Wrap the wire sheathing around the rock and secure with tie so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon. (5) Berm should be built along the contour at zero percent grade or as near as possible. (6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

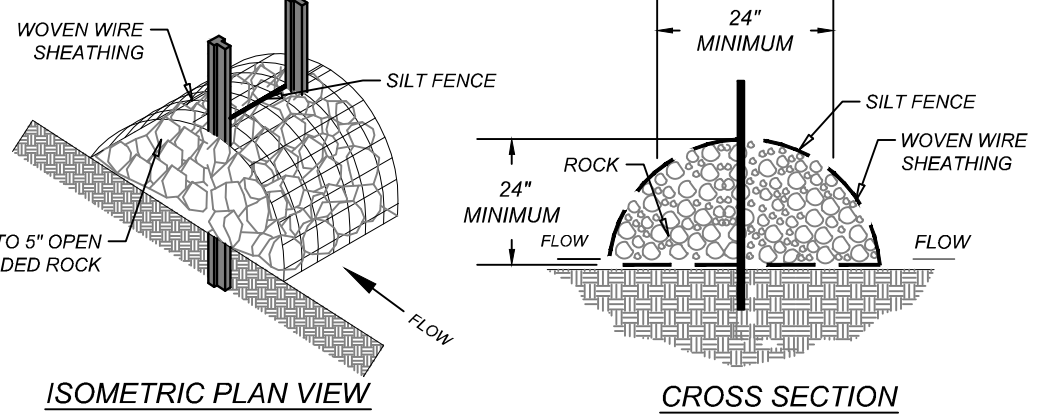
Inspection and Maintenance Guidelines:

- (1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made. (2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation. (3) Repair any loose wire sheathing. (4) The berm should be reshaped as needed during inspection. (5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc. (6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

ROCK BERM



- GENERAL NOTES: THE TOP OF THE SACK GABIONS SHOULD BE LEVEL AND ORIENTED PERPENDICULAR TO THE DIRECTION OF FLOW. FILTER FABRIC MATERIAL SHALL BE FASTENED TO WOVEN WIRE SUPPORT. FILTER FABRIC MATERIAL SHOULD MEET THE FOLLOWING SPECIFICATIONS: RESISTANT TO ULTRAVIOLET LIGHT; FABRIC SHOULD BE NONWOVEN GEOTEXTILE WITH MINIMUM WEIGHT OF 3.5 OUNCES PER SQUARE YARD, MINIMUM MULLEN BURST STRENGTH OF 200 POUNDS PER SQUARE INCH AND A FLOW THRU RATE OF 120 GALLONS PER MINUTE PER SQUARE FOOT OF FRONTAL AREA. STONE SIZE: 1/4" OPEN GRADED CRUSHED LIMESTONE. INSPECT WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACE AS NEEDED. WHEN SILT REACHES A DEPTH OF 50% OR MORE ABOVE NATURAL GROUND, SILT SHALL BE REMOVED AND DISPOSED IN AN APPROVED MANNER THAT WILL NOT CONTRIBUTE TO RESTITUTION CONTAMINATED SEDIMENT MUST BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.

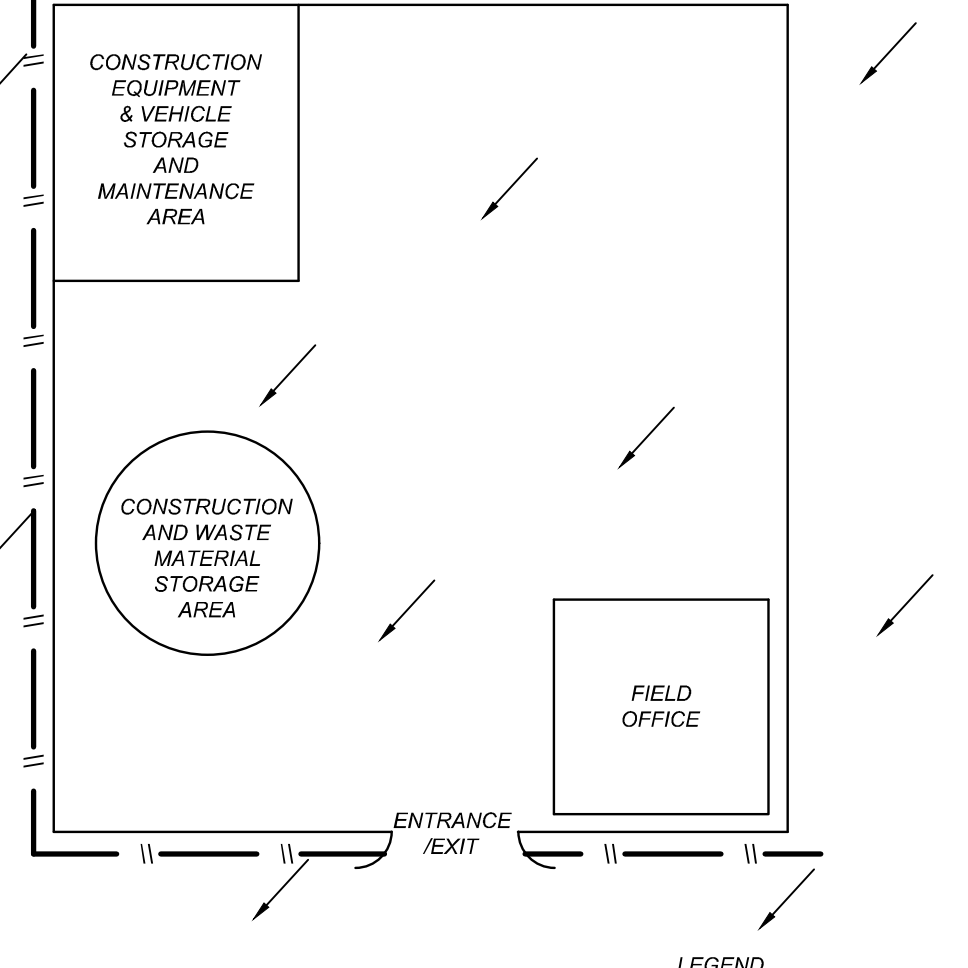


- MATERIALS: (1) SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30. (2) FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT, AND BRINELL HARDNESS EXCEEDING 140. REBAR (EITHER #5 OR #6) MAY ALSO BE USED TO ANCHOR THE BERM. (3) WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM. (4) THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH, AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOOT RINGS. (5) CLEAN, OPEN GRADED 3- TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCKS MAY BE USED.

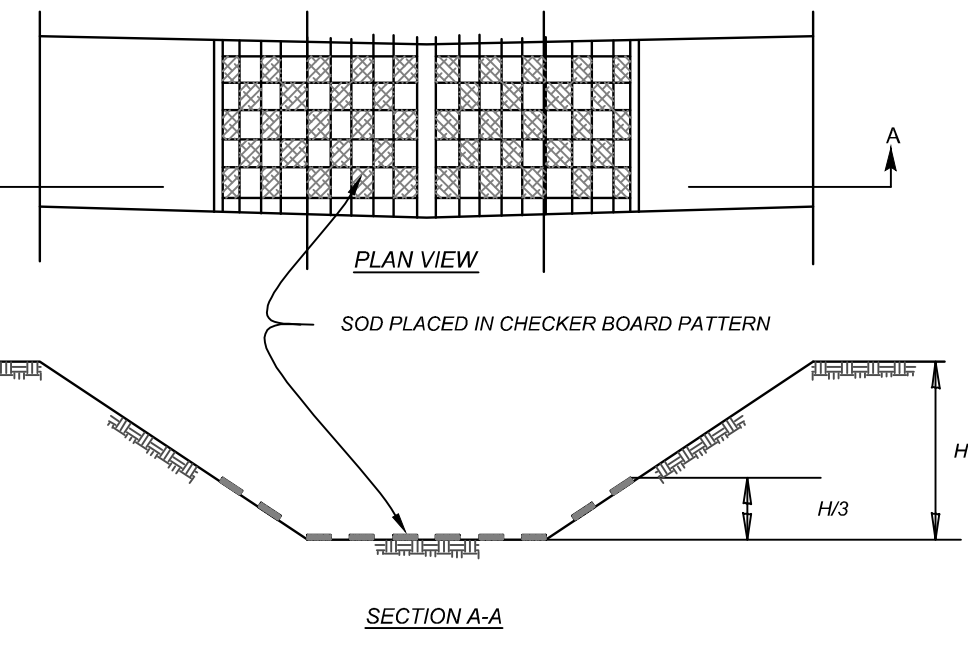
- INSTALLATION: (1) LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1-INCH OPENINGS. (2) INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT, AS WITH A NORMAL SILT FENCE DESCRIBED IN SECTION 2.4.3. (3) PLACE THE ROCK ALONG THE SHEATHING ON BOTH SIDES OF THE SILT FENCE AS SHOWN IN THE DIAGRAM (FIGURE 1-29), TO A HEIGHT NOT LESS THAN 24 INCHES. CLEAN, OPEN GRADED 3- 5" DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCK MAY BE USED. (4) WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH THE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON. (5) THE HIGH SERVICE ROCK BERM SHOULD BE REMOVED WHEN THE SITE IS REVEGETATED OR OTHERWISE STABILIZED OR IT MAY REMAIN IN PLACE AS A PERMANENT BMP IF DRAINAGE IS ADEQUATE.

- INSPECTION AND MAINTENANCE GUIDELINES: (1) INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM. (2) REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER. (3) REPAIR ANY LOOSE WIRE SHEATHING. (4) THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION. (5) THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC. (6) THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

HIGH SERVICE ROCK BERM



CHANNEL LINING



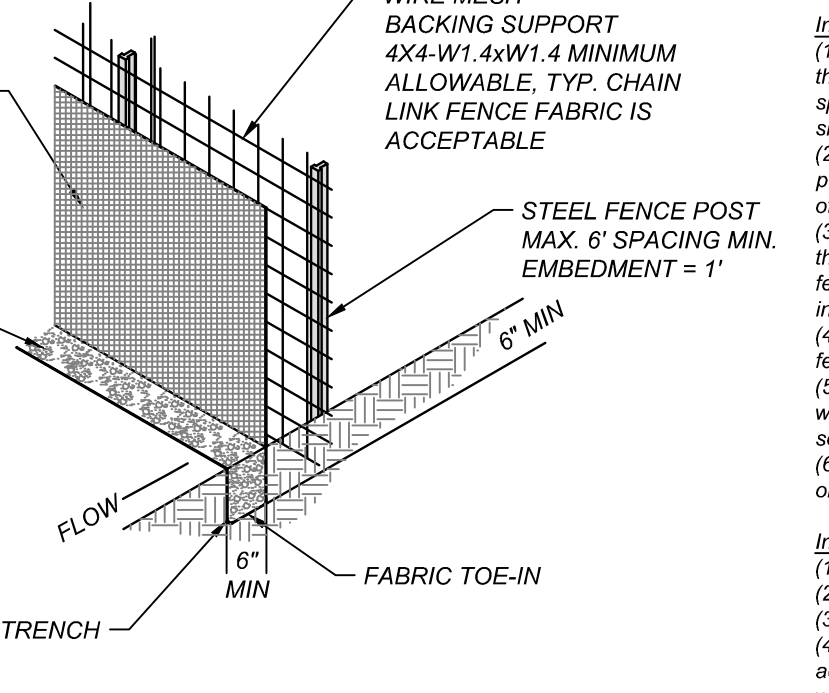
CHANNEL TO BE STABILIZED WITH SOD PLACED IN A CHECKER BOARD PATTERN ON THE CHANNEL BOTTOM AND ON THE SIDES UP TO 1/3 THE DEPTH OF CHANNEL.

- Materials: (1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30. (2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft, and Brinell hardness exceeding 140. (3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

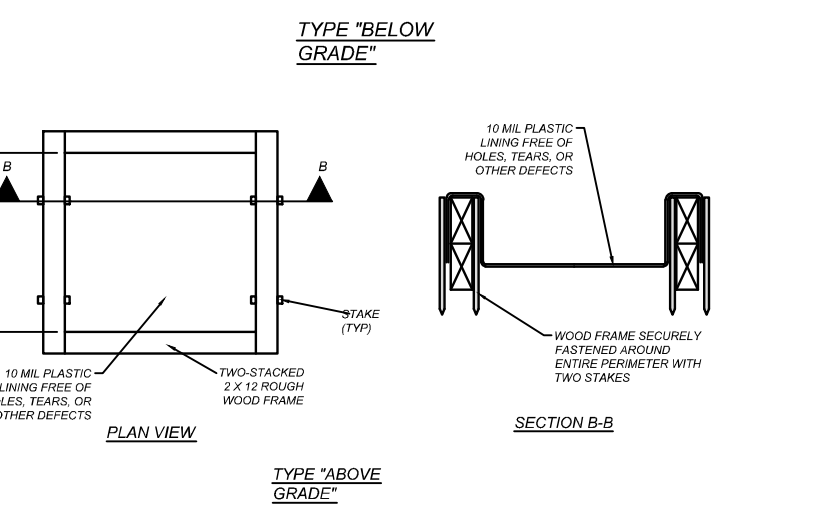
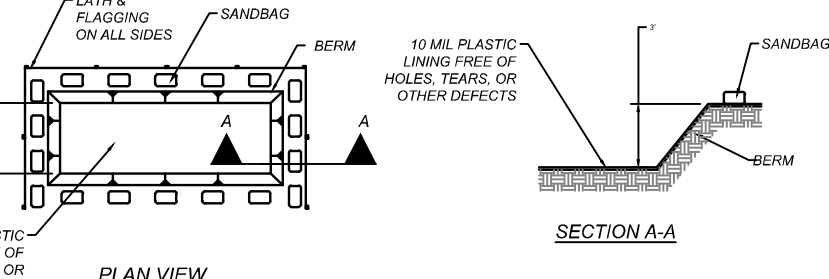
- Installation: (1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet. (2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is 1/4 acre/100 feet of fence. (3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence. (4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material. (5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet. (6) Silt fence should be removed when the site is completely stabilized so as not to block or impede stone flow or drainage.

- Inspection and Maintenance Guidelines: (1) Inspect all fencing weekly, and after any rainfall. (2) Remove sediment when buildup reaches 6 inches. (3) Replace any torn fabric or install a second line of fencing parallel to the torn section. (4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points. (5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

SILT FENCE

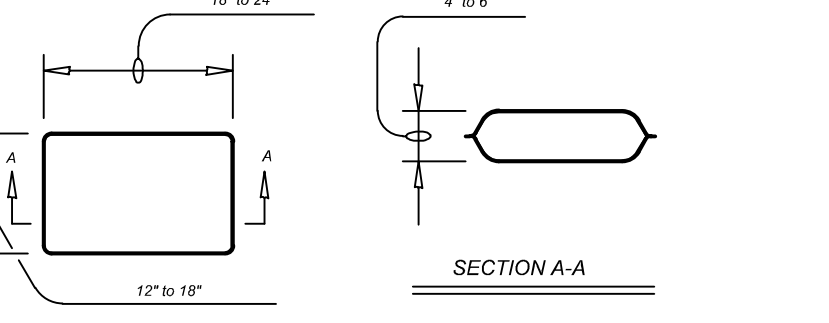


ISOMETRIC PLAN VIEW



- GENERAL NOTES: DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS, PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF AND AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.

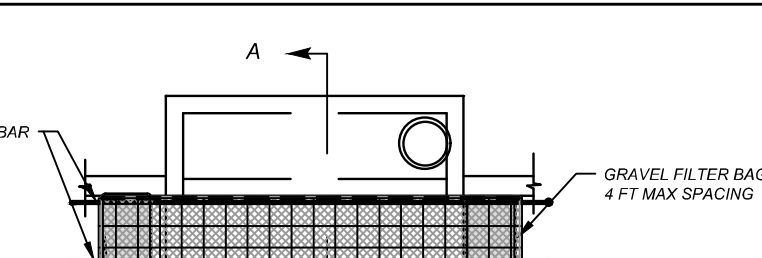
CONCRETE TRUCK WASHOUT PIT



- GENERAL NOTES: THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN UNIT WEIGHT OF 4 OUNCES/SY, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM TO COARSE GRAVEL (0.37 TO 0.75 INCH DIAMETER).

GRAVEL FILTER BAG DETAIL

CURB INLET PROTECTION GRAVEL FILTER BAGS



CURB INLET PROTECTION (ALTERNATE)

