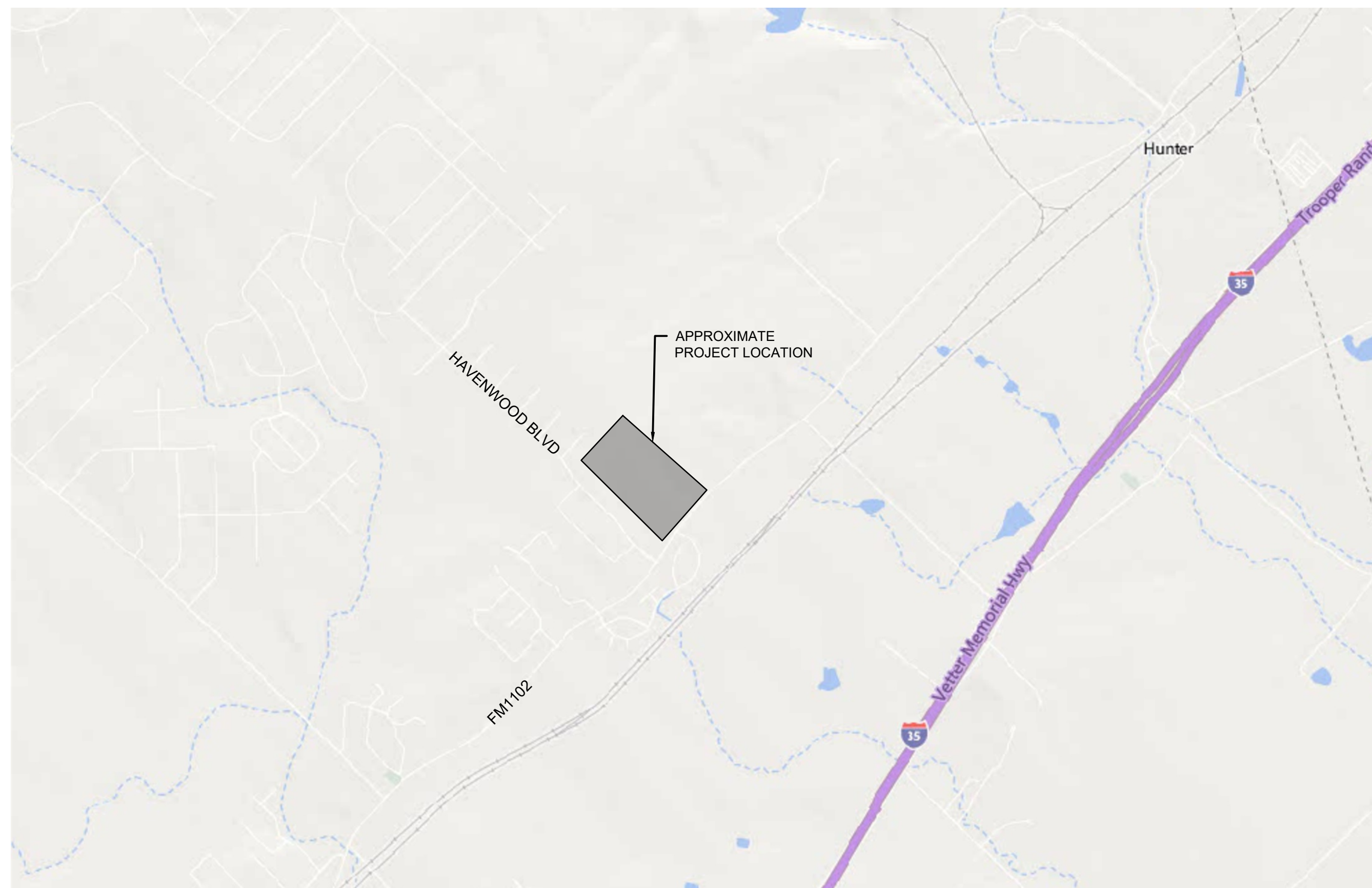


TXDOT ENTRY PLANS WESTRIDGE SINGLE FAMILY

A SINGLE FAMILY DEVELOPMENT IN COMAL COUNTY TEXAS
1.00 ACRE LOT SIZE TO BE SERVICED BY
WATER: CRYSTAL CLEAR SPECIAL UTILITY DISTRICT
SEWER: ON SITE SEWER FACILITIES (SEPTIC)
ELECTRIAL: NEW BRAUNFELS UTILITIES

Sheet List Table	
#	Sheet Title
T0.0	COVER SHEET
T1.0	GENERAL NOTES
T2.0	EXISTING CONDITION AND DEMOLITION PLAN
T3.0	PROPOSED SITE PLAN
T4.0	DIMENSION CONTROL PLAN
T5.0	GRADING PLAN
T6.0	EXISTING DRAINAGE PLAN
T6.1	EXISTING DRAINAGE CALCULATIONS
T6.2	PROPOSED DRAINAGE PLAN
T6.3	PROPOSED DRAINAGE CALCULATIONS
T6.4	PROPOSED DETENTION PLAN
T6.5	PROPOSED DETENTION PLAN
T7.0	TXDOT TCP (2-1)-18 TRAFFIC CONTROL
T7.1	TXDOT TCP (2-2)-18 TRAFFIC CONTROL
T8.0	TXDOT NOTCH EXHIBIT
T9.0	TXDOT DRIVEWAY DETAIL
T10.0	TXDOT PM(1)-22 PAVEMENT MARKINGS
T10.1	TXDOT PM(2)-22 PAVEMENT MARKINGS
T10.2	TXDOT PM(3)-22 PAVEMENT MARKINGS
T11.0	TXDOT EC(1)-16 TEMP EROSION
T11.1	TXDOT EC(2)-16 TEMP EROSION
T11.2	TXDOT EC(3)-16 TEMP EROSION



VICINITY MAP

$$1'' = 2000'$$

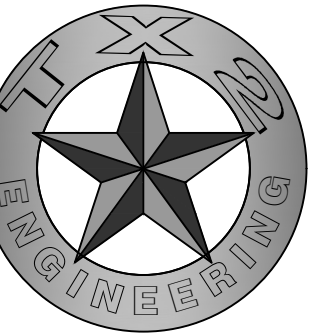
NOTES

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS COMAL COUNTY MUST REPLY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
2. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF COUNTY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID
3. THIS SITE IS LOCATED IN THE TRANSITION ZONE OF THE EDWARDS AQUIFER JURISDICTIONAL BOUNDARY.
4. THE SITE IS LOCATED IN FEMA FIRM PANEL 48091C0295F WITH AN EFFECTIVE DATE OF 09/02/2009. THE SITE IS LOCATED IN ZONE X.

PROPERTY DESCRIPTION

COMAL COUNTY PARCEL ID: 76986
A-306 SUR- 3 N KENNER, ACRES 68.9

DEVELOPMENT TEAM CONTACT INFORMATION		
OWNER/DEVELOPER		
	XXXXX XXXXX XXXXX, TX 7XXXX (XXX) XXX-XXXX XXXXX@XXX.COM	
CIVIL ENGINEER		
	TREVOR TAST, P.E. TX2 ENGINEERING	645 FLORAL AVE, STE. C NEW BRAUNFELS, TX 78130 (816) 510-9151 TREVOR@TX2ENGINEERING.COM
SURVEYOR		
	ROBERT HARPER SUMMIT GEOMATICS, INC.	4603 N. STAHL PARK SUITE 103 SAN ANTONIO, TX 78217 (210) 971-4870 RHARPER@SUMMIT-GEOMATICS.COM



X2 ENGINEERING
FORM #: 20787

CONTACT:

5 FLORAL AVE, STE C
NEW BRAUNFELS, TX 78130

TEL: (830) 327-1235

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19. 2023.11.14

COVER SHEET

WES IRIDGE SINGLE FAMILY
6821 FM 1102
NEW BRAUNFELS, TX 78132

[illegible]

AWN BY: TNT

/ QC BY: TNT

PROJECT NO.: ###-####

PERMIT #:

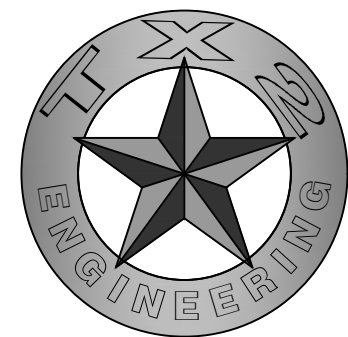
T0.0

MEET

TXDOT GENERAL NOTES

SEQUENCE OF CONSTRUCTION:

1. CONTRACTOR SHALL OBTAIN CITY APPROVED CONSTRUCTION PLANS, AND TYPES PERMIT, IF APPLICABLE.
2. CONTRACTOR SHALL SCHEDULE PRE-CONSTRUCTION MEETING WITH APPLICABLE JURISDICTIONAL AGENCIES.
3. CONTRACTOR SHALL INSTALL PROPOSED TEMPORARY EROSION AND SEDIMENT CONTROL PER PLANS.
4. CONTRACTOR SHALL STRIP AND CLEAR SITE PER PLANS.
5. CONTRACTOR SHALL TEMPORARILY SEED AND RESTORE VEGETATION ALL DISTURBED AREAS THAT ARE TO REMAIN AS PERSISTENT TURF.
6. CONTRACTOR SHALL COMPLETE ALL FINAL CONSTRUCTION AND PAVEMENTS.
7. CONTRACTOR SHALL SCHEDULE FINAL INSPECTIONS WITH APPLICABLE JURISDICTIONAL AGENCIES.
8. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES UPON ESTABLISHED REVEGETATION PER JURISDICTIONAL STANDARDS AND SPECIFICATIONS.
9. CERTIFICATE OF OCCUPANCY IS PROVIDED.



TX2 ENGINEERING
FIRM #: 20787

CONTACT

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NEW BRAUNFELS, TX 78130

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YR: 2025

GENERAL NOTES

WESTRIDGE SINGLE FAMILY
6821 FM 1102
NEW BRAUNFELS, TX 78132

[illegible]

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QA/QC BY:	TM
PROJECT NO.:	###-###
PERMIT #:	

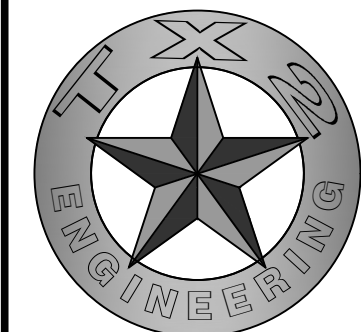
T1.0

SHEE

DWG: Z:\025-0013 Westridge Single Family\40-Design\AutoCAD\Final Plans\Sheets\LDVP\TXDOT\DW NTS-001.dwg USER: TrevorTast
DATE: Aug 25, 2025 8:18am XREFS: 025-0013 EBASE 025-0013 PBASE TBLK_24X36



811
NOW WHAT'S BELOW
11 BEFORE YOU DIG



TX2 ENGINEERING
FIRM #: 20787

CONTACT:
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EXISTING DRAINAGE PLAN
WESTRIDGE SINGLE FAMILY
6821 FM 1102
NEW BRAUNFELS, TX 78132

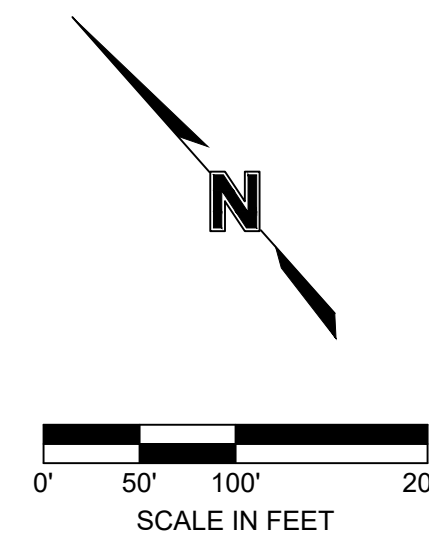
REVISIONS		BY
REV.	DATE	DESCRIPTION

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QA/QC BY: TNT
PROJECT NO.: ###-###
PERMIT #:



T6.0

SHEET



LEGEND

---	PROPERTY LINE
---	RIGHT OF WAY
P-OH	EXISTING OVERHEAD POWER
UGE	EXISTING UNDERGROUND POWER
T	EXISTING TELEPHONE CONDUIT
CATV	EXISTING CABLE TELEVISION CONDUIT
FO	EXISTING FIBER OPTIC CONDUIT
G	EXISTING NATURAL GAS SERVICE
W	EXISTING WATER SERVICE
---	EXISTING STORM SEWER
-610-	EXISTING MAJOR CONTOUR
-611-	EXISTING MINOR CONTOUR
610	PROPOSED MAJOR CONTOUR
611	PROPOSED MINOR CONTOUR
---	PROPOSED LOT LINE
---	PROPOSED CENTERLINE
---	PROPOSED BUILDING SETBACK LINE
---	PROPOSED EASEMENT LINE
---	DRAINAGE AREA
---	TIME OF CONCENTRATION PATH

NOTES:

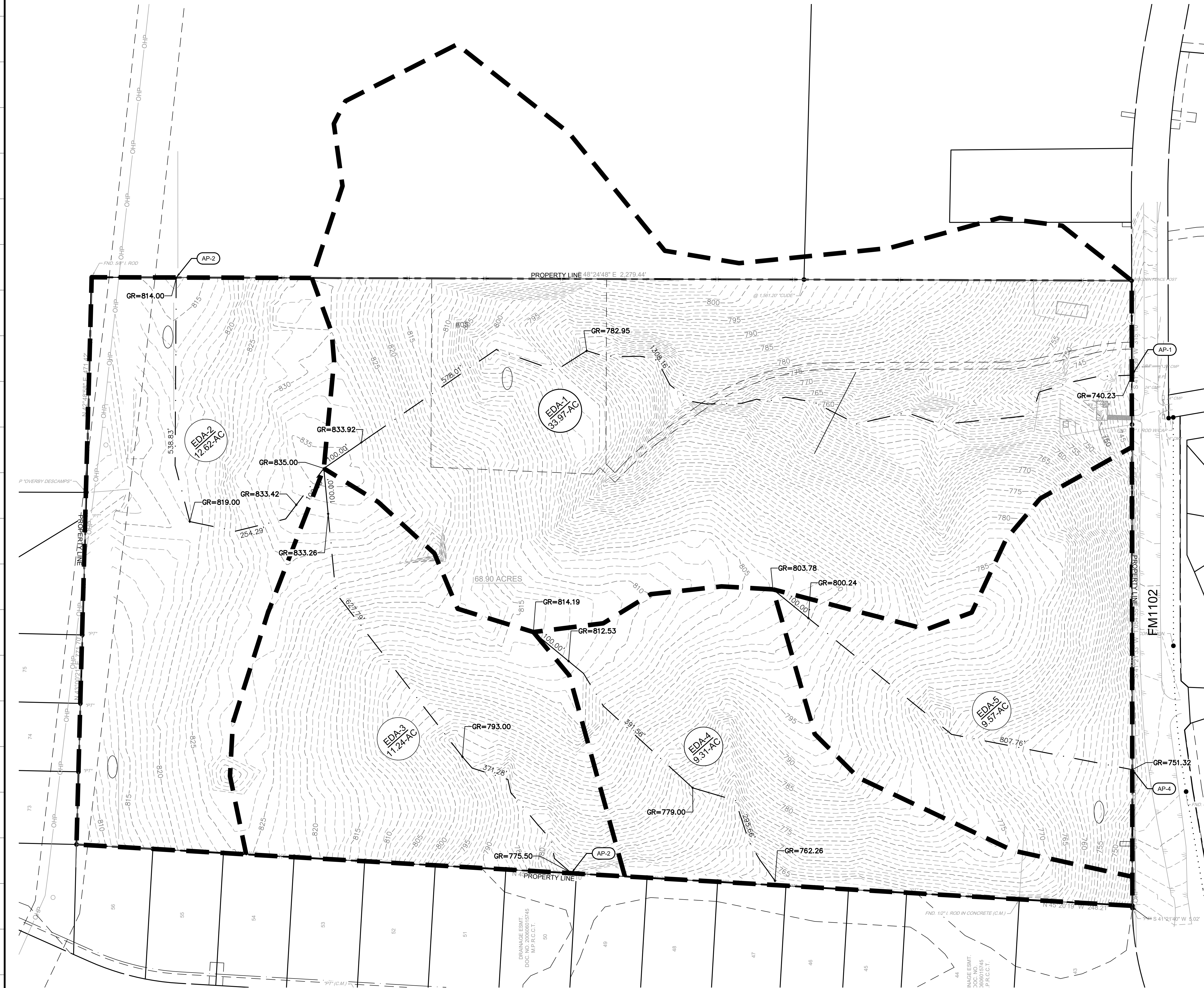
- ALL UTILITY SYMBOLS SHOWN REPRESENT APPROXIMATE LOCATIONS UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE APPROPRIATE AGENCY'S STANDARD SPECIFICATIONS AND INSTALLATION DETAILS FOR ACTUAL LOCATIONS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE TEXAS ONE CALL CENTER, AND FIELD VERIFY EXACT LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- ANALYSIS POINT 3 IS A COMBINATION OF EDA 3 AND 4 ROUTING STORMWATER TO THE FM1102 FRONTAGE.

KEYNOTES

XX-X
AP-X ANALYSIS POINT

WARNING - OVERHEAD POWER LINES

CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF OVERHEAD POWER LINES.





5 FLORAL AVE, STE C
W BRAUNFELS, TX 78130

L: (830) 327-1235

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EXISTING DRAINAGE CALCULATIONS

WESTRIDGE SINGLE FAMILY
6821 FM 1102
NEW BRAUNFELS, TX 78132

Composite Curve Number - EDA-5		
Cover Description	Area (ac)	Curve Number (Hydrologic Soil Group D)
Paved parking lots, roofs, driveways, etc. (excluding right of way)	0	98
Good condition (grass cover 75%)	9.57	80
Total	9.57	80

$$T_{(t_Sheet)} = \frac{0.007 (n * L)^{0.8}}{(P_2^{0.5})(S^{0.4})} * 60$$

$$\text{Paved: } T_{(t_ \text{Shall})} = \frac{L}{(60 * 20.3282 * S^{0.5})}$$

$$\text{UnPaved: } T_{(t_{\text{shall}})} = \frac{L}{(60 * 16.1345 * S^{0.5})}$$

$$T_{(t_channel)} = \sum (\frac{L_i}{60Vi})$$

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PROJECT NO.:	###-####
PERMIT #:	

T6.1

SHEET



KNOW WHAT'S BELOW
\$11 BEFORE YOU DIG



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YR: 2025

PROPOSED DRAINAGE CALCULATIONS

WESTRIDGE SINGLE FAMILY
6821 FM 1102
NEW BRAUNFELS, TX 78132

Composite Curve Number - PDA-5		
Cover Description	Area (ac)	Curve Number (Hydrologic Soil Group D)
Paved parking lots, roofs, driveways, etc. (excluding right of way)	0.98	98
Good condition (grass cover 75%)	5.34	80
Total	6.32	83

STORMWATER DISCHARGE - AP5			
STORM EVENT	PREDEVELOPMENT Q (cfs)	POSTDEVELOPMENT Q (cfs)	NET CHANGE (cfs)
2YR	19.65	14.54	-5.11
5YR	30.97	22.18	-8.79
10YR	42.42	29.79	-12.63
25YR	60.21	41.53	-18.68
50YR	76.14	51.99	-24.15
100YR	94.40	63.96	-30.44

STORMWATER DISCHARGE - AP3, AP4, AP5						
STORM EVENT	PREDEVELOPMENT Q (cfs)	POSTDEVELOPMENT Q (cfs)	POSTDEVELOPMENT Q (cfs)	NET CHANGE (cfs)	NET CHANGE (cfs)	
		PRE-DETENTION	POST-DETENTION	PRE-DETENTION	POST-DETENTION	
2YR	61.85	79.26	60.05	17.41	-1.80	
5YR	97.49	119.09	90.66	21.60	-6.83	
10YR	133.50	158.60	121.25	25.10	-12.25	
25YR	189.51	219.41	168.91	29.90	-20.60	
50YR	239.65	273.57	211.67	33.92	-27.98	
100YR	297.11	335.53	260.79	38.42	-36.32	

$$T_{(t_Sheet)} = \frac{0.007 (n * L)^{0.8}}{(P_2^{0.5})(S^{0.4})} * 60$$

$$\text{Paved: } T_{(t_Shall)} = \frac{L}{(60 + 20.3282 + S^{0.5})}$$

$$\text{UnPaved: } T_{(t_{\text{Shall}})} = \frac{L}{(60 * 16.1345 * S^{0.5})}$$

$$T_{(t_channel)} = \sum (\frac{L_i}{60Vi})$$

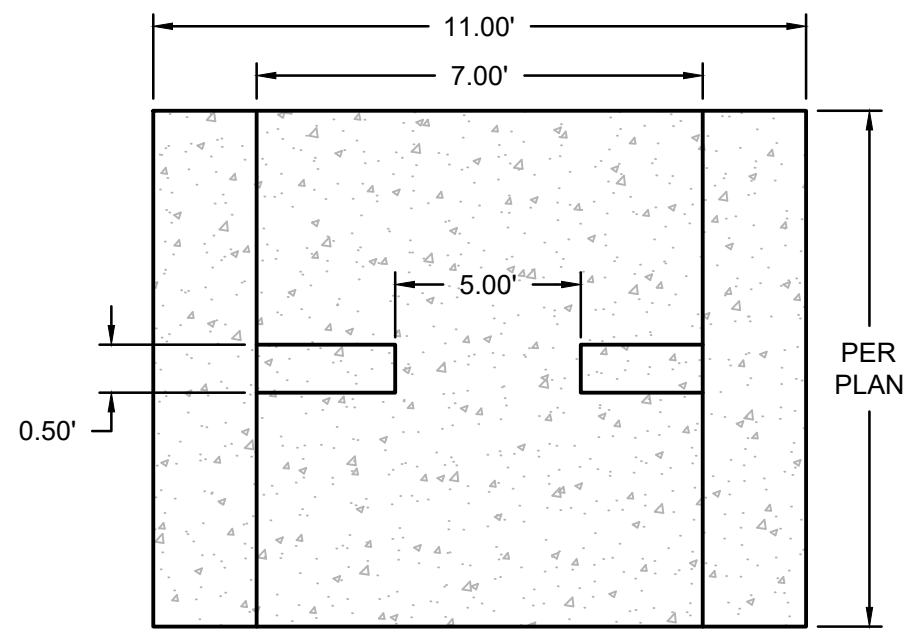
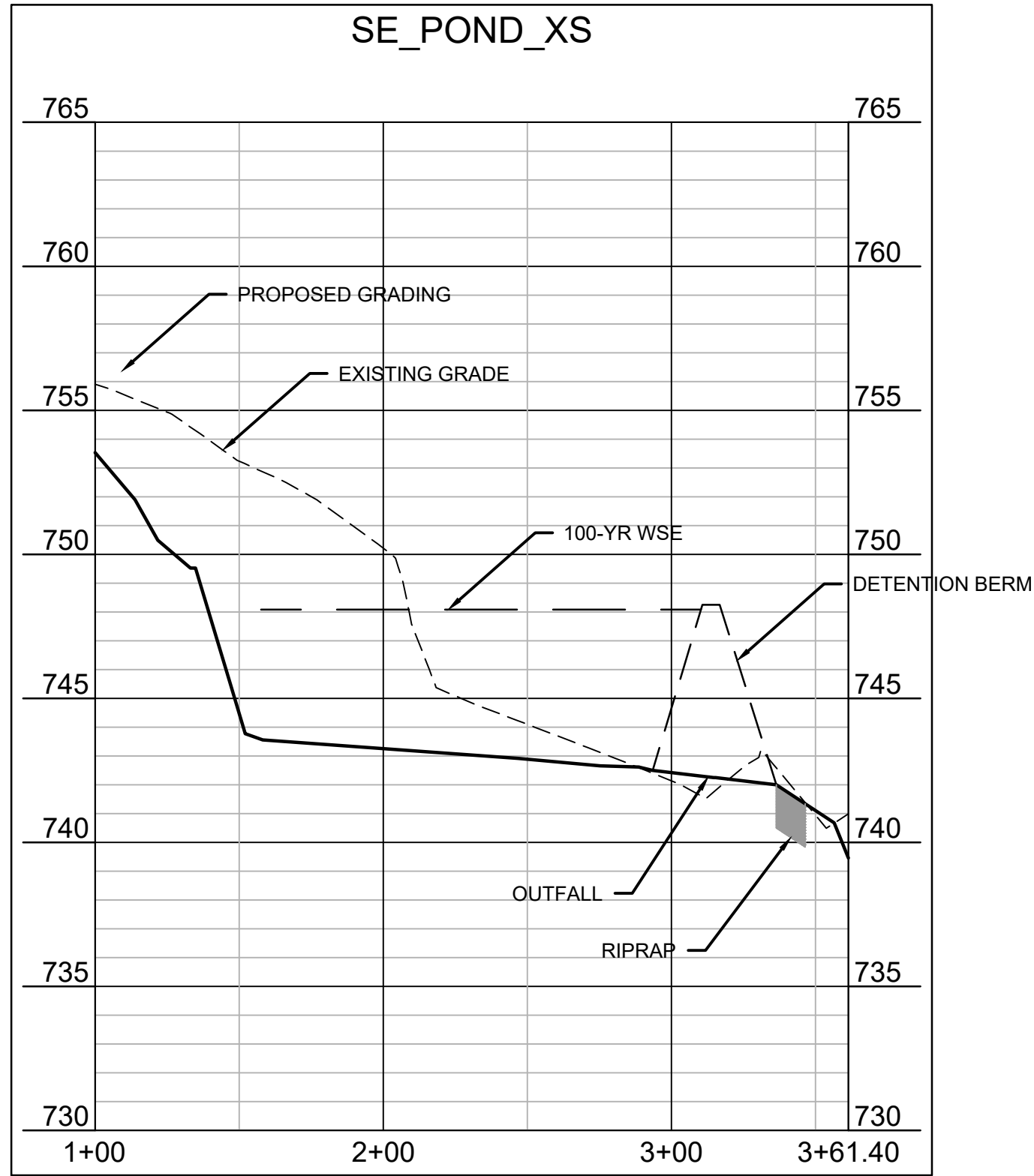
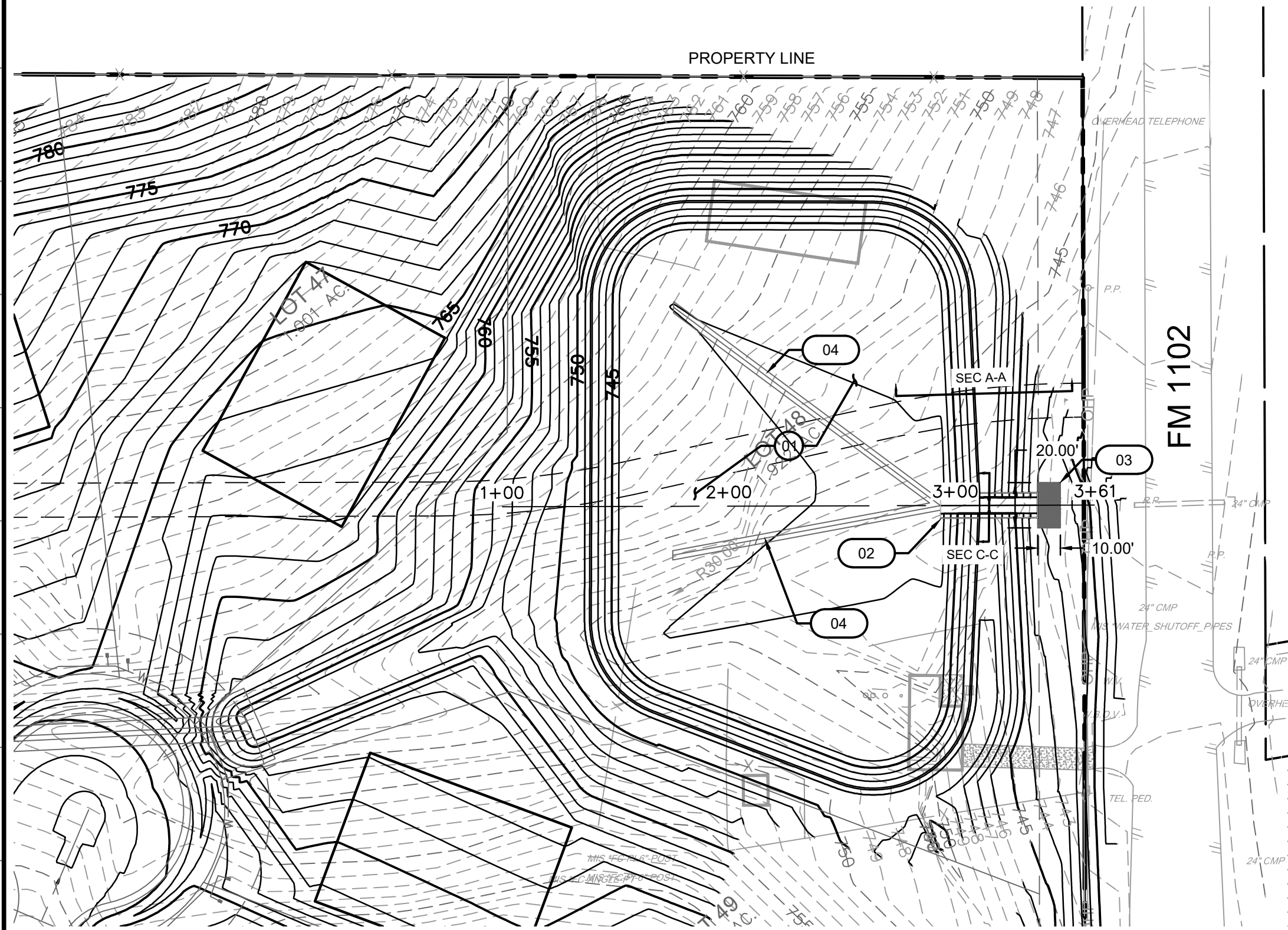
Time of Concentration (ToC) Calculations

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PERMIT #:	

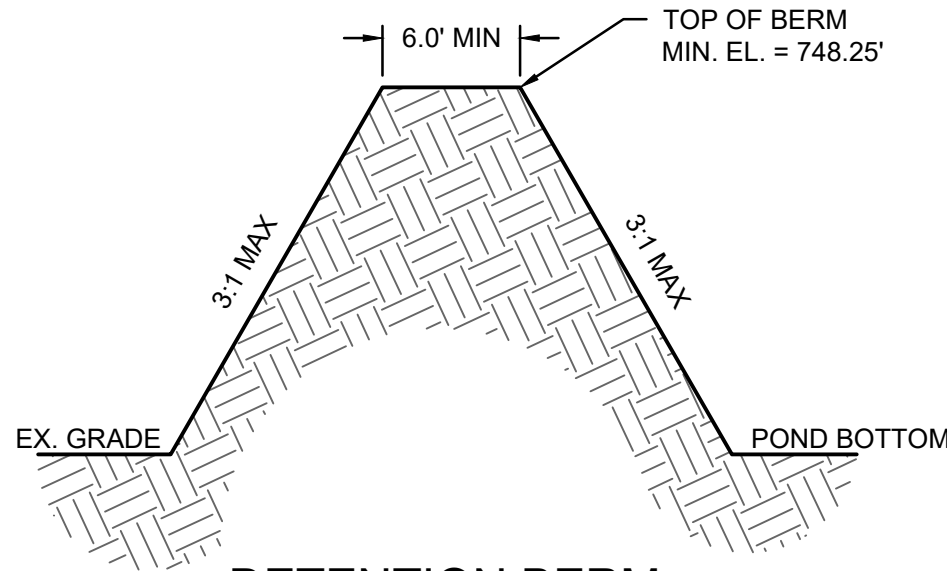
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SHEET



OUTFALL DETAIL
(PLAN)

NOT TO SCALE



DETENTION BERM
SECTION A-A

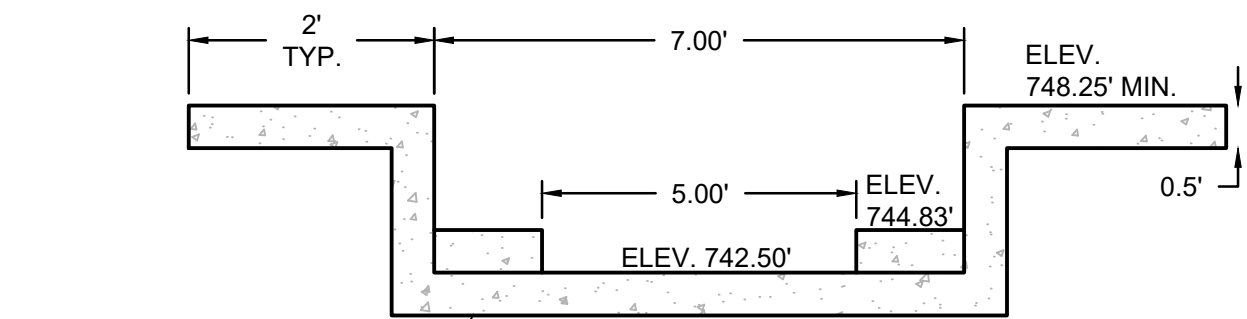
NOT TO SCALE

DETENTION NOTES:

- SOILS FOR EMBANKMENT SHALL BE PLACED AS DIRECTED WITHIN PROJECT GEOTECHNICAL REPORT AND ALL CURRENT ADDENDA.
- CONTRACTOR SHALL NOT EXCEED 3H:1V SLOPE. BARE SOILS SHALL BE SEEDED OR STABILIZED BY OTHER MEANS WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS. EROSION CONTROL MATS OR BLANKETS MAY BE INSTALLED TO PROTECT THE DISTURBED AREA BEFORE VEGETATION IS ESTABLISHED.
- THE EMBANKMENT SHALL CONSIST OF NATIVE MATERIALS FREE OF LARGE ROCKS (6" DIAMETER) AND ORGANIC MATERIALS. THE TOP 3" SHALL BE SUITABLE TOP SOIL TO ESTABLISH VEGETATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DIVERTING STORMWATER DURING CONSTRUCTION OF DETENTION POND. CONTRACTOR SHALL DEWATER POND AS NECESSARY THROUGHOUT CONSTRUCTION OF THE DETENTION AND OUTLET FACILITIES.
- PER CITY DRAINAGE REQUIREMENTS, 1' FREEBOARD REQUIRED.

STORMWATER DISCHARGE - AP1					
STORM EVENT	PREDEVELOPMENT Q (cfs)	POSTDEVELOPMENT Q (cfs)	POSTDEVELOPMENT Q (cfs)	NET CHANGE (cfs)	
		PRE-DETENTION	POST-DETENTION	PRE-DETENTION	POST-DETENTION
2YR	58.80	80.28	55.21	21.48	-3.59
5YR	92.37	121.14	86.12	28.77	-6.25
10YR	126.63	161.71	119.70	35.08	-6.93
25YR	179.95	224.15	171.64	44.20	-8.31
50YR	227.72	279.75	217.77	52.03	-9.95
100YR	282.48	343.36	271.58	60.88	-10.90

POND OUTLET DESIGN			
STORM EVENT	DISCHARGE (CFS)	ELEVATION (FT)	FREEBOARD
2YR	55.21	744.72	3.53
5YR	86.12	745.42	2.83
10YR	119.70	746.04	2.21
25YR	171.64	746.87	1.38
50YR	217.77	747.54	0.71
100YR	271.58	748.25	0.00



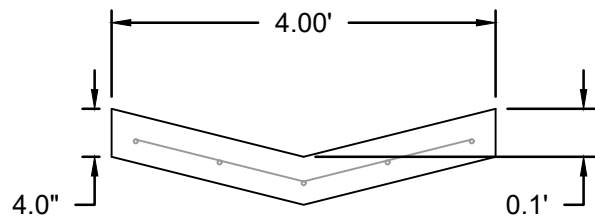
OUTFALL DETAIL
(PROFILE)

NOT TO SCALE

CONCRETE APRON
W/ REBAR REINFORCEMENT
(SEE NOTES)

CONCRETE APRON NOTES:

- CONCRETE APRON SHALL BE 4,000 PSI OR AS APPROVED BY CITY ENGINEER.
- REBAR REINFORCEMENT PLACEMENT SHALL BE #4 BARS @ 12" O.C.E.W. WITH EMBEDMENT OF 4".
- CONCRETE APRON SHALL BE INSTALLED WITH WEAKENED JOINTS AND EXPANSION JOINTS AT A SPACING NOT TO EXCEED 12' SQUARE. WEAKENED AND EXPANSION JOINTS SHALL BE PER CITY STANDARDS AND REQUIREMENTS (SEE SIDEWALK DETAILS).



CONCRETE PILOT
CHANNEL DETAIL

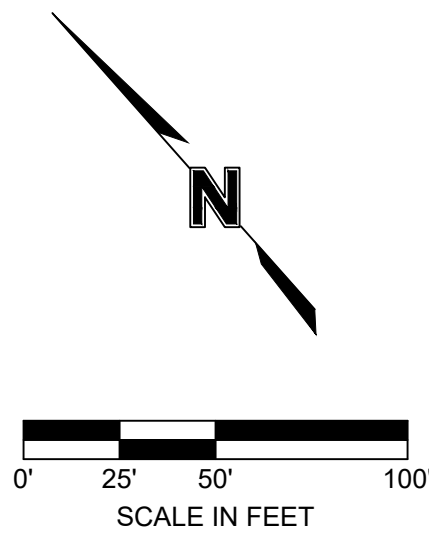
NOT TO SCALE

NOTES:

- CONCRETE APRON SHALL BE 4,000 PSI OR AS APPROVED BY CITY ENGINEER.
- REBAR REINFORCEMENT PLACEMENT 6X6 WELDED WIRE MESH.
- CONCRETE APRON SHALL BE INSTALLED WITH WEAKENED JOINTS AND EXPANSION JOINTS AT A SPACING NOT TO EXCEED 13' SQUARE. WEAKENED AND EXPANSION JOINTS SHALL BE PER CITY STANDARDS AND REQUIREMENTS (SEE SIDEWALK DETAILS).
- 100 - YR FLOW RATE VELOCITY AT EXIT 3.66 FT/S. EXIT VELOCITY FROM WEIR IS NON-EROSIVE FOR GRASSES.

NOTES:

- EXISTING UTILITIES IN APPROXIMATE LOCATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE TEXAS ONE CALL CENTER PRIOR TO THE STATE OF ANY CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
- ALL UTILITY SYMBOLS SHOWN REPRESENT APPROXIMATE LOCATIONS UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE APPROPRIATE AGENCY'S STANDARD SPECIFICATIONS AND INSTALLATION DETAILS FOR ACTUAL LOCATIONS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- UPON COMPLETION OF THE PROPOSED STORMWATER DETENTION AND/OR WATER QUALITY STRUCTURAL CONTROL(S), AND PRIOR TO THE RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY BY THE PERMIT CENTER, THE DESIGN ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED STRUCTURAL CONTROL(S) WAS INSPECTED (INCLUDING DATE AND TIME OF THE INSPECTION) AND CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS.
- ANY SUCH STRUCTURAL CONTROL(S) BUILT WITHIN THE CITY OF SAN MARCOS MUST MAINTAIN COMPLIANCE WITH THE CITY'S MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) AND APPLICABLE MS4 ORDINANCES. PRIOR TO RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY, A CITY EASEMENT MUST BE SHOWN AROUND ALL STRUCTURAL CONTROLS INCLUDING A MAINTENANCE COVENANT WITHIN THE CITY LIMITS.



LEGEND

---	PROPERTY LINE
---	RIGHT OF WAY
P-OH	EXISTING OVERHEAD POWER
UGE	EXISTING UNDERGROUND POWER
T	EXISTING TELEPHONE CONDUIT
CATV	EXISTING CABLE TELEVISION CONDUIT
FO	EXISTING FIBER OPTIC CONDUIT
G	EXISTING NATURAL GAS SERVICE
FP	EXISTING FIRE PROTECTION SERVICE
W	EXISTING WATER SERVICE
SS	EXISTING SANITARY SEWER
SD	EXISTING ROOF DRAINS AND HEADER PIPES
---	EXISTING STORM SEWER
-610-	EXISTING MAJOR CONTOUR
-611-	EXISTING MINOR CONTOUR
610	PROPOSED MAJOR CONTOUR
611	PROPOSED MINOR CONTOUR
---	PROPOSED LOT LINE
---	PROPOSED CENTERLINE
---	PROPOSED BUILDING SETBACK LINE
---	PROPOSED EASEMENT LINE
---	INSTALL CURB & GUTTER
---	DRAINAGE AREA
---	TIME OF CONCENTRATION PATH
---	PROPOSED LIGHT DUTY ASPHALT
---	PROPOSED HEAVY DUTY ASPHALT
---	PROPOSED CONCRETE PAVEMENT/ASPHALT
---	PROPOSED BUILDING

SPOT ELEVATION LEGEND

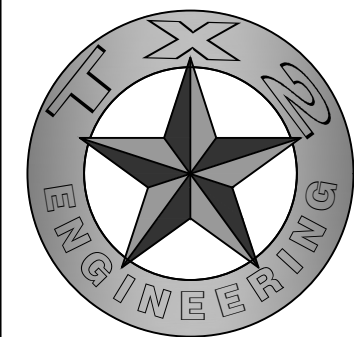
GR = FINISHED GRADE
TC = TOP OF CURB AT BACK EDGE
TP = TOP OF PAVEMENT
LFG = LOW FINISHED GRADE
HFG = HIGH FINISHED GRADE
M/E = MATCH EXISTING

KEYNOTES

- DETENTION POND
- OUTFALL STRUCTURE (SEE DETAILS THIS SHEET)
- ROCK RIP RAP (D₅₀=6")
- CONCRETE PILOT CHANNEL

WARNING - OVERHEAD POWER LINES

CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF OVERHEAD POWER LINES.



TX2 ENGINEERING
FIRM #: 20787

CONTACT:

645 FLORAL AVE, STE C
NEW BRAUNFELS, TX 78130

TEL: (830) 327-1235

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PROPOSED DETENTION PLAN

WESTRIDGE SINGLE FAMILY
6821 FM 1102
NEW BRAUNFELS, TX 78132

YR: 2025

REVISIONS

BY

DESCRIPTION

DATE

REV.

DRAWN BY: TNT

QA/QC BY: TNT

PROJECT NO.: ###-###

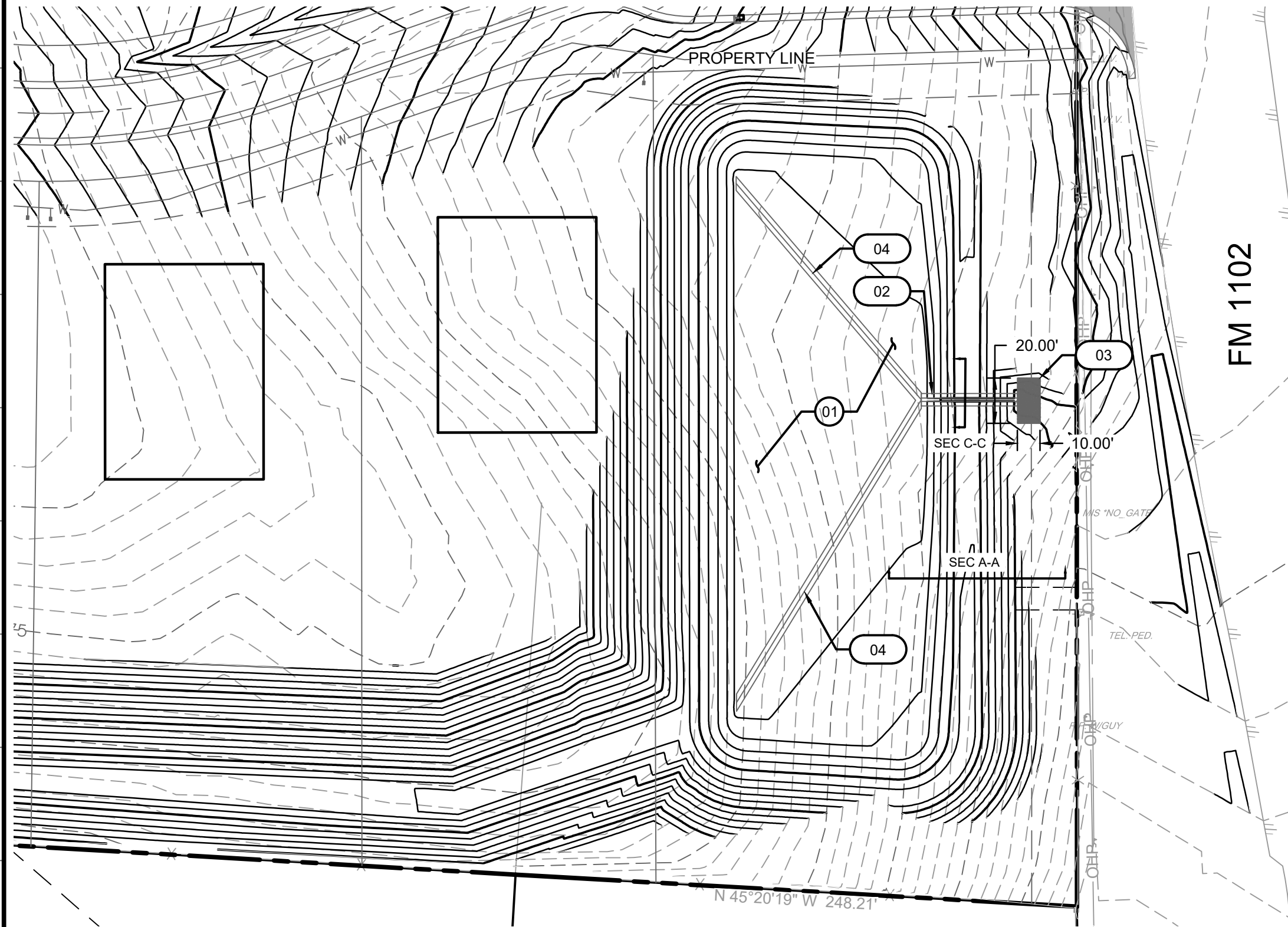
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KNOW WHAT'S BELOW.
811 BEFORE YOU DIG.

T6.4

SHEET

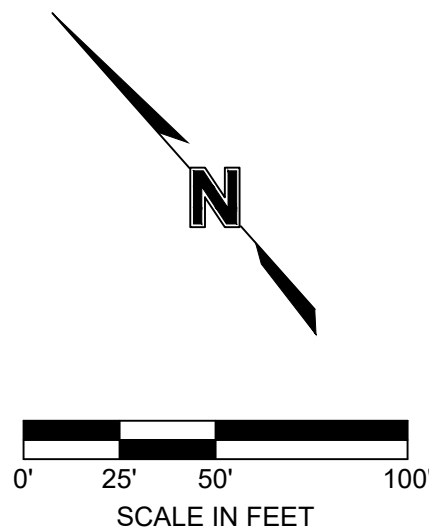


DETENTION NOTES:

- SOILS FOR EMBANKMENT SHALL BE PLACED AS DIRECTED WITHIN PROJECT GEOTECHNICAL REPORT AND ALL CURRENT ADDENDA.
- CONTRACTOR SHALL NOT EXCEED 3H:1V SLOPE. BARE SOILS SHALL BE SEEDED OR STABILIZED BY OTHER MEANS WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS. EROSION CONTROL MATS OR BLANKETS MAY BE INSTALLED TO PROTECT THE DISTURBED AREA BEFORE VEGETATION IS ESTABLISHED.
- THE EMBANKMENT SHALL CONSIST OF NATIVE MATERIALS FREE OF LARGE ROCKS (6" DIAMETER) AND ORGANIC MATERIALS. THE TOP 3" SHALL BE SUITABLE TOP SOIL TO ESTABLISH VEGETATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DIVERTING STORMWATER DURING CONSTRUCTION OF DETENTION POND. CONTRACTOR SHALL DEWATER POND AS NECESSARY THROUGHOUT CONSTRUCTION OF THE DETENTION AND OUTLET FACILITIES.
- PER CITY DRAINAGE REQUIREMENTS, 1' FREEBOARD REQUIRED.

NOTES:

- EXISTING UTILITIES IN APPROXIMATE LOCATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE TEXAS ONE CALL CENTER PRIOR TO THE STATE OF ANY CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
- ALL UTILITY SYMBOLS SHOWN REPRESENT APPROXIMATE LOCATIONS UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE APPROPRIATE AGENCY'S STANDARD SPECIFICATIONS AND INSTALLATION DETAILS FOR ACTUAL LOCATIONS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- UPON COMPLETION OF THE PROPOSED STORMWATER DETENTION AND/OR WATER QUALITY STRUCTURAL CONTROL(S), AND PRIOR TO THE RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY BY THE PERMIT CENTER, THE DESIGN ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED STRUCTURAL CONTROL(S) WAS INSPECTED (INCLUDING DATE AND TIME OF THE INSPECTION) AND CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS.
- ANY SUCH STRUCTURAL CONTROL(S) BUILT WITHIN THE CITY OF SAN MARCOS MUST MAINTAIN COMPLIANCE WITH THE CITY'S MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) AND APPLICABLE MS4 ORDINANCES. PRIOR TO RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY, A CITY EASEMENT MUST BE SHOWN AROUND ALL STRUCTURAL CONTROLS INCLUDING A MAINTENANCE COVENANT WITHIN THE CITY LIMITS.



LEGEND

---	PROPERTY LINE
---	RIGHT OF WAY
P-OH	EXISTING OVERHEAD POWER
UGE	EXISTING UNDERGROUND POWER
T	EXISTING TELEPHONE CONDUIT
CATV	EXISTING CABLE TELEVISION CONDUIT
FO	EXISTING FIBER OPTIC CONDUIT
G	EXISTING NATURAL GAS SERVICE
FP	EXISTING FIRE PROTECTION SERVICE
W	EXISTING WATER SERVICE
SS	EXISTING SANITARY SEWER
SD	EXISTING ROOF DRAINS AND HEADER PIPES
---	EXISTING STORM SEWER
- - - - -610	EXISTING MAJOR CONTOUR
- - - - -611	EXISTING MINOR CONTOUR
610	PROPOSED MAJOR CONTOUR
611	PROPOSED MINOR CONTOUR
---	PROPOSED LOT LINE
---	PROPOSED CENTERLINE
- . - . - .	PROPOSED BUILDING SETBACK LINE
- - - - -	PROPOSED EASEMENT LINE
---	INSTALL CURB & GUTTER
---	DRAINAGE AREA
---	TIME OF CONCENTRATION PATH
---	PROPOSED LIGHT DUTY ASPHALT
---	PROPOSED HEAVY DUTY ASPHALT
---	PROPOSED CONCRETE PAVEMENT/ASPHALT
---	PROPOSED BUILDING

SPOT ELEVATION LEGEND

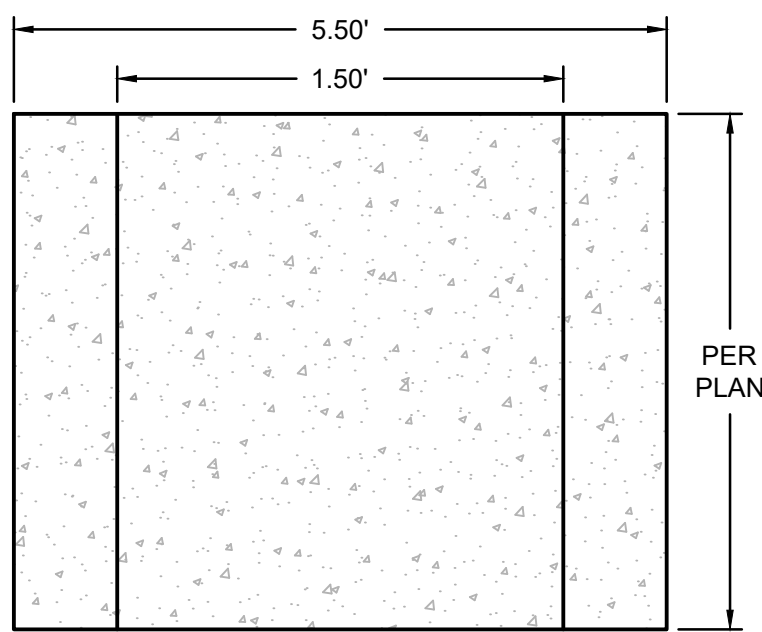
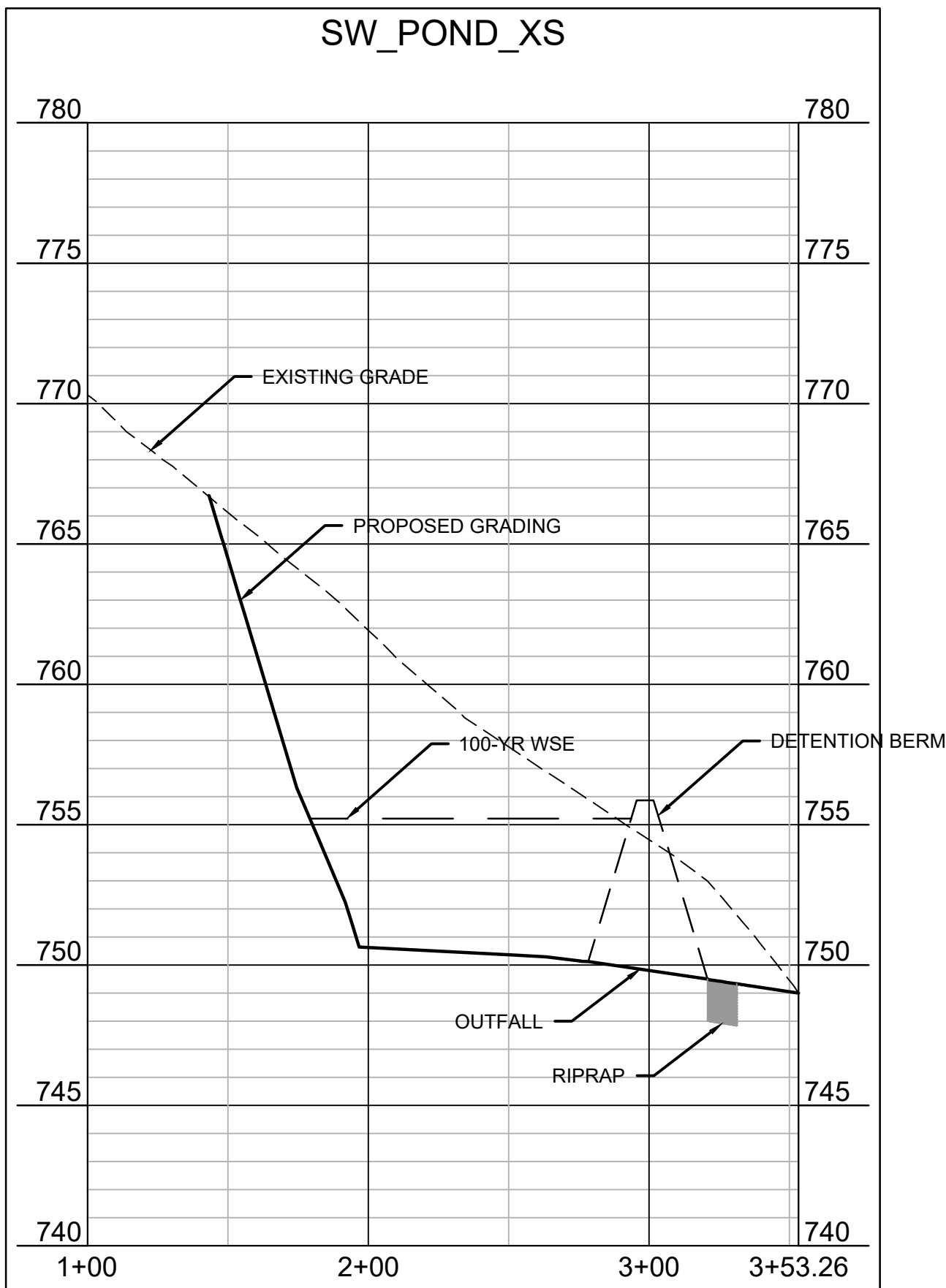
GR = FINISHED GRADE
TC = TOP OF CURB AT BACK EDGE
TP = TOP OF PAVEMENT
LFG = LOW FINISHED GRADE
HFG = HIGH FINISHED GRADE
M/E = MATCH EXISTING

KEYNOTES

- 01 DETENTION POND
02 OUTFALL STRUCTURE (SEE DETAILS THIS SHEET)
03 ROCK RIP RAP ($D_{50}=6"$)
04 CONCRETE PILOT CHANNEL

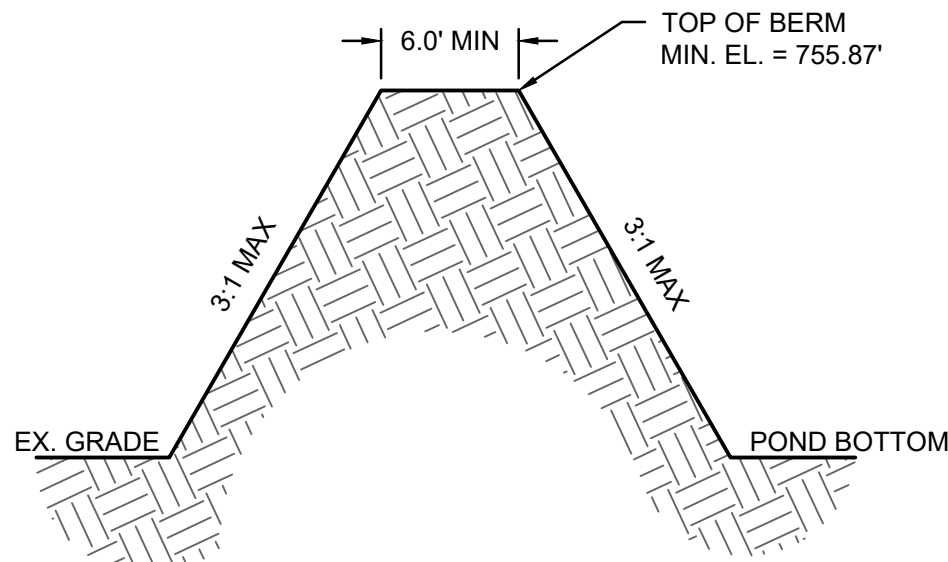
WARNING - OVERHEAD POWER LINES

CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF OVERHEAD POWER LINES.



OUTFALL DETAIL
(PLAN)

NOT TO SCALE

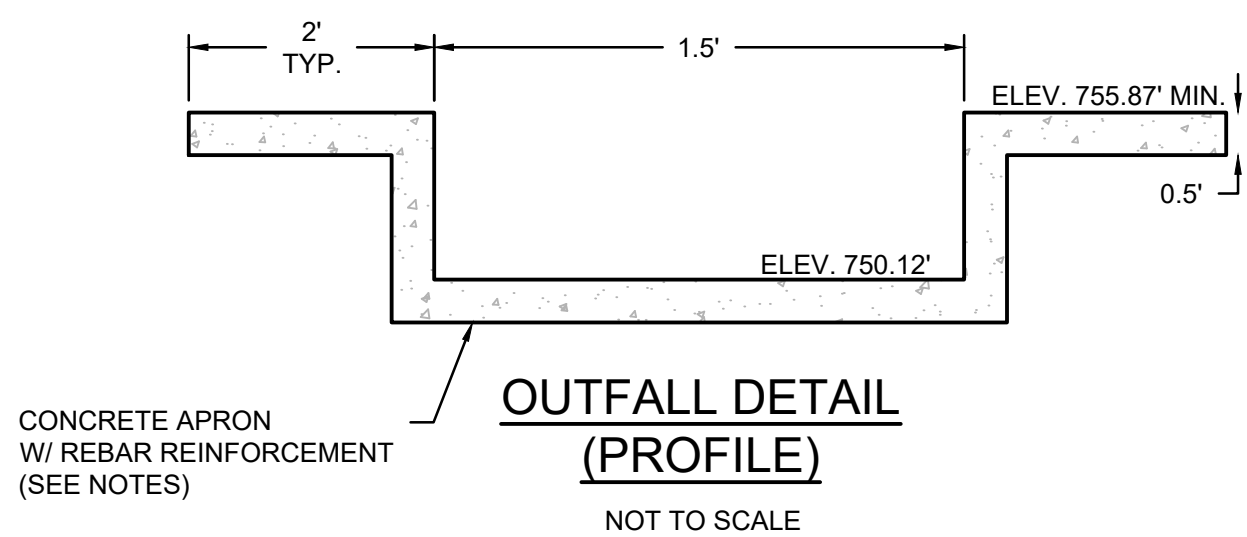


DETENTION BERM
SECTION A-A

NOT TO SCALE

STORMWATER DISCHARGE - AP3, AP4, AP5					
STORM EVENT	PREDEVELOPMENT Q (cfs)	POSTDEVELOPMENT Q (cfs)		NET CHANGE (cfs)	
		PRE-DETENTION	POST-DETENTION	PRE-DETENTION	POST-DETENTION
2YR	61.85	79.26	60.05	17.41	-1.80
5YR	97.49	119.09	90.66	21.60	-6.83
10YR	133.50	158.60	121.25	25.10	-12.25
25YR	189.51	219.41	168.91	29.90	-20.60
50YR	239.65	273.57	211.67	33.92	-27.98
100YR	297.11	335.53	260.79	38.42	-36.32

POND OUTLET DESIGN			
STORM EVENT	DISCHARGE (CFS)	ELEVATION (FT)	FREEBOARD
2YR	60.05	752.11	3.76
5YR	90.66	752.67	3.20
10YR	121.25	753.20	2.67
25YR	168.91	753.95	1.92
50YR	211.67	754.56	1.31
100YR	260.79	755.22	0.65

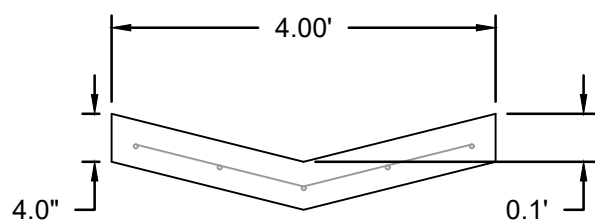


CONCRETE APRON
W/ REBAR REINFORCEMENT
(SEE NOTES)

OUTFALL DETAIL
(PROFILE)

NOT TO SCALE

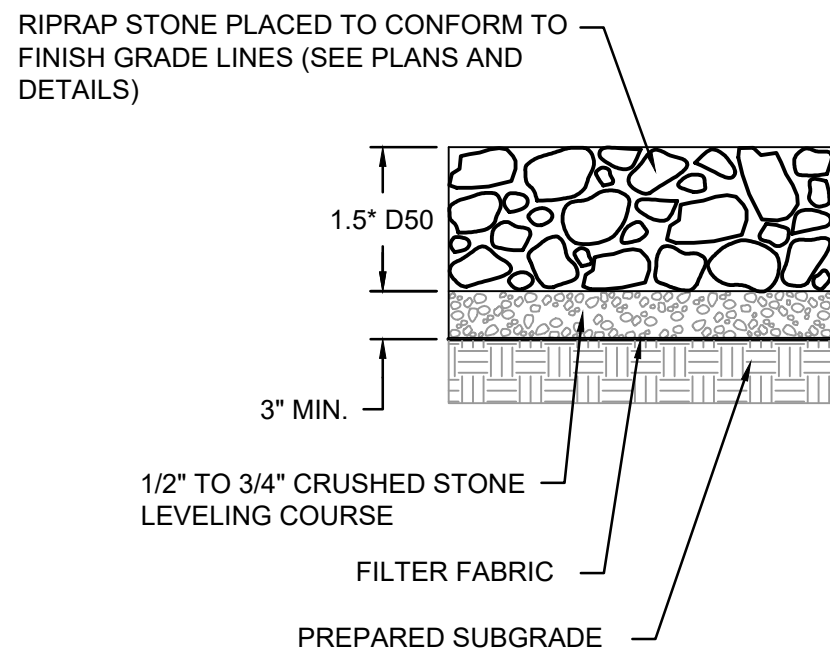
- CONCRETE APRON NOTES:
- CONCRETE APRON SHALL BE 4,000 PSI OR AS APPROVED BY CITY ENGINEER.
 - REBAR REINFORCEMENT PLACEMENT SHALL BE #4 BARS @ 12" O.C. E.W. WITH EMBEDMENT OF 4".
 - CONCRETE APRON SHALL BE INSTALLED WITH WEAKENED JOINTS AND EXPANSION JOINTS AT A SPACING NOT TO EXCEED 12' SQUARE. WEAKENED AND EXPANSION JOINTS SHALL BE PER CITY STANDARDS AND REQUIREMENTS (SEE SIDEWALK DETAILS).



CONCRETE PILOT
CHANNEL DETAIL

NOT TO SCALE

- NOTES:
- CONCRETE APRON SHALL BE 4,000 PSI OR AS APPROVED BY CITY ENGINEER.
 - REBAR REINFORCEMENT PLACEMENT 6X6 WELDED WIRE MESH.
 - CONCRETE APRON SHALL BE INSTALLED WITH WEAKENED JOINTS AND EXPANSION JOINTS AT A SPACING NOT TO EXCEED 13' SQUARE. WEAKENED AND EXPANSION JOINTS SHALL BE PER CITY STANDARDS AND REQUIREMENTS (SEE SIDEWALK DETAILS).
 - 100 - YR FLOW RATE VELOCITY AT EXIT 3.66 FT/S. EXIT VELOCITY FROM WEIR IS NON-EROSIVE FOR GRASSES.



RIPRAP NOTES

- STONE FOR RIPRAP SHALL CONSIST OF QUARRIED ROCK AND BE SOUND, DURABLE AND ANGULAR IN SHAPE.
- SHALE AND STONE WITH SHALE SEAMS ARE NOT ACCEPTABLE.
- STONES SHALL HAVE A MINIMUM THICKNESS OF 6", NO MORE THAN 10 PERCENT SHALL HAVE AN ELONGATION GREATER THAN 3:1, AT LEAST 60 PERCENT OF THE MASS SHALL BE OF PIECES HAVING A VOLUME OF ONE CUBIC FOOT. NO MORE THAN 6 PERCENT OF THE STONES SHALL WEIGH LESS THAN 10 POUNDS.

RIPRAP DETAIL

NOT TO SCALE



TX2 ENGINEERING
FIRM #: 20787

CONTACT:

645 FLORAL AVE, STE C
NEW BRAUNFELS, TX 78130

TEL: (830) 327-1235

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25 August 2025
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YR: 2025

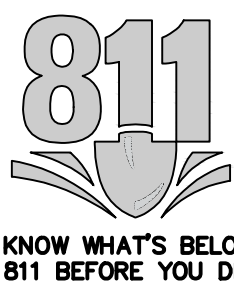
PROPOSED DETENTION PLAN

WESTRIDGE SINGLE FAMILY
6821 FM 1102
NEW BRAUNFELS, TX 78132

REVISIONS

BY
DATE
REV.

DRAWN BY: TNT
QA/QC BY: TNT
PROJECT NO.: ###-####
PERMIT #:

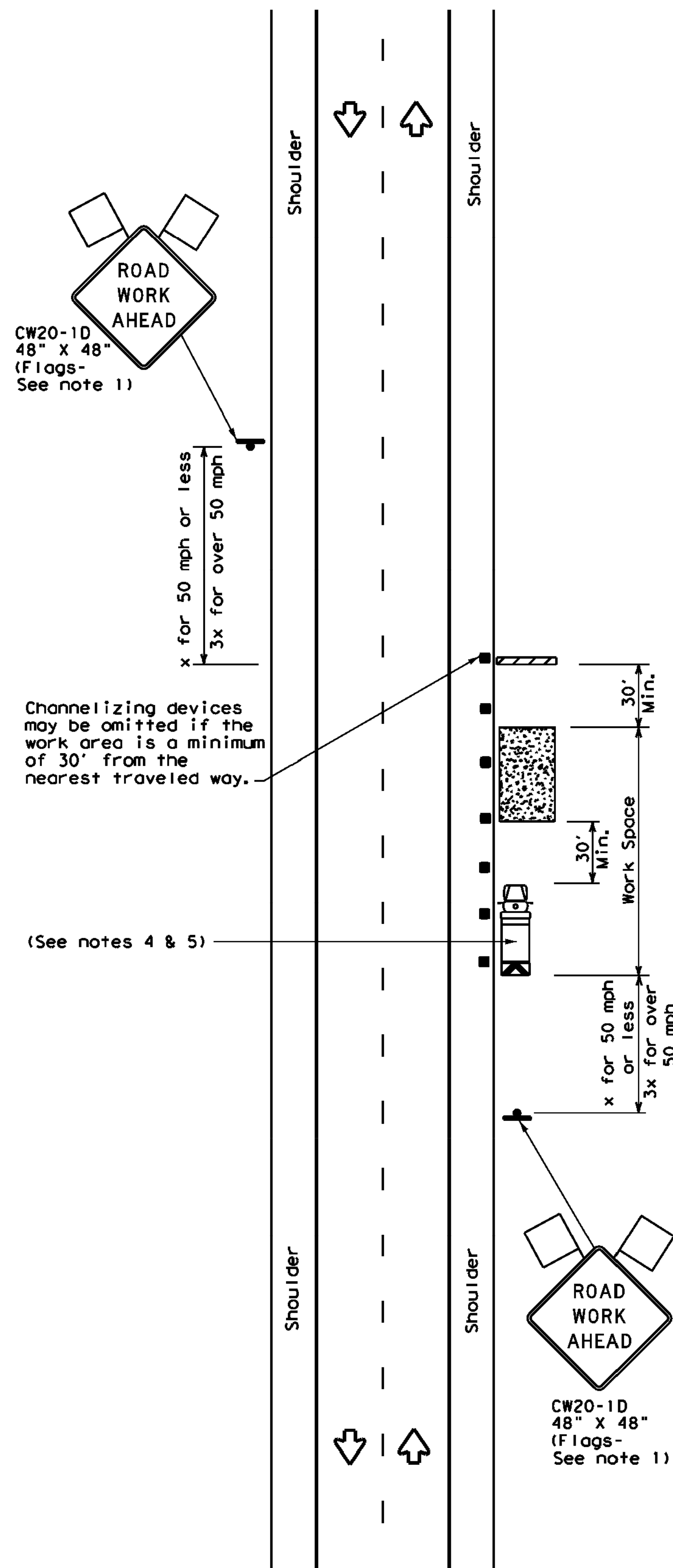


T6.5

SHEET

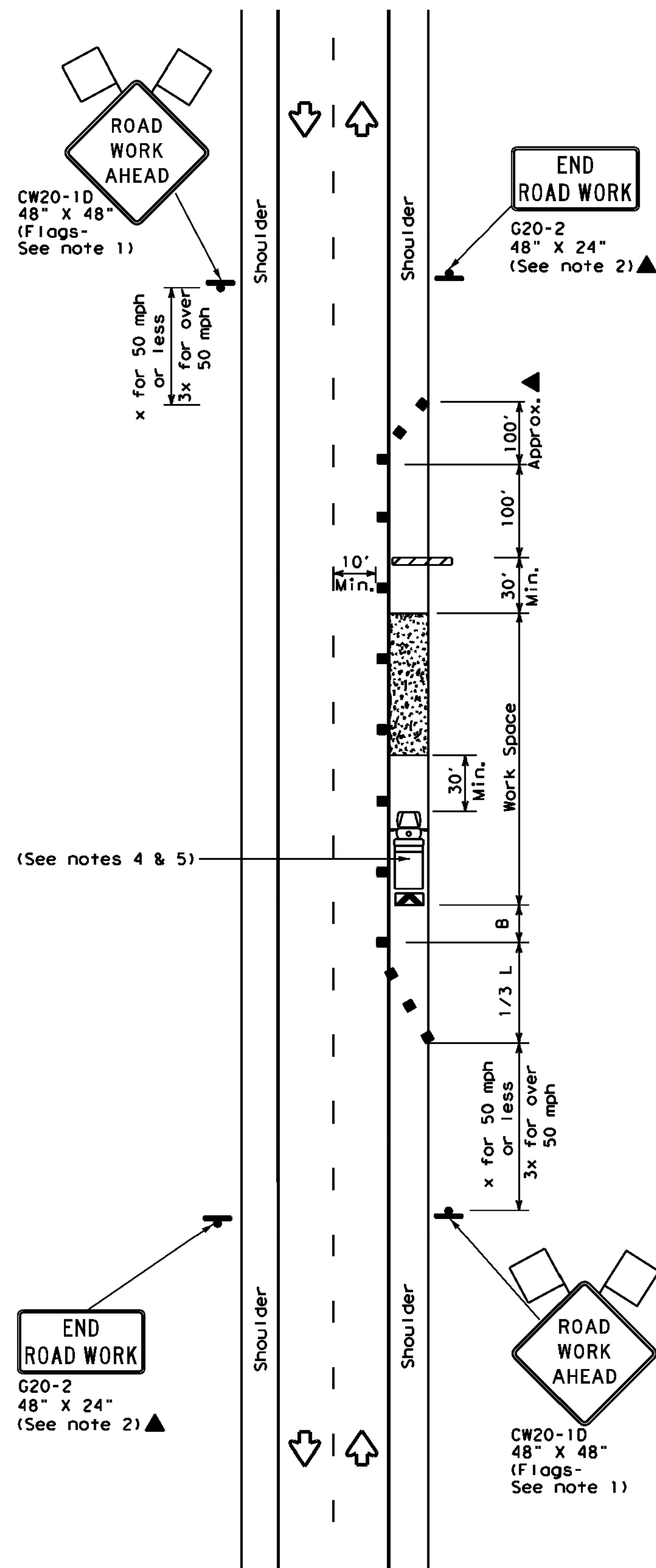
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DATE: FILE:



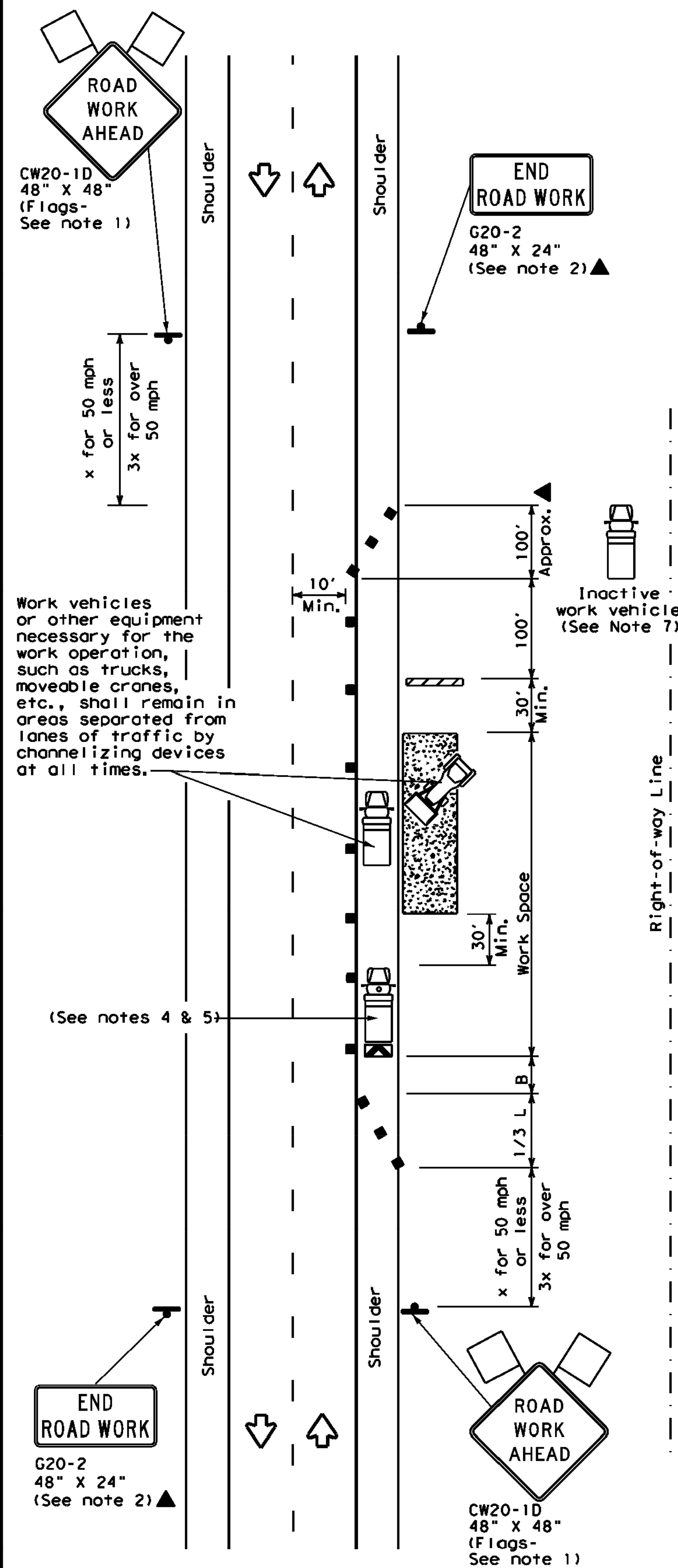
TCP (2-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (2-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (2-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS / 60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.

L = Length of Taper (FT) W = Width of Offset (FT) S = Posted Speed (MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	✓

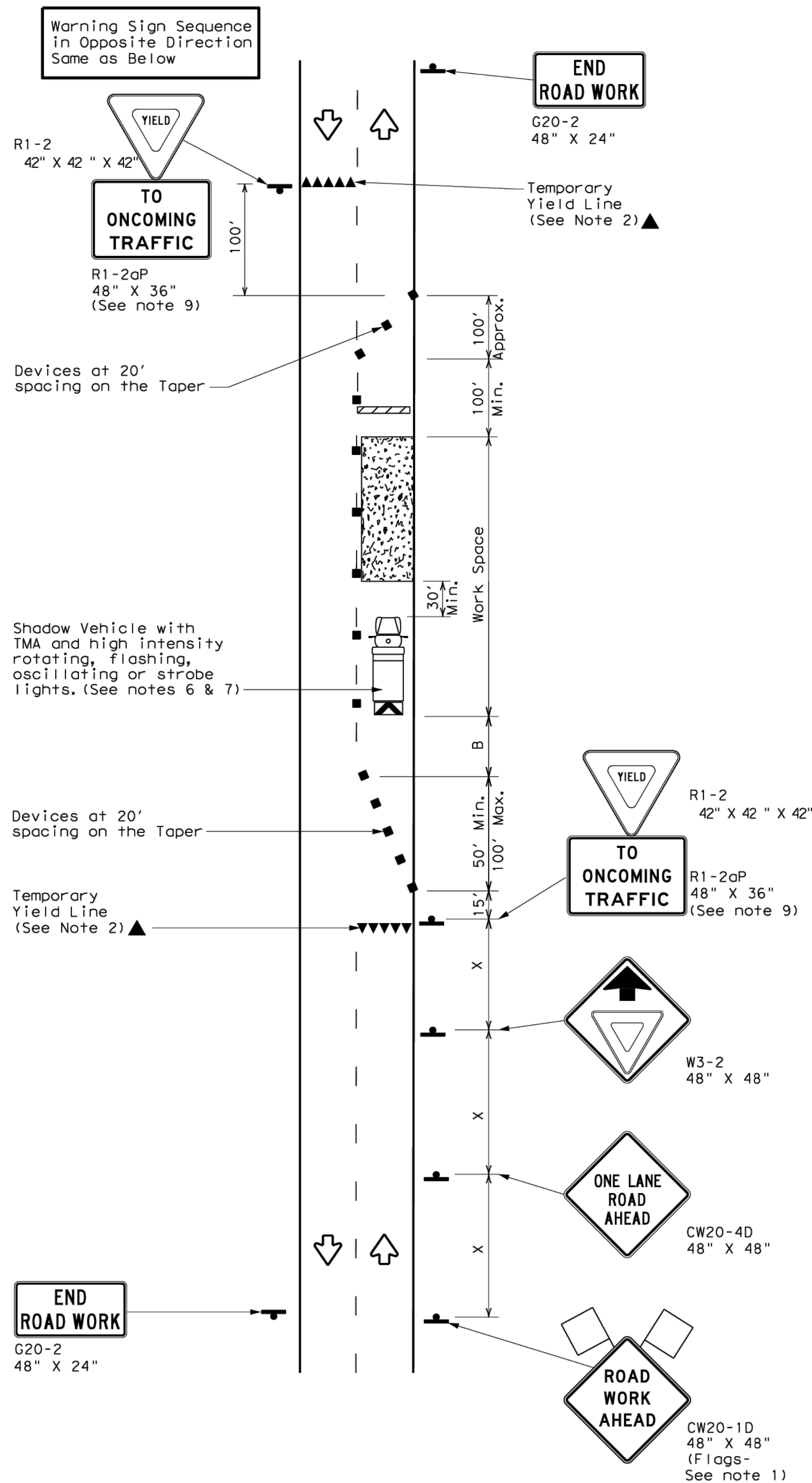
GENERAL NOTES

- Flags attached to signs where shown, are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
- Stockpiled material should be placed a minimum of 30 feet from nearest traveled way.
- Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
- See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
- Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
- CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

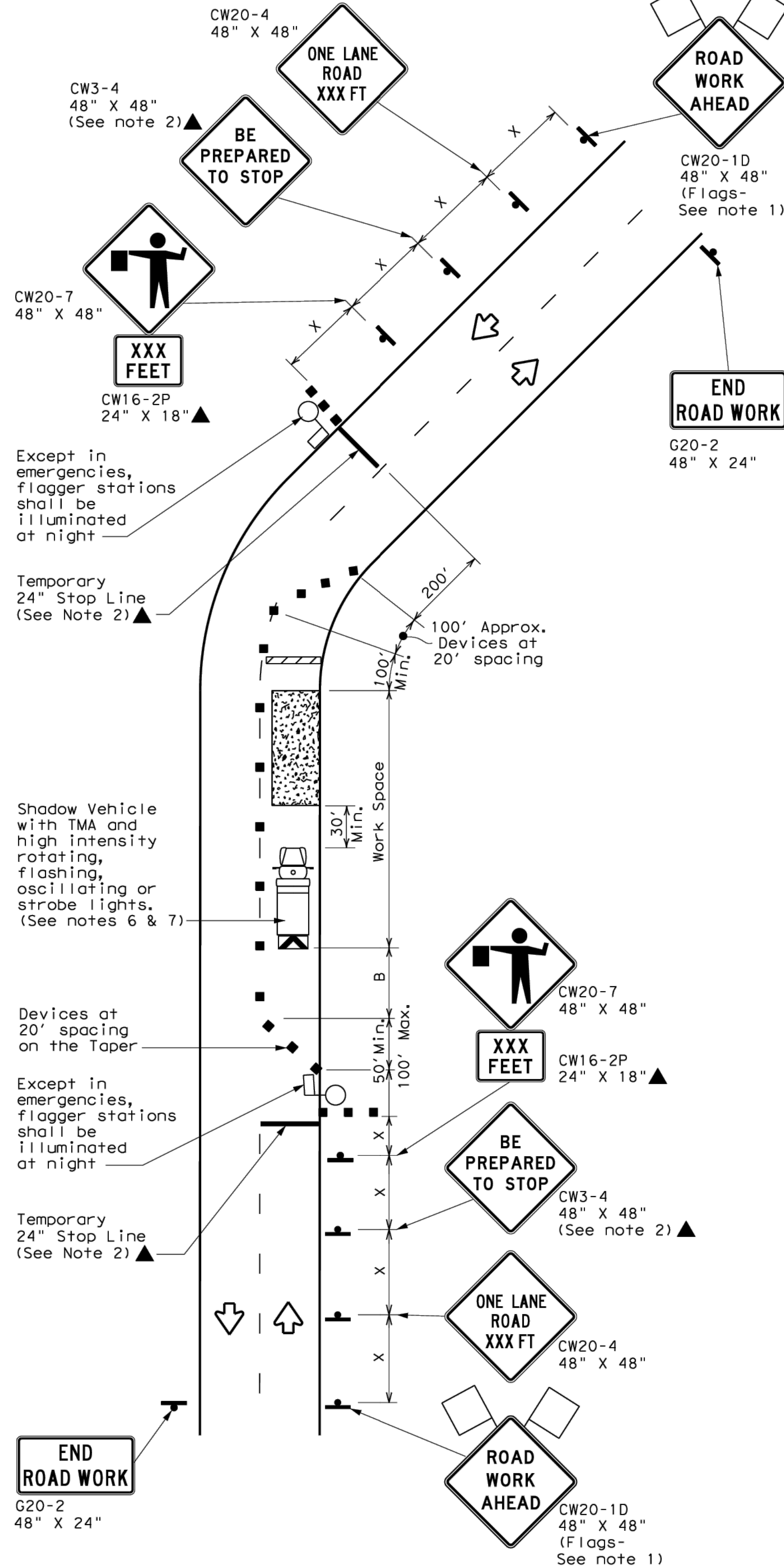
		Traffic Operations Division Standard	
TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK			
TCP (2-1) - 18			
FILE: tcp2-1-18.dgn	DN:	CK:	DW:
© TxDOT December 1985	CONT	SECT	JOB
REVISIONS		HIGHWAY	
2-94 4-98	DIST		COUNTY
8-95 2-12	SHEET NO.		
1-97 2-18			

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DATE: FILE:



TCP (2-2a)
2-LANE ROADWAY WITHOUT PAVED SHOULDER
ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See Note 9)



TCP (2-2b)
2-LANE ROADWAY WITHOUT PAVED SHOULDER
ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	L = $\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only

** Taper lengths have been rounded off.

L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

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

GENERAL NOTES

- Flags attached to signs where shown, are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
- Flaggers should use two-way radios or other methods of communication to control traffic.
- Length of work space should be based on the ability of flaggers to communicate.
- A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-2a)

- The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.
- The R1-2aP "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.

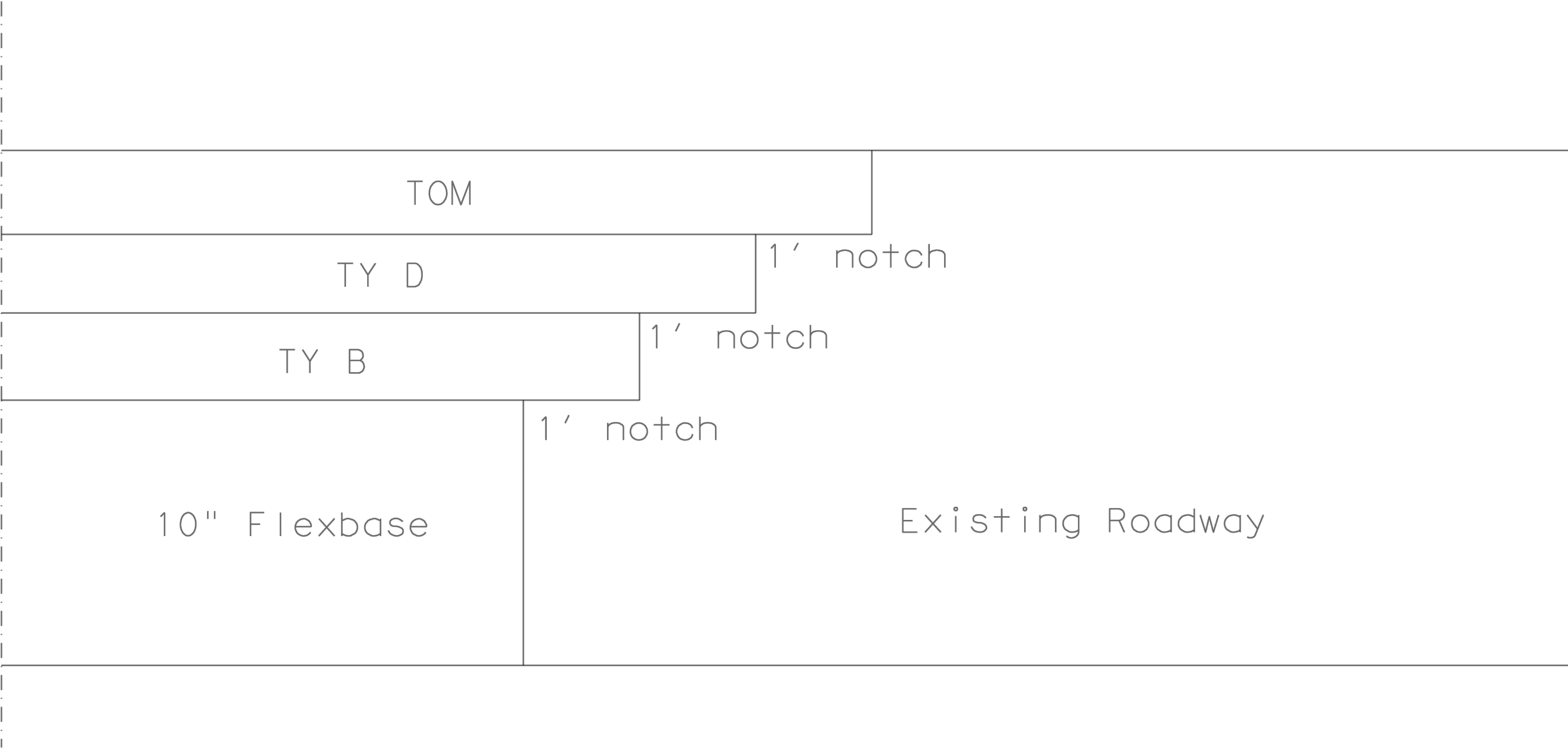
TCP (2-2b)

- Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
- If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
- Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

		Traffic Operations Division Standard							
TRAFFIC CONTROL PLAN									
ONE-LANE TWO-WAY									
TRAFFIC CONTROL									
TCP (2-2) - 18									
FILE#	tcp2-2-18.dgn	DN#	CK#	DW#	CK#				
© TxDOT	December 1985	CONT	SECT	JOB	HIGHWAY				
REVISIONS									
8-95	3-03								
1-97	2-12								
4-98	2-18								
		DIST	COUNTY	SHEET NO.					

DATE: \$DATE\$
FILE: \$FILES\$

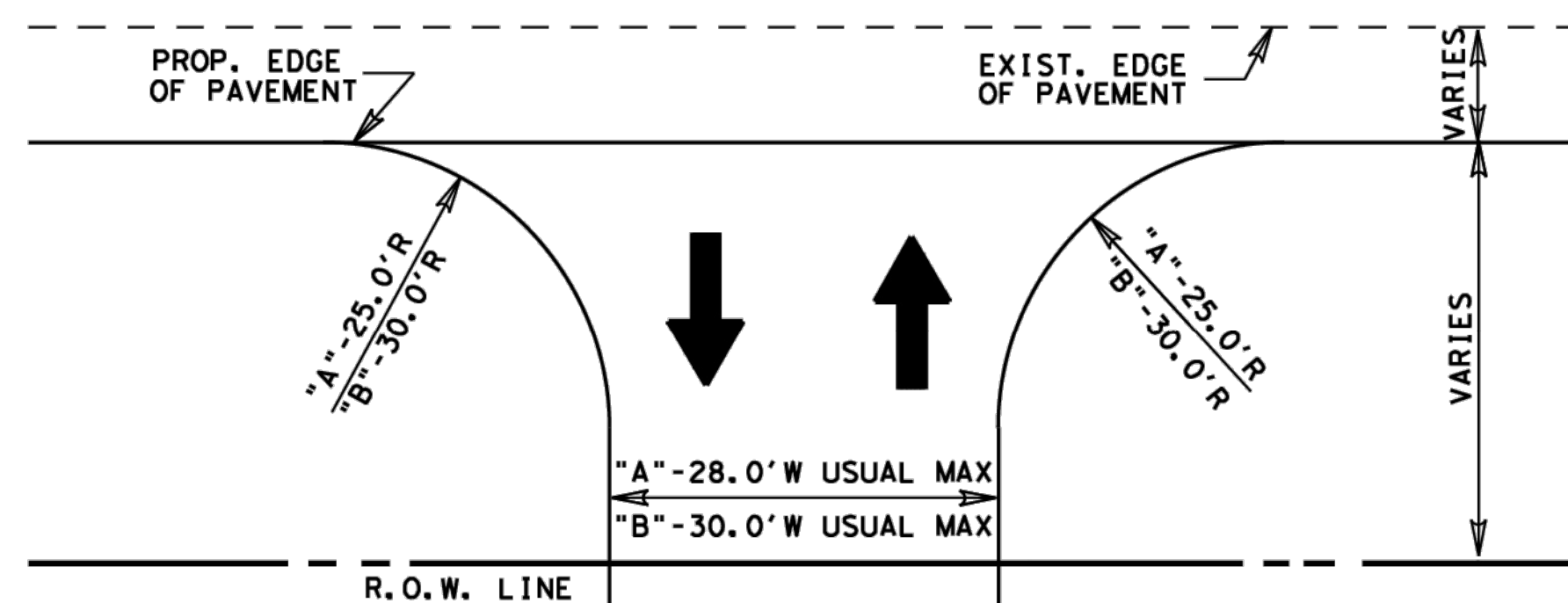
\$TIMES



- TOM Typical Section
-1" TOM-C PG 76-22
-Bonding Course
-Min 1.5" of TY D PG76-22
-Bonding Course
-Min 3" TY B PG64-22
-Prime
-10" Flexbase (or add 1" of additional TY B for every 2" of Base)(thus being 5" of additional TY B)
-Subgrade Treatment as needed or warranted by the Engineer on Record

Austin District South Travis Area Office				
 Texas Department of Transportation				
Notch Exhibit				
©	CONT	SECT	JOB	HIGHWAY
DS:	CK:			
DW:	CK:	DIST	COUNTY	SHEET NO.

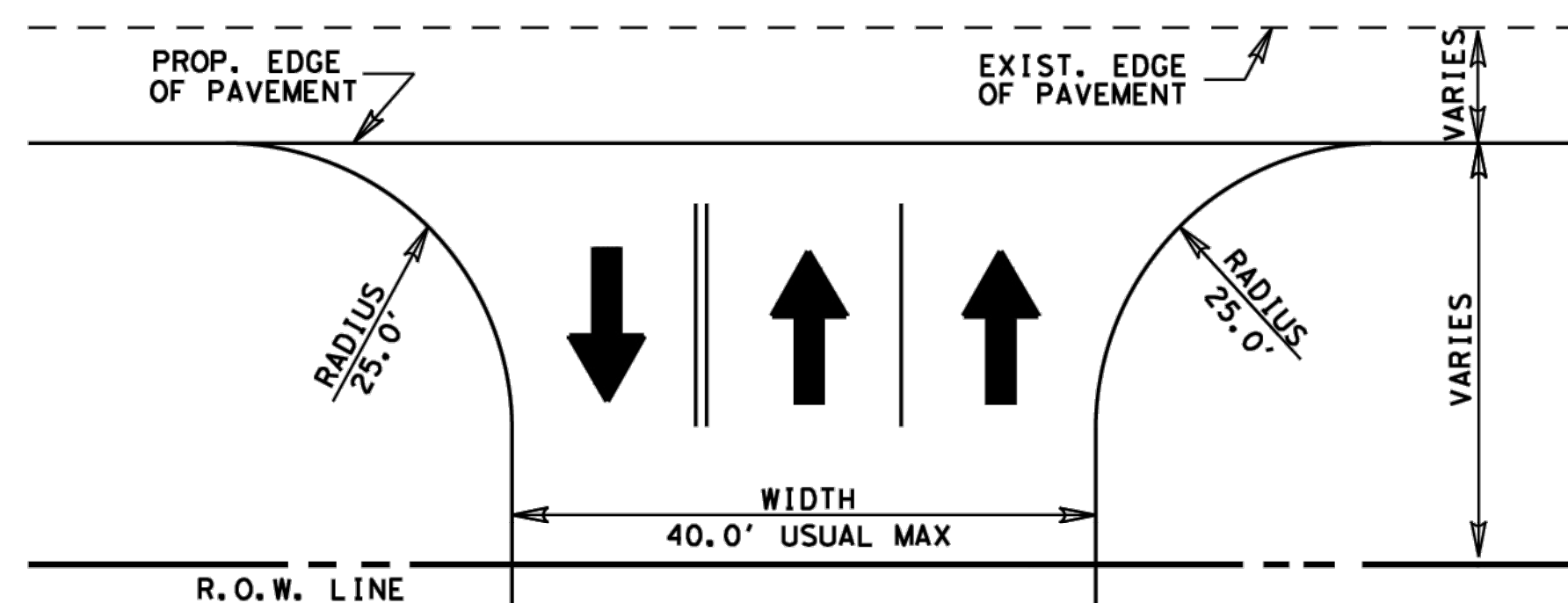
DESIGNS FOR TWO-WAY COMMERCIAL DRIVEWAYS



"A"- ONE ENTRY LANE AND ONE EXIT LANE, FEWER THAN 4 LARGE VEHICLES PER HOUR

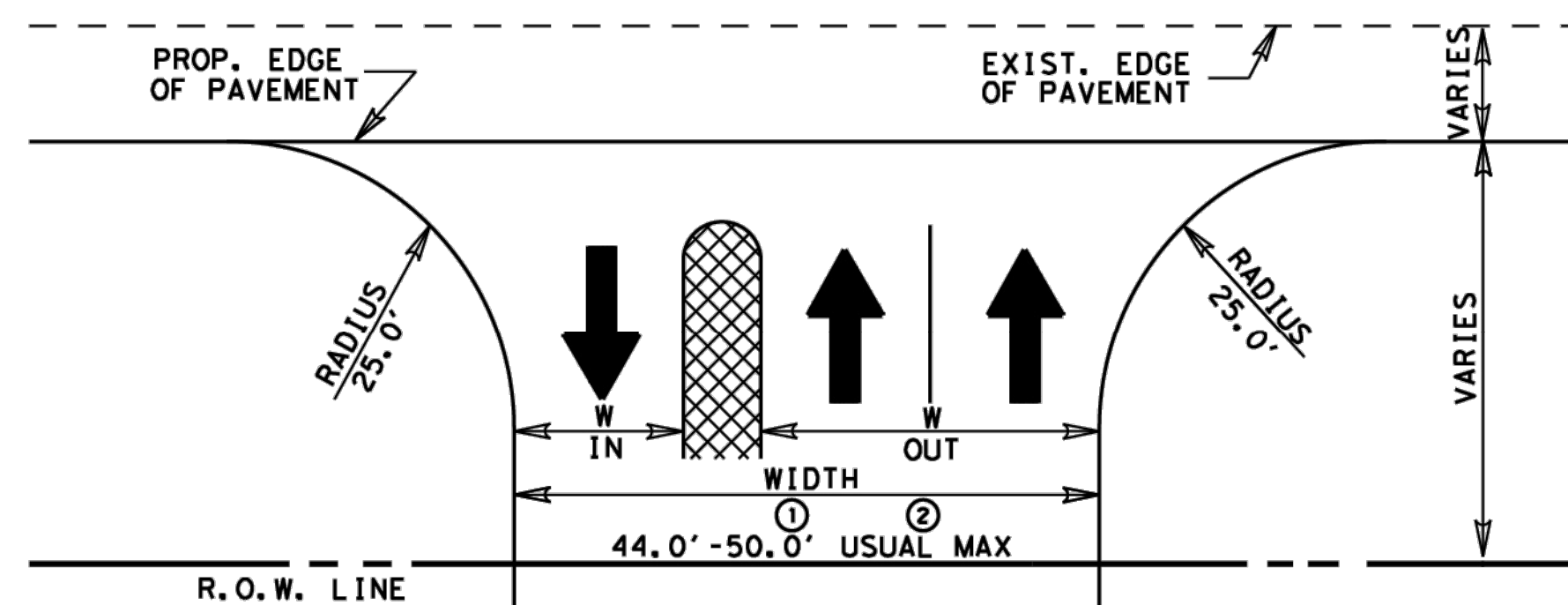
"B"- ONE ENTRY LANE AND ONE EXIT LANE, 4 OR MORE SINGLE UNIT VEHICLES^① PER HOUR

① - DRIVEWAY DESIGNS FOR LARGER VEHICLES WILL BE CONSIDERED ON A CASE BY CASE BASIS



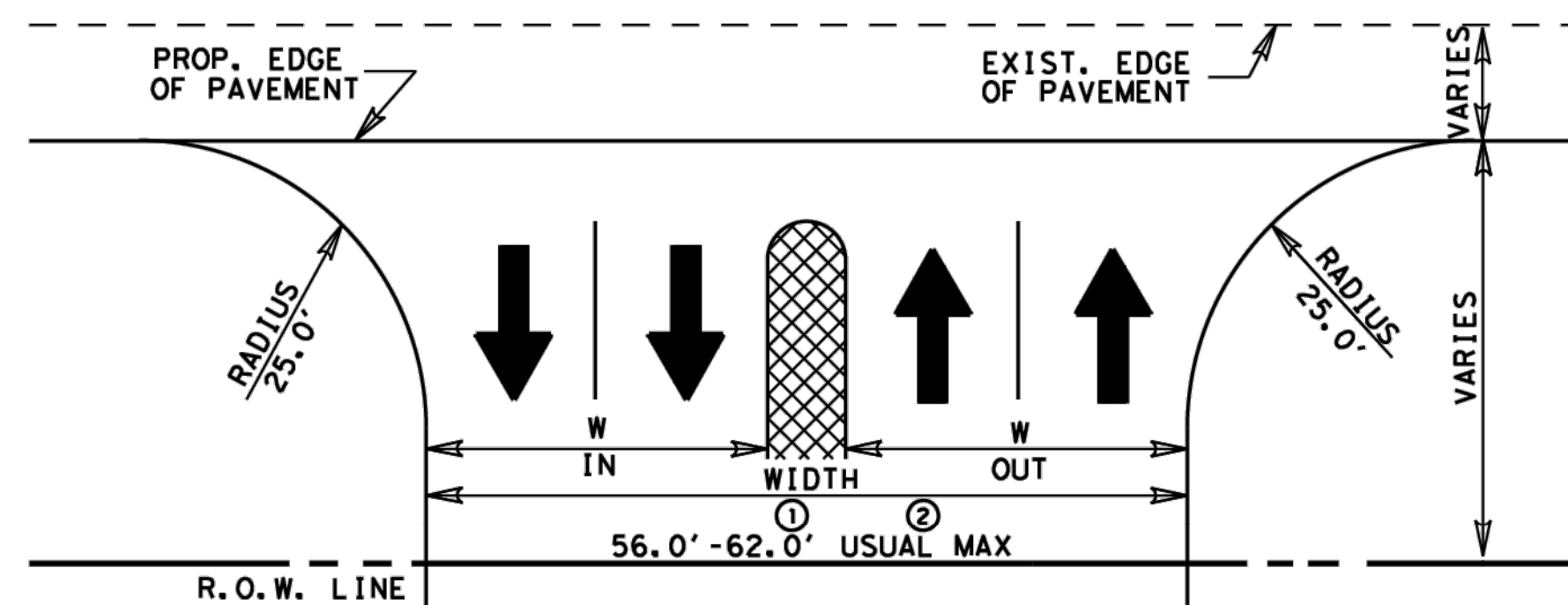
ONE ENTRY LANE AND TWO EXIT LANES (WITHOUT DIVIDERS)

DESIGNS FOR TWO-WAY COMMERCIAL DRIVEWAYS



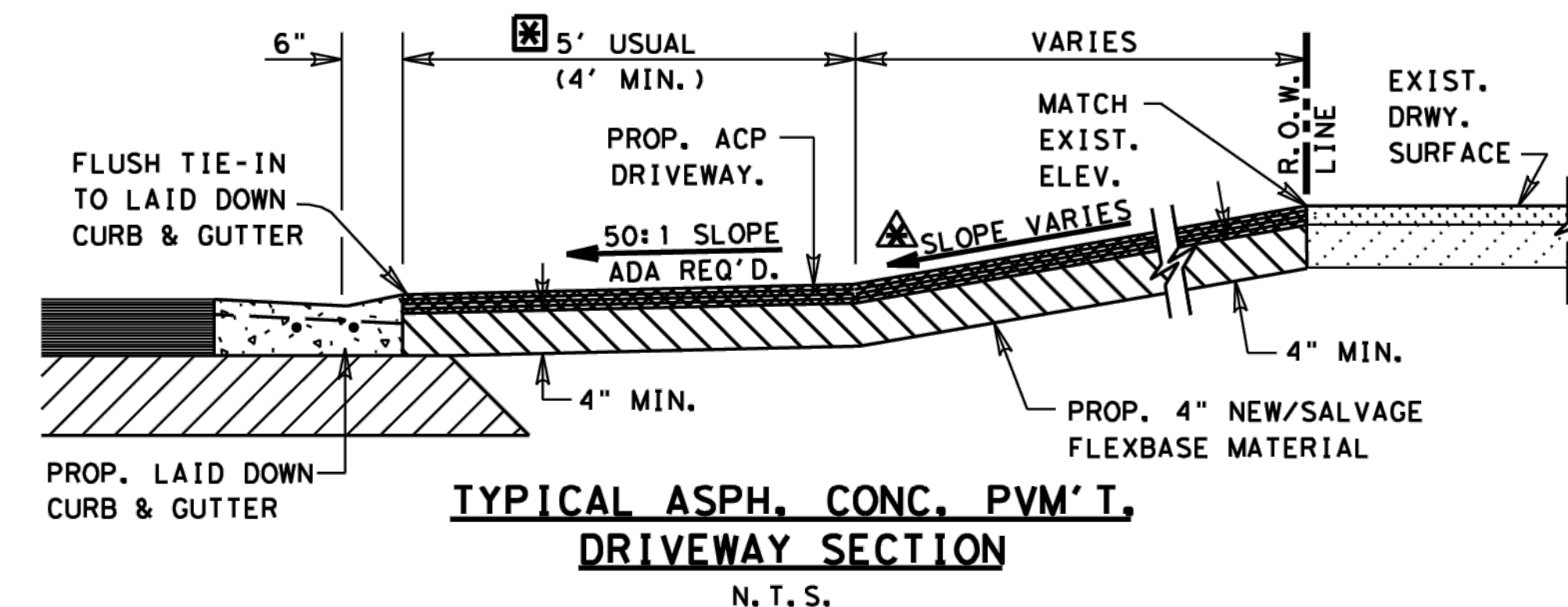
- ① - 4.0' WIDE DIVIDER, FACE-TO-FACE CURBS
② - 10.0' WIDE DIVIDER, FACE-TO-FACE CURBS

ONE ENTRY LANE AND TWO EXIT LANES (WITH A DIVIDER)



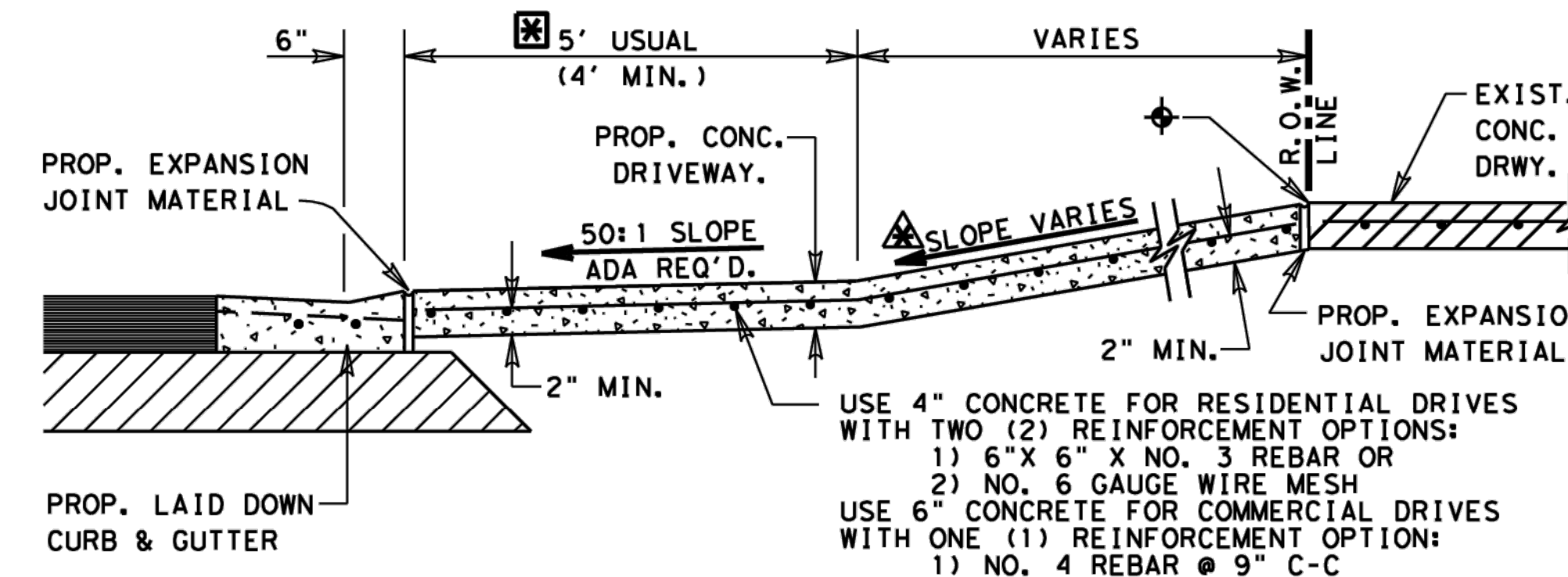
- ① - 4.0' WIDE DIVIDER, FACE-TO-FACE CURBS
② - 10.0' WIDE DIVIDER, FACE-TO-FACE CURBS

TWO ENTRY LANES AND TWO EXIT LANES (WITH A DIVIDER)



TYPICAL ASPH. CONC. PVM'T.
DRIVEWAY SECTION

N.T.S.



TYPICAL CONCRETE
DRIVEWAY SECTION

N.T.S.

CONCRETE SHALL BE SAW CUT TO THE LIMITS OF REMOVAL WHERE APPLICABLE.

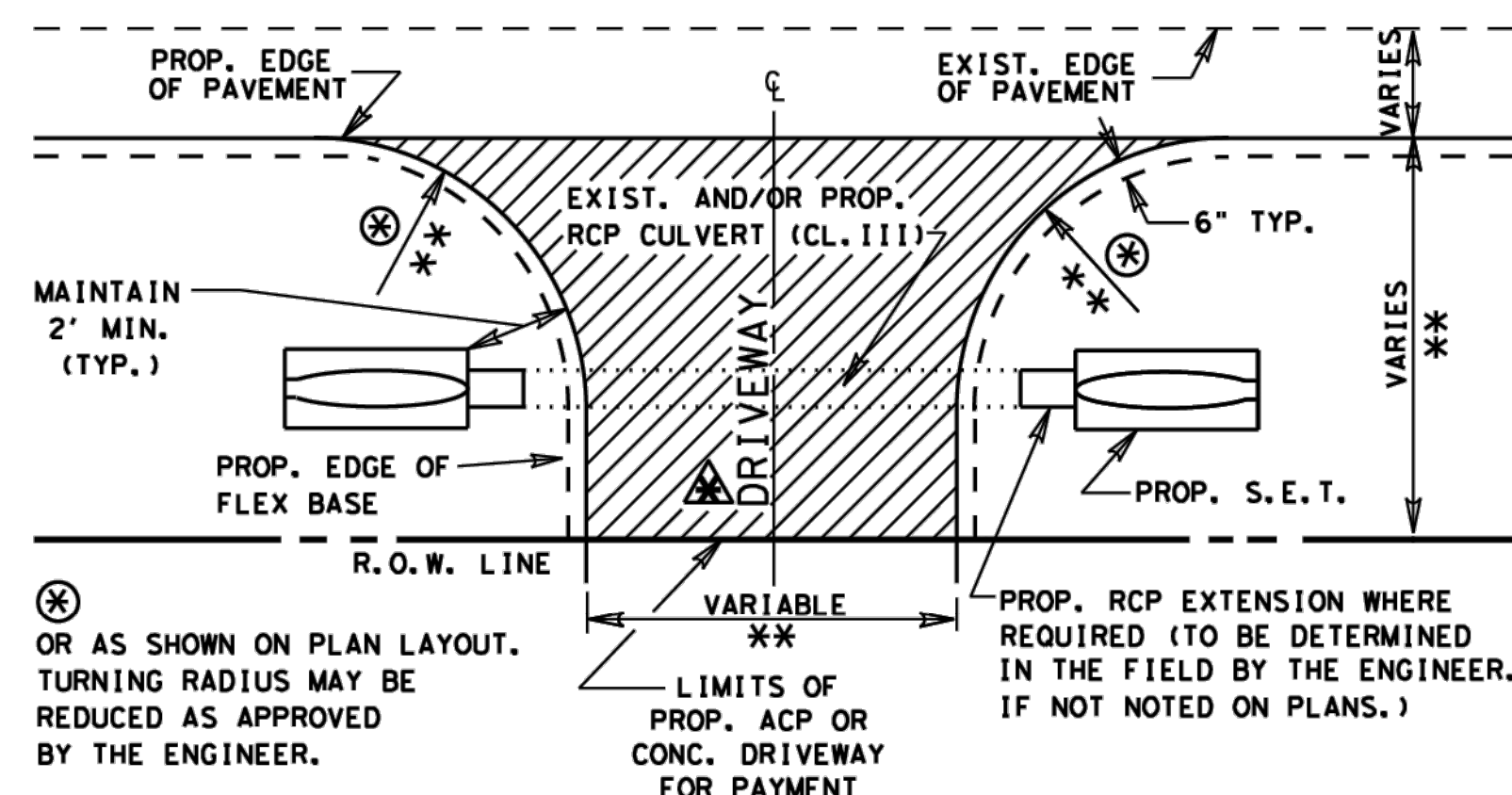
PROP./FUTURE SIDEWALK CROSSING LOCATION UNLESS SHOWN ELSEWHERE ON P&P SHEETS. SEE P&P SHEETS FOR PROP. SIDEWALK LOCATION IF SIDEWALKS ARE INCLUDED AS PART OF PROJECT. REFER TO STATE STANDARDS - PEDESTRIAN FACILITIES - FOR ADDITIONAL REQUIREMENTS.

ENTRANCE'S BASE AND SURFACING MAY BE EXTENDED BEYOND R.O.W. LINE AS REQUIRED TO MEET EXISTING GRADE IN A SATISFACTORY MANNER OF WHICH NO STEEPER THAN 12:1 FOR COMMERCIAL DRIVEWAY AND 8:1 FOR RESIDENTIAL DRIVEWAY SLOPE WILL BE CONSTRUCTED.

PROP. DWY ALGEBRAIC DIFFERENCE TABLE	
COMMERCIAL DRIVEWAYS @ A = 6% MAX.	
RESIDENTIAL DRIVEWAYS @ A = 8% MAX.	

PROPOSED DRIVEWAY SLOPE TABLE	
COMMERCIAL DRIVEWAYS @ 12:1 MAX.	
RESIDENTIAL DRIVEWAYS @ 8:1 MAX.	

PRIVATE AND COMMERCIAL DRIVES WITHOUT CURB & GUTTER

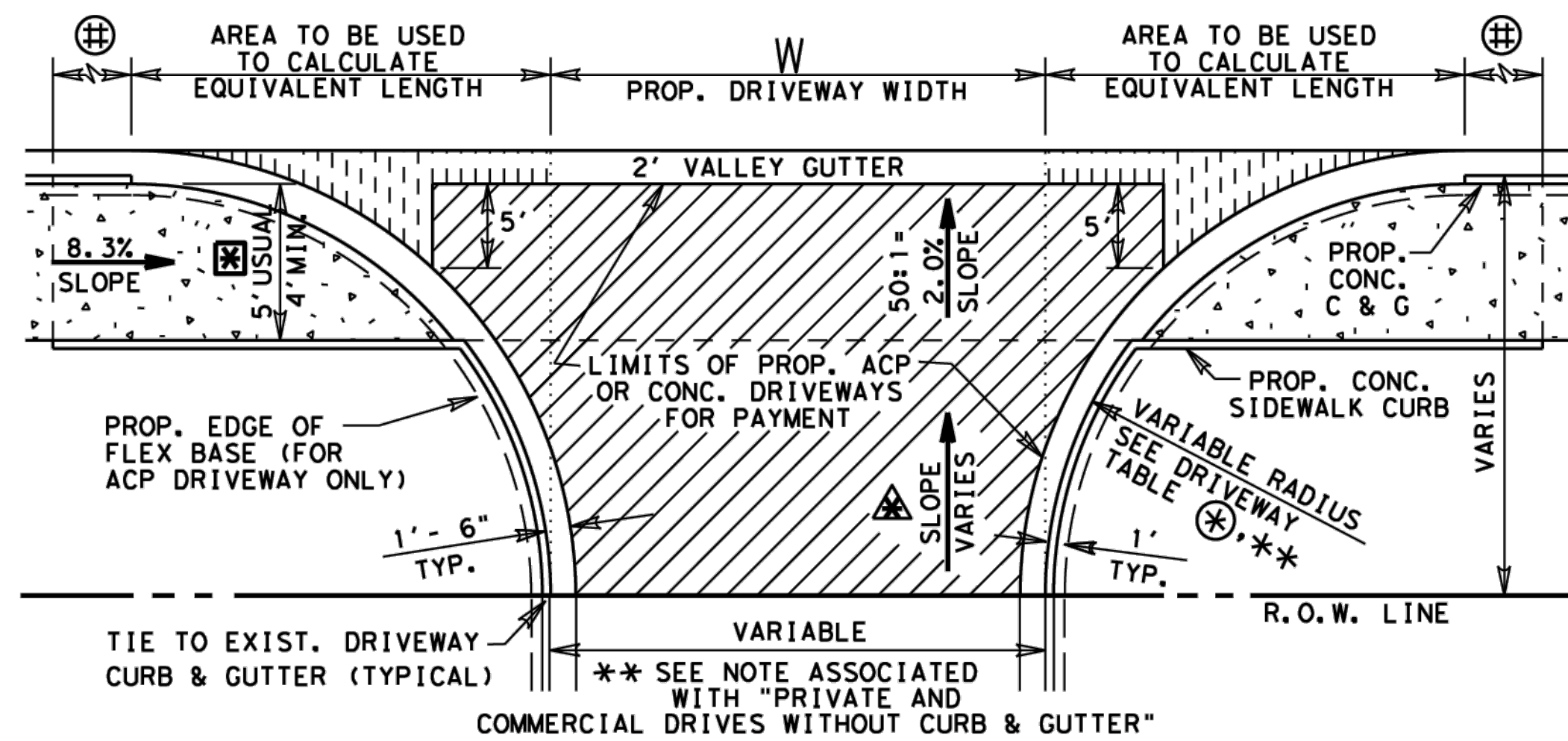


PLAN OF PRIVATE AND COMMERCIAL DRIVES

** FOR PRIVATE RESIDENTIAL DRIVES, TRY TO MATCH EXISTING WITH A MINIMUM WIDTH OF 12 FT. AND A MAXIMUM WIDTH OF 24 FT. WITH 15 FT. USUAL RADIUS. FOR COMMERCIAL DRIVES, USE ABOVE COMMERCIAL DRIVEWAY DETAILS.

SEE TYPICAL DRIVEWAY SECTIONS NOTES FOR DRIVEWAY SLOPE CRITERIA.

PRIVATE AND COMMERCIAL DRIVES WITH CURB & GUTTER



PLAN OF PRIVATE AND COMMERCIAL DRIVES

SEE P&P SHEETS FOR LOCATIONS OF DRIVES
N.T.S.

PROP./FUTURE CONC. SIDEWALK LOCATION UNLESS SHOWN ELSEWHERE ON P&P SHEETS. REFER TO STATE STANDARDS - PEDESTRIAN FACILITIES - FOR ADDITIONAL REQUIREMENTS.

LIMITS OF SLOPE FOR PROP. CONC. CURB BASED ON 8:3% SLOPE FOR SIDEWALK.

SEE TYPICAL DRIVEWAY SECTIONS NOTES FOR DRIVEWAY SLOPE CRITERIA.

LF EQUIVALENT TABLE FOR PAYMENT LIMITS OF 2' VALLEY GUTTER

LF OF VALLEY GUTTER = W + X1 + X2

WHERE X1 AND X2 MAY VARY DEPENDING ON RADIUS	
Prop. Driveway Radius	X1 or X2 (Sq Ft Area / 2') Equivalent LF Length
5'	1
8'	2
10'	4
12'	6
15'	9
18'	12
20'	15
22'	18
25'	24
28'	30
30'	34

SEE DRIVEWAY TABLE FOR LIMITS OF LAID DOWN CURB TO BE PAID FOR AS CURB AND GUTTER

DRIVEWAY TYPES

TY PB-1
EXIST. PRIVATE OR COMMERCIAL DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 4" NEW AND/OR SALVAGE FLEX. BASE, PRIMED AND SURFACED WITH 171#/SY ACP. (HMA-D PG 64-22 SAC B MEETING ITEM 340)

CONCRETE (RESIDENTIAL)
EXIST. PRIVATE DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 4" CONCRETE. TO BE PAID FOR BY THE SQ. YD.

CONCRETE (COMMERCIAL)
EXIST. BUSINESS DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 6" CONCRETE. TO BE PAID FOR BY THE SQ. YD.

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PHARR DISTRICT STANDARD

TEXAS DEPARTMENT OF TRANSPORTATION
DRIVEWAY DETAILS
PRIVATE
(RESIDENTIAL-COMMERCIAL)

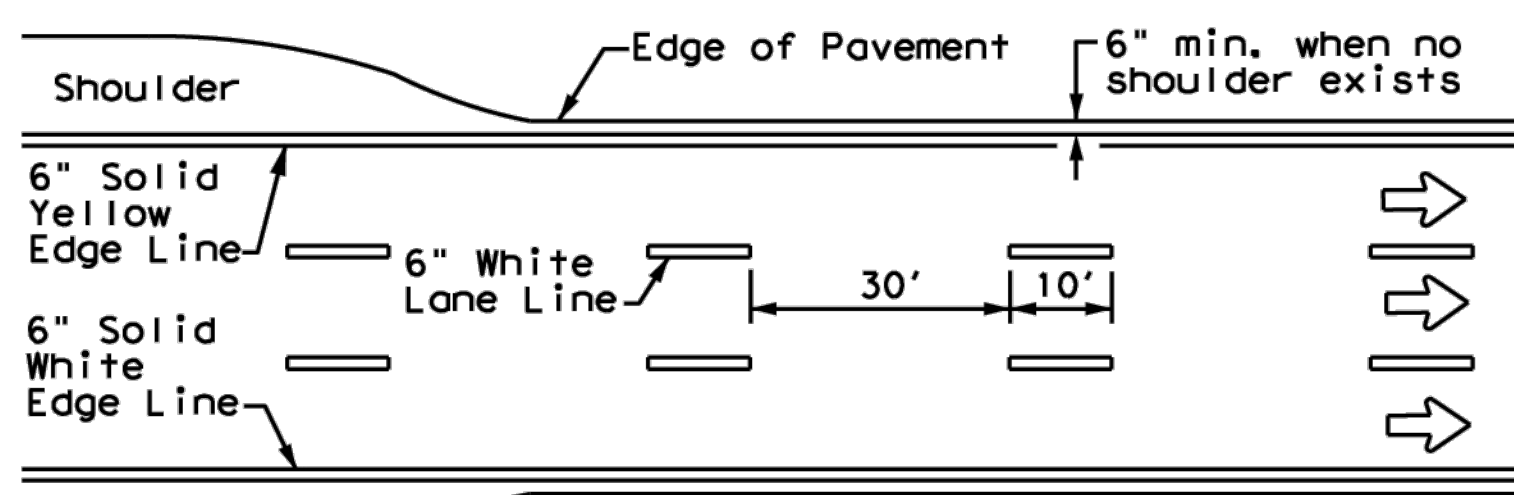
REV. 08/22

DRIVEWAY2.DGN

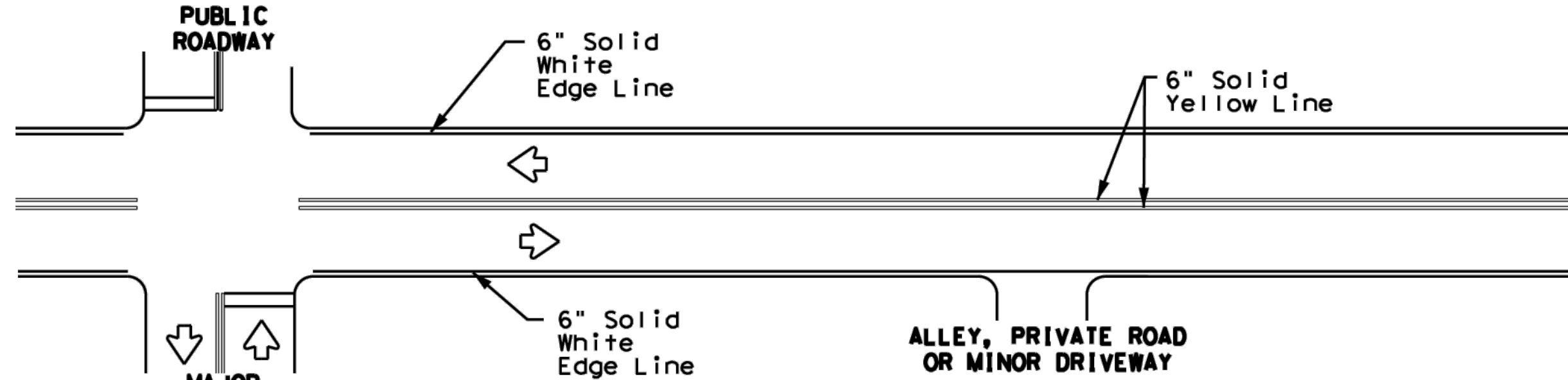
STATE	STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
TEXAS	21					

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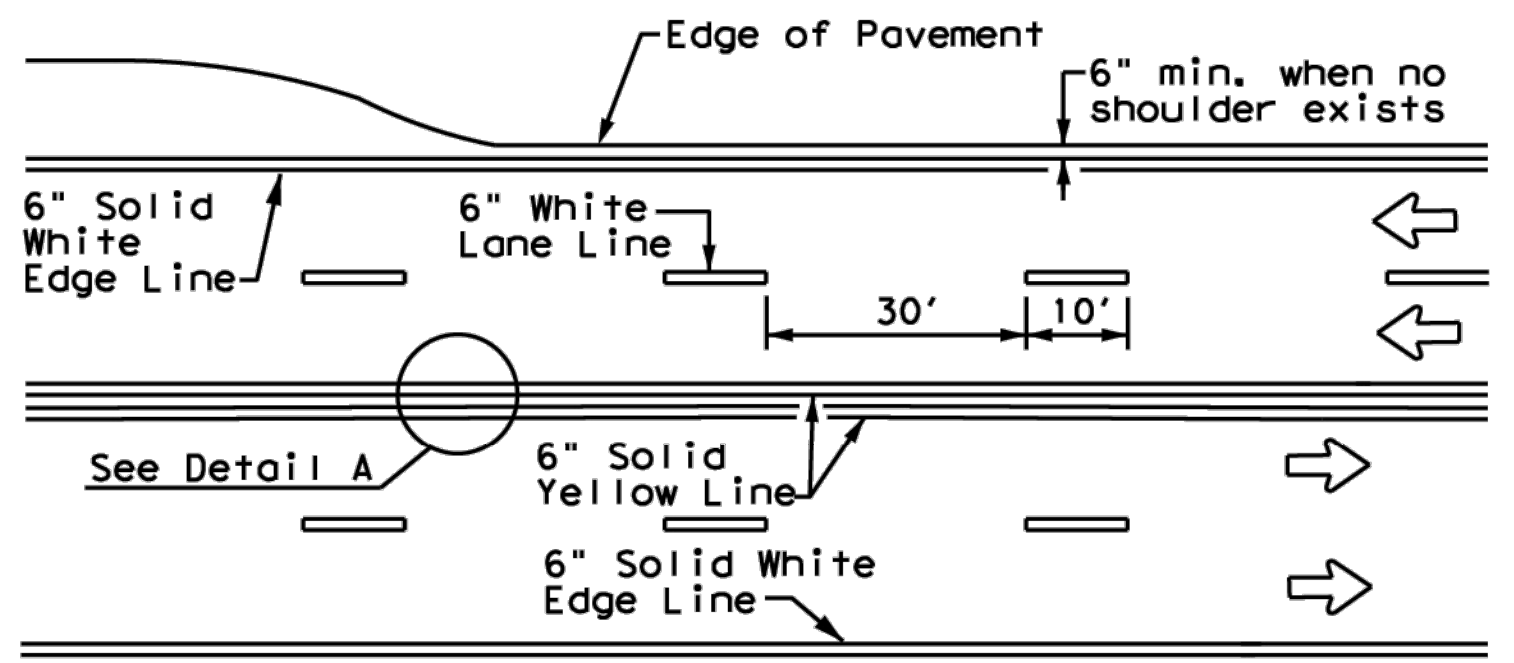
DATE: FILE:



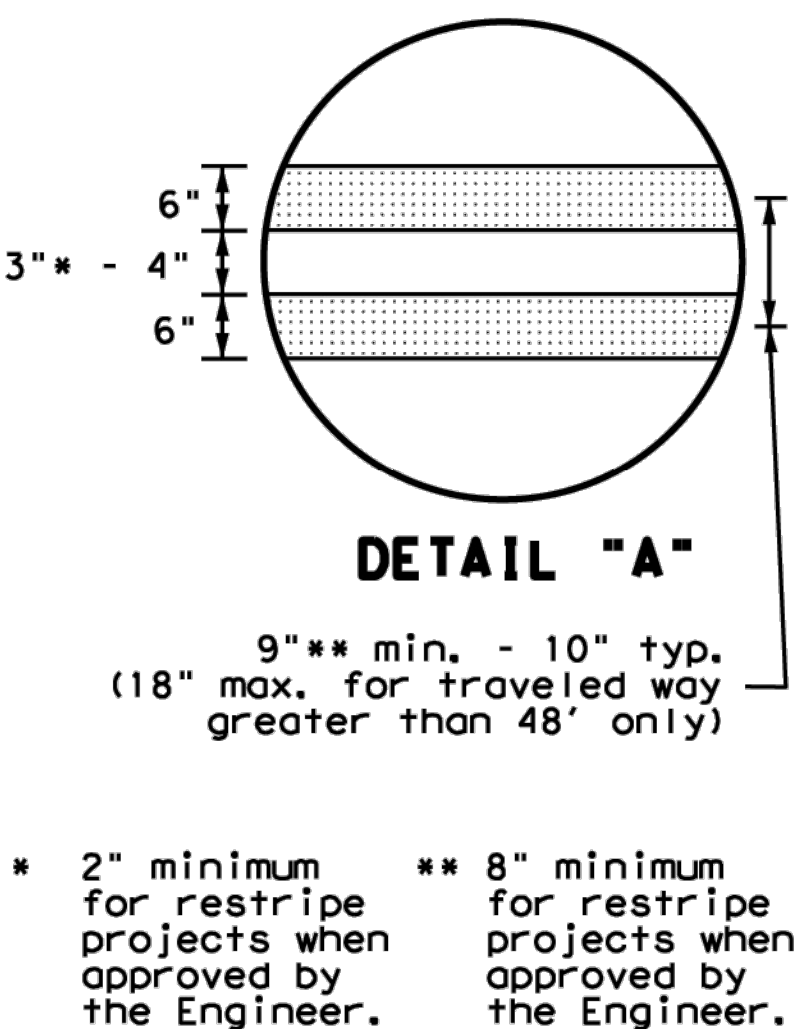
EDGE LINE AND LANE LINES
ONE-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



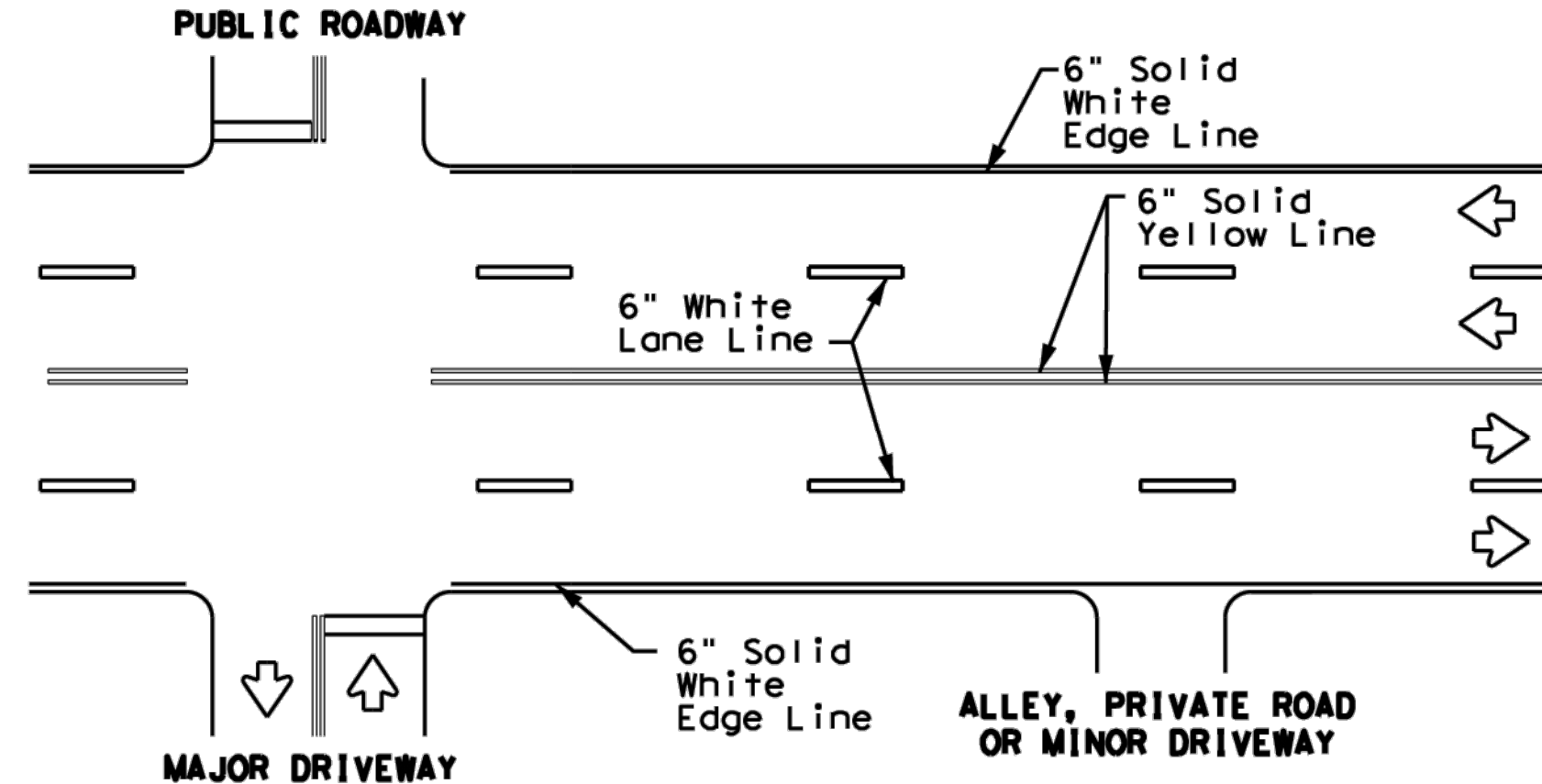
TYPICAL TWO-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS



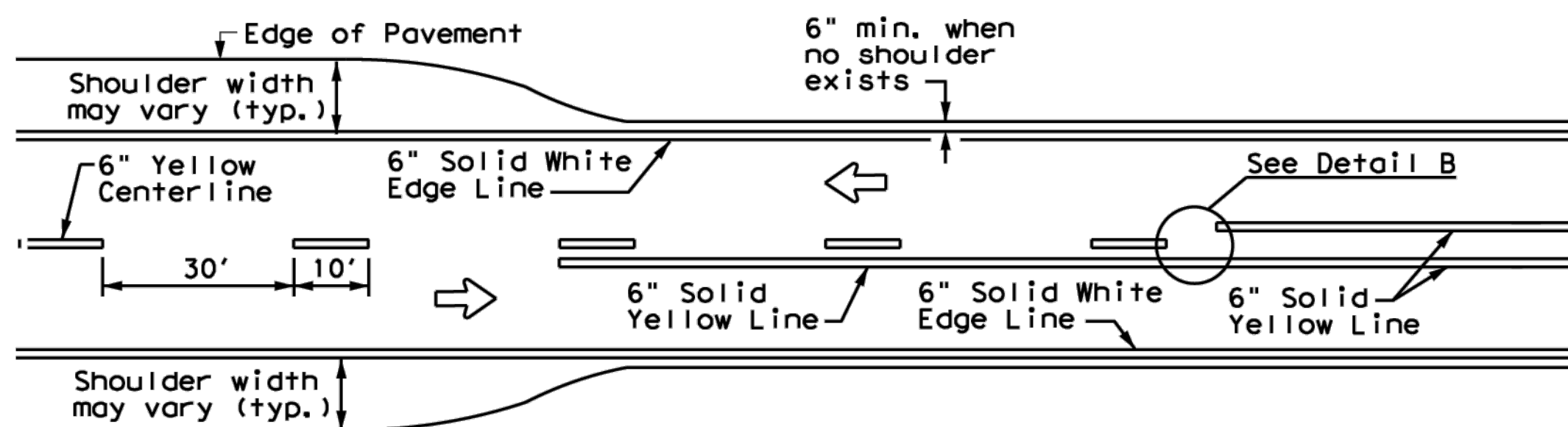
CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



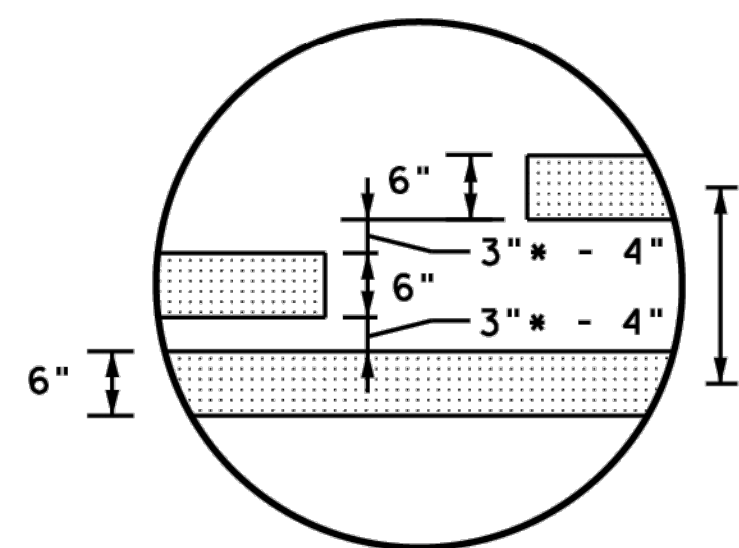
* 2" minimum for restripe projects when approved by the Engineer.
** 8" minimum for restripe projects when approved by the Engineer.



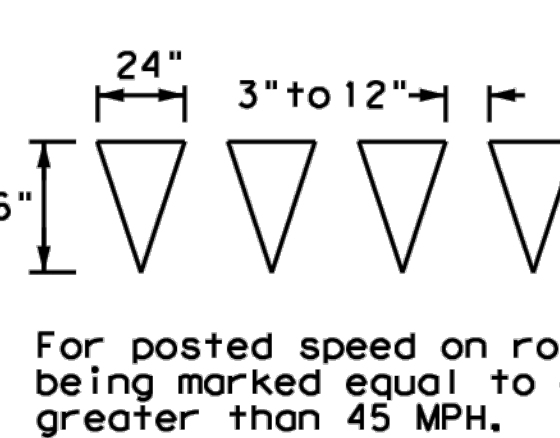
TYPICAL MULTI-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS



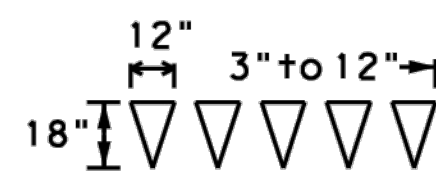
TWO LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



* 2" minimum for restripe projects when approved by the Engineer.



YIELD LINES



For posted speed on road being marked equal to or less than 40 MPH.

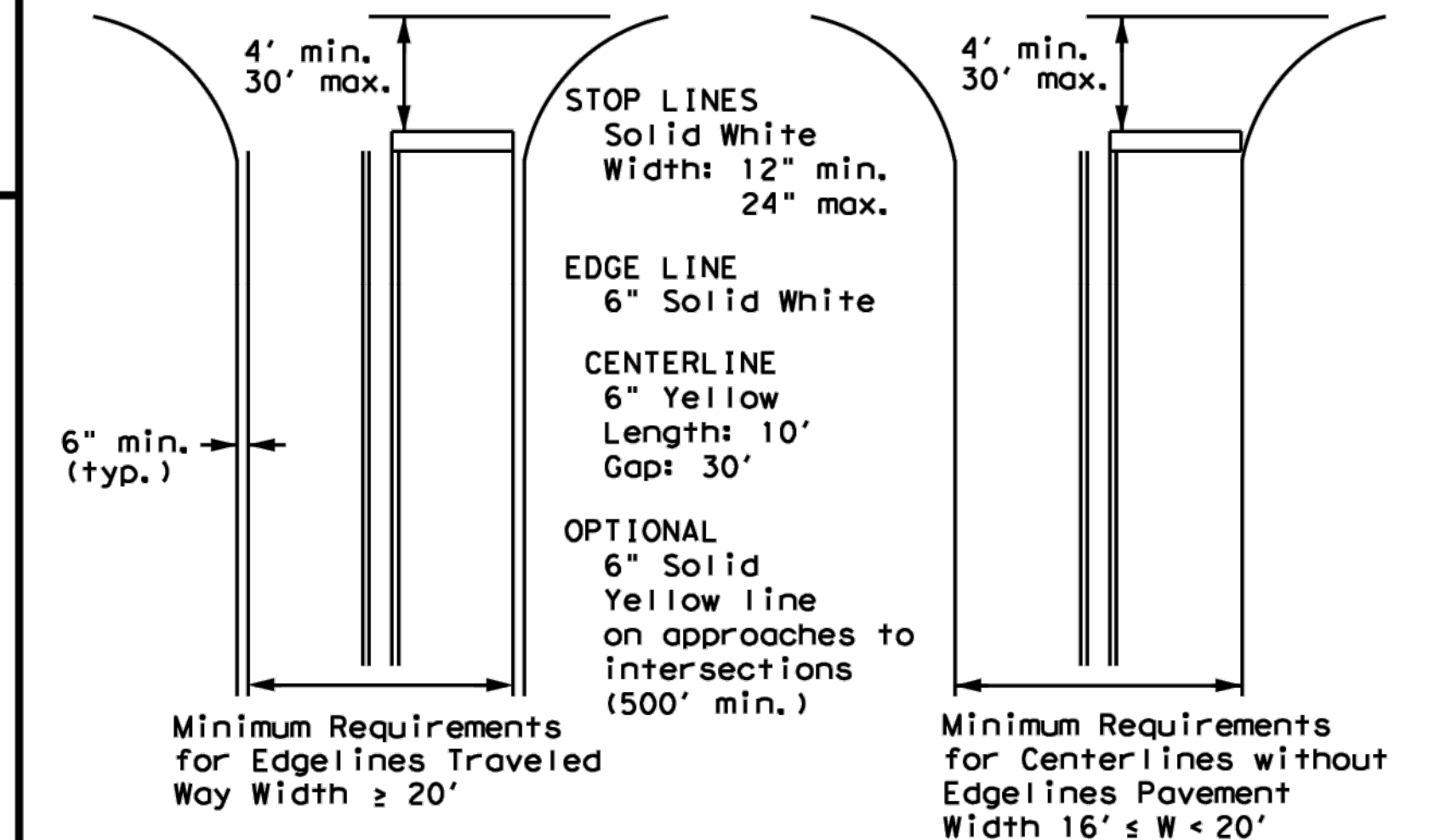
GENERAL NOTES

- Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines are not required in curb and gutter sections of roadways.
- The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the center of edge line to the center of edge line of a two lane roadway.

MATERIAL SPECIFICATIONS

PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

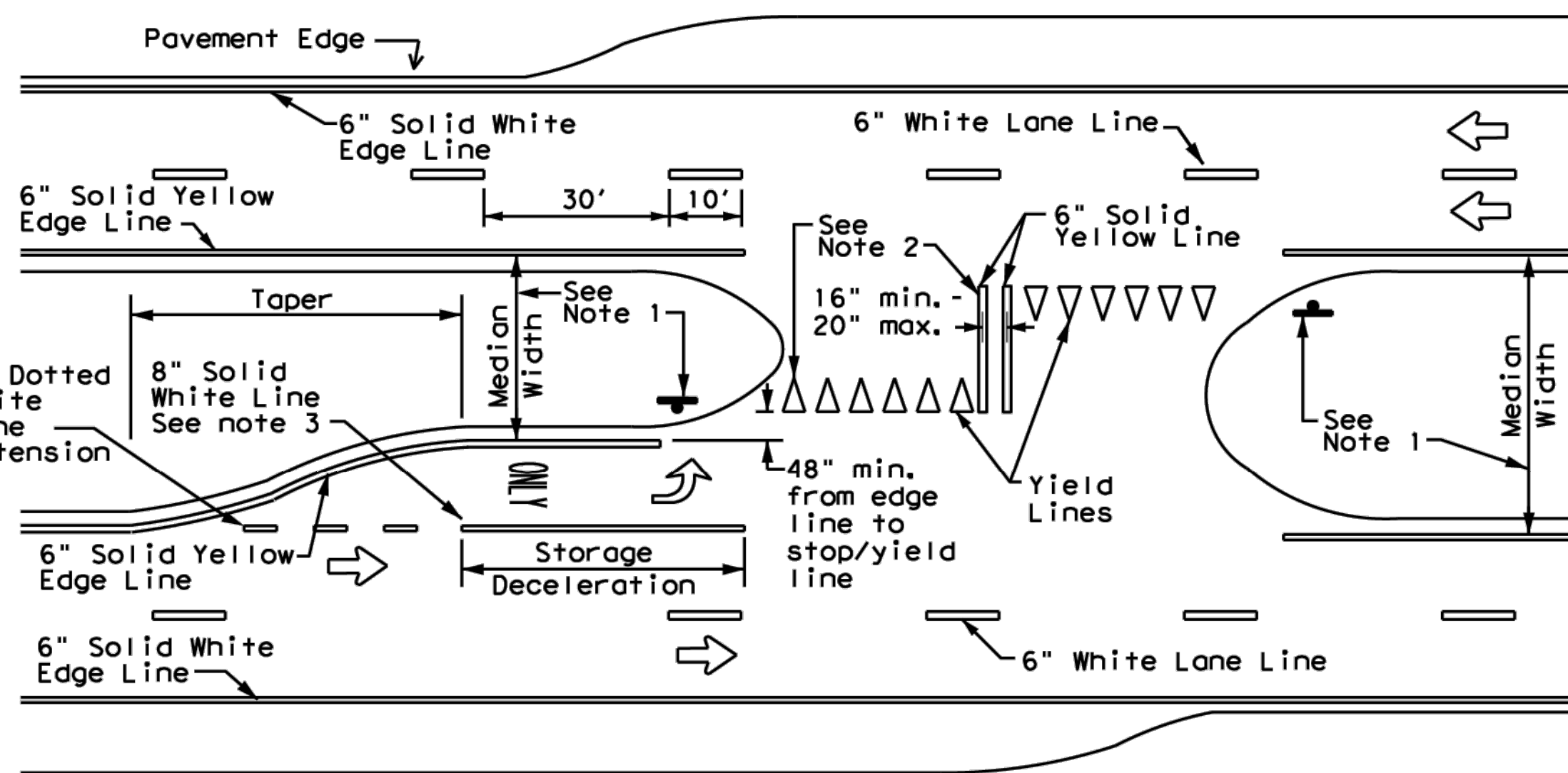
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

- Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
- Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
- Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.



Traffic
Safety
Division
Standard

TYPICAL STANDARD PAVEMENT MARKINGS

PM(1) - 22

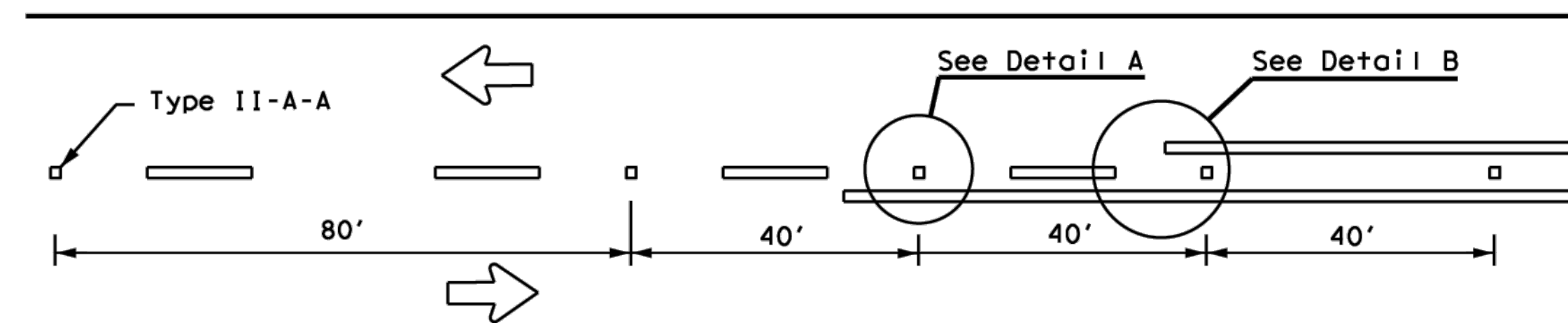
FILE: pm1-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY	SHEET NO.	
11-78 8-00 6-20				
8-95 3-03 12-22				
5-00 2-12				

22A

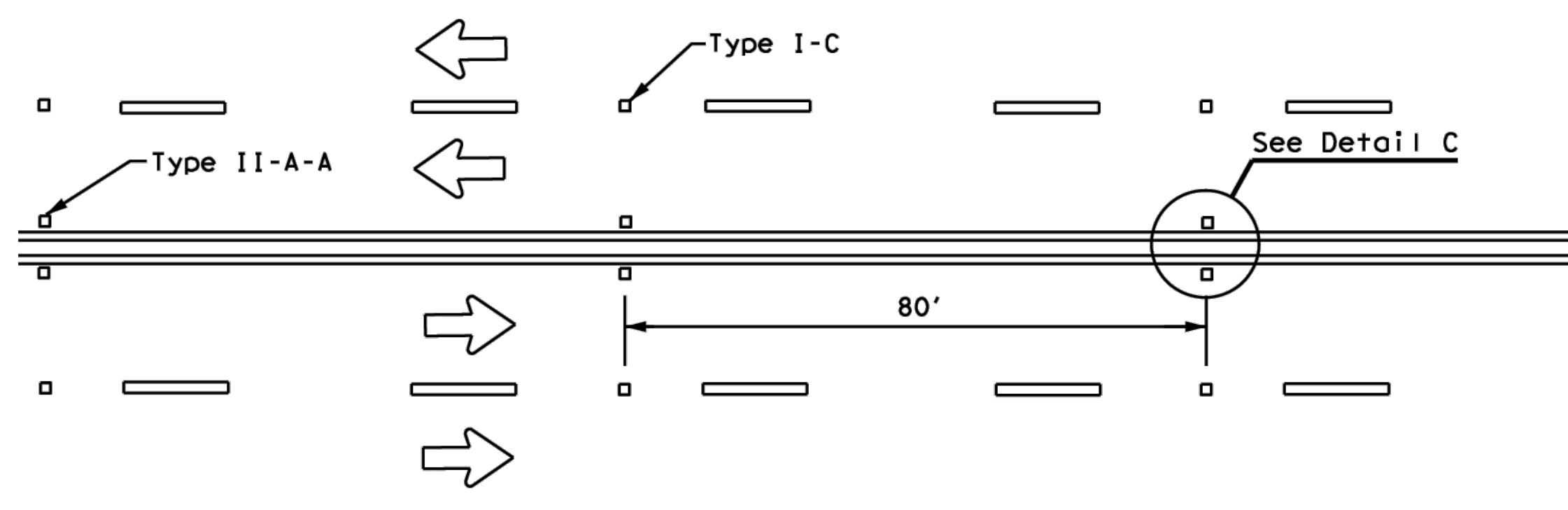
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FILE:

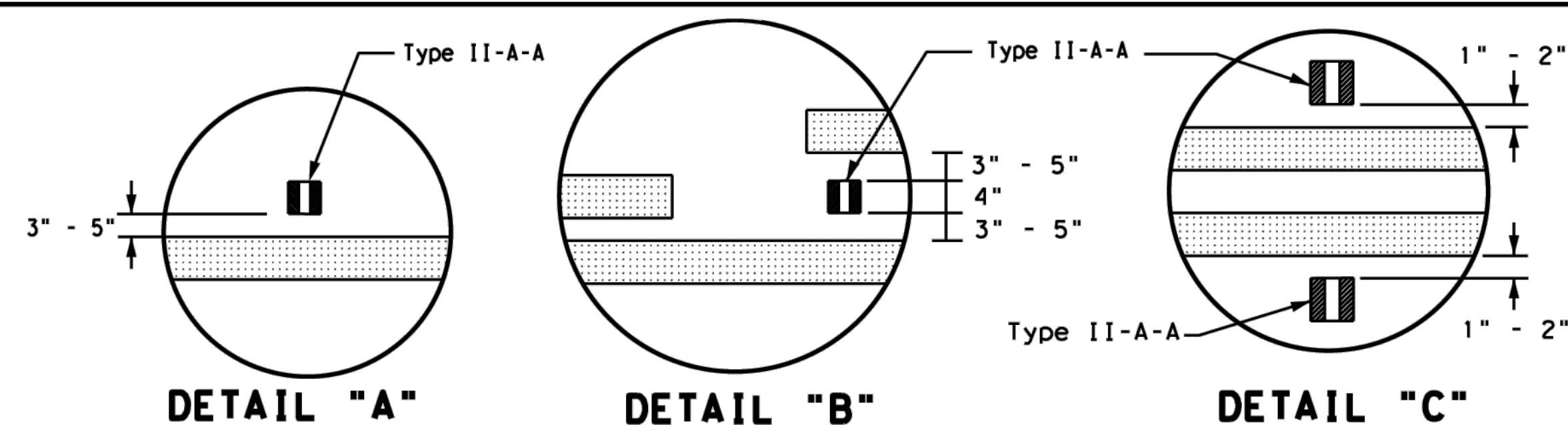
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE



CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS



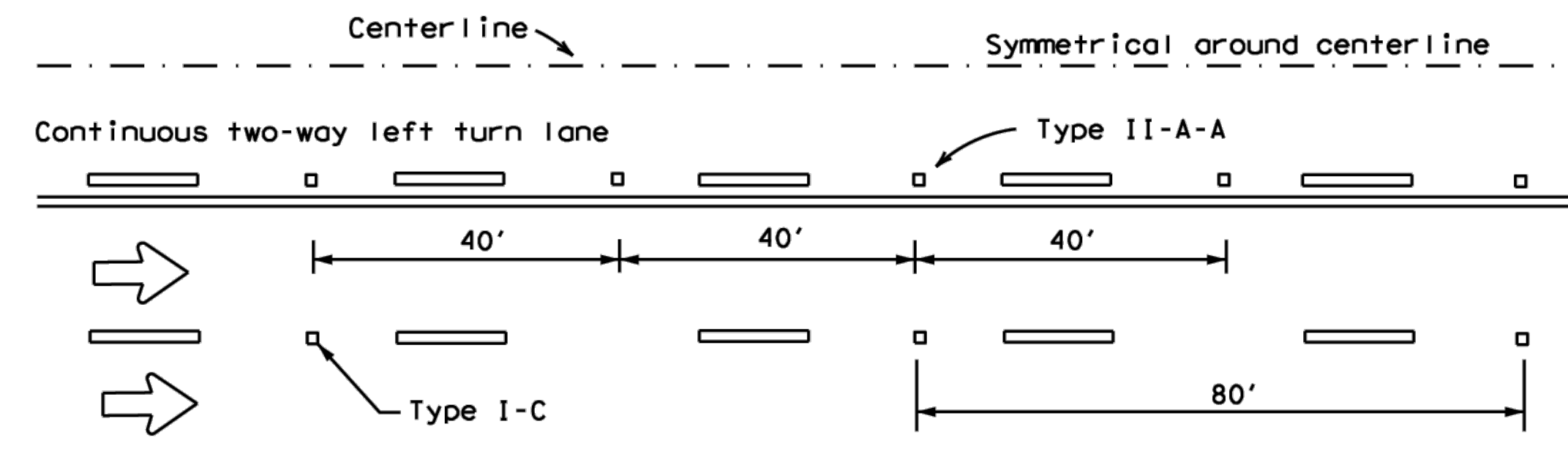
CENTERLINE & LANE LINES
FOR FOUR LANE TWO-WAY ROADWAYS



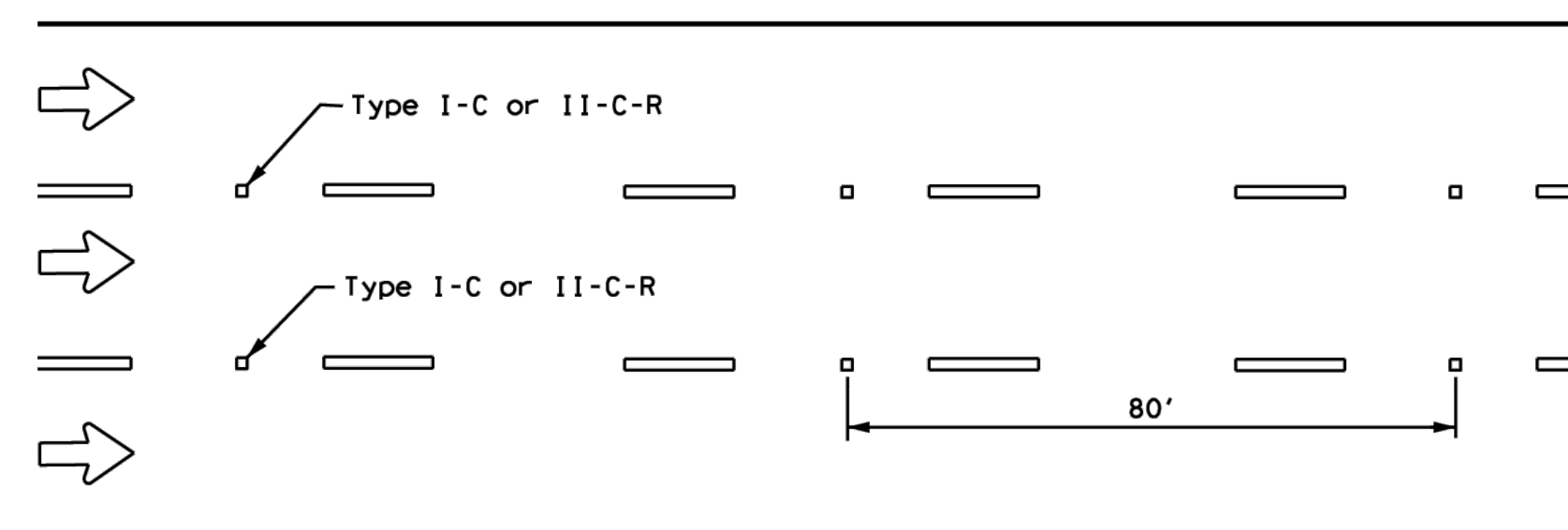
DETAIL "A"

DETAIL "B"

DETAIL "C"

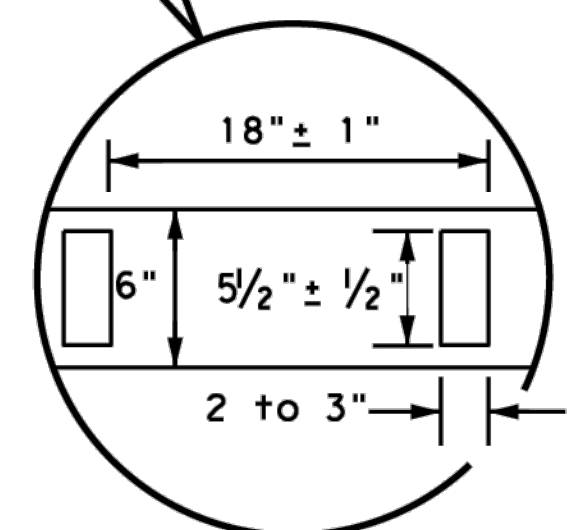
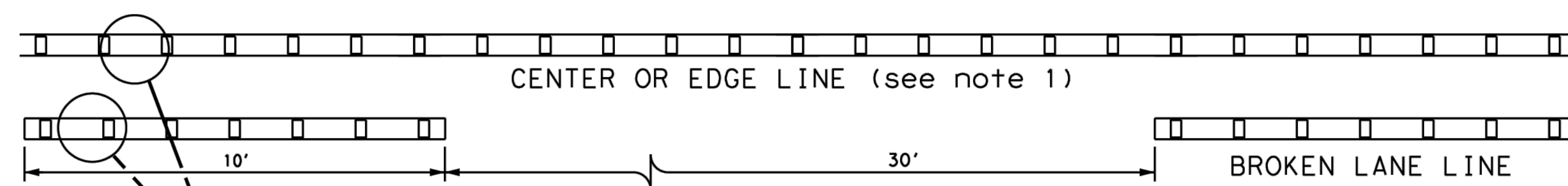


CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

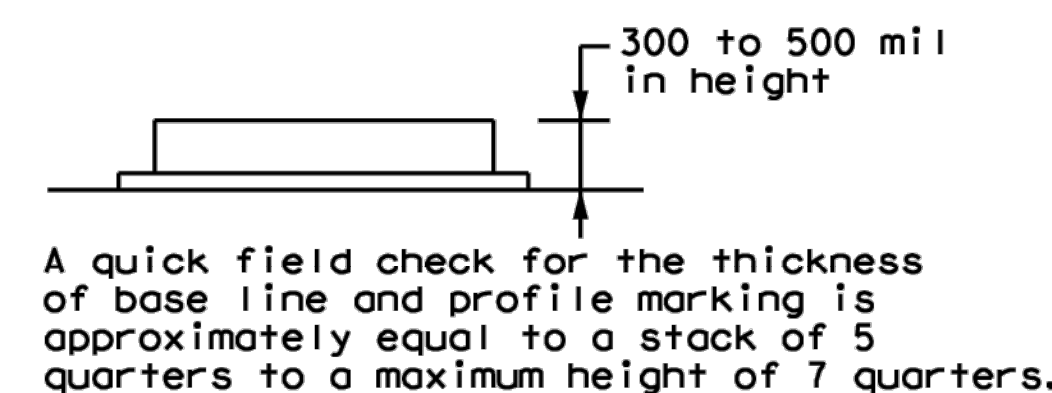
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.
See Note 3.



6" EDGE LINE, 6" CENTERLINE
OR 6" LANE LINE

REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTES

- Edge lines should typically be 6" wide and the materials shall be specified in the plans.
- Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

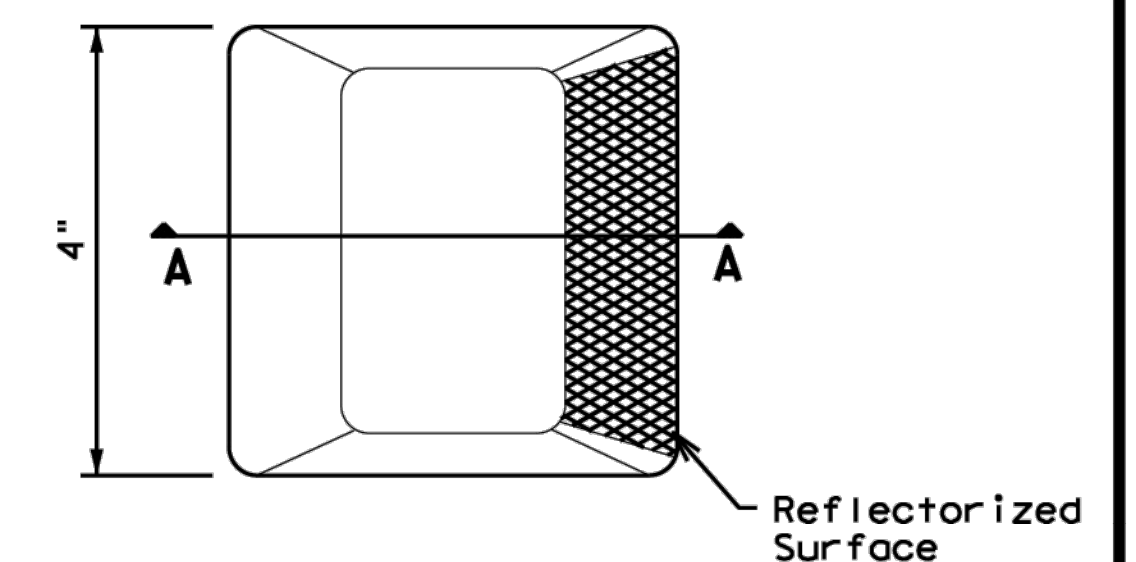
GENERAL NOTES

- All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
- On concrete pavements, the raised pavement markers should be placed to one side of the longitudinal joints.
- Use raised pavement marker Type I-C with undivided roadways, flush medians, and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

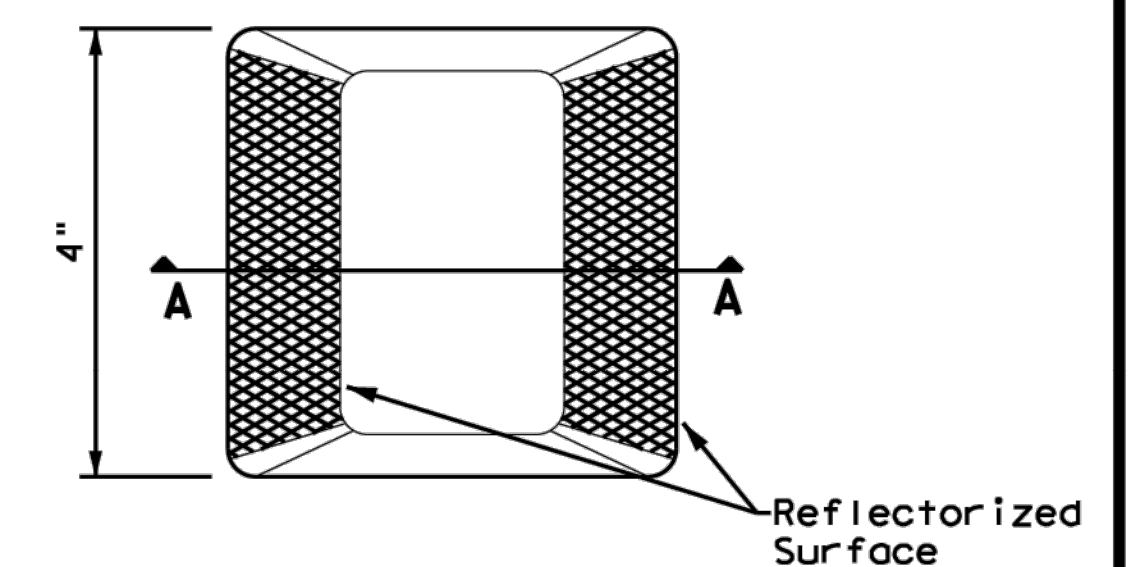
MATERIAL SPECIFICATIONS

PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

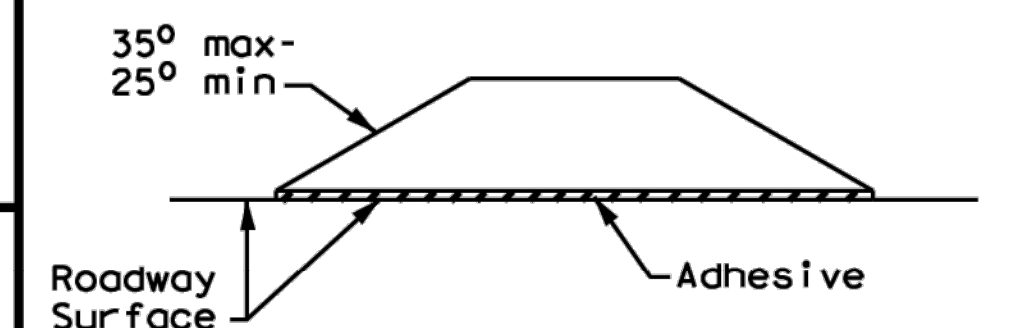
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

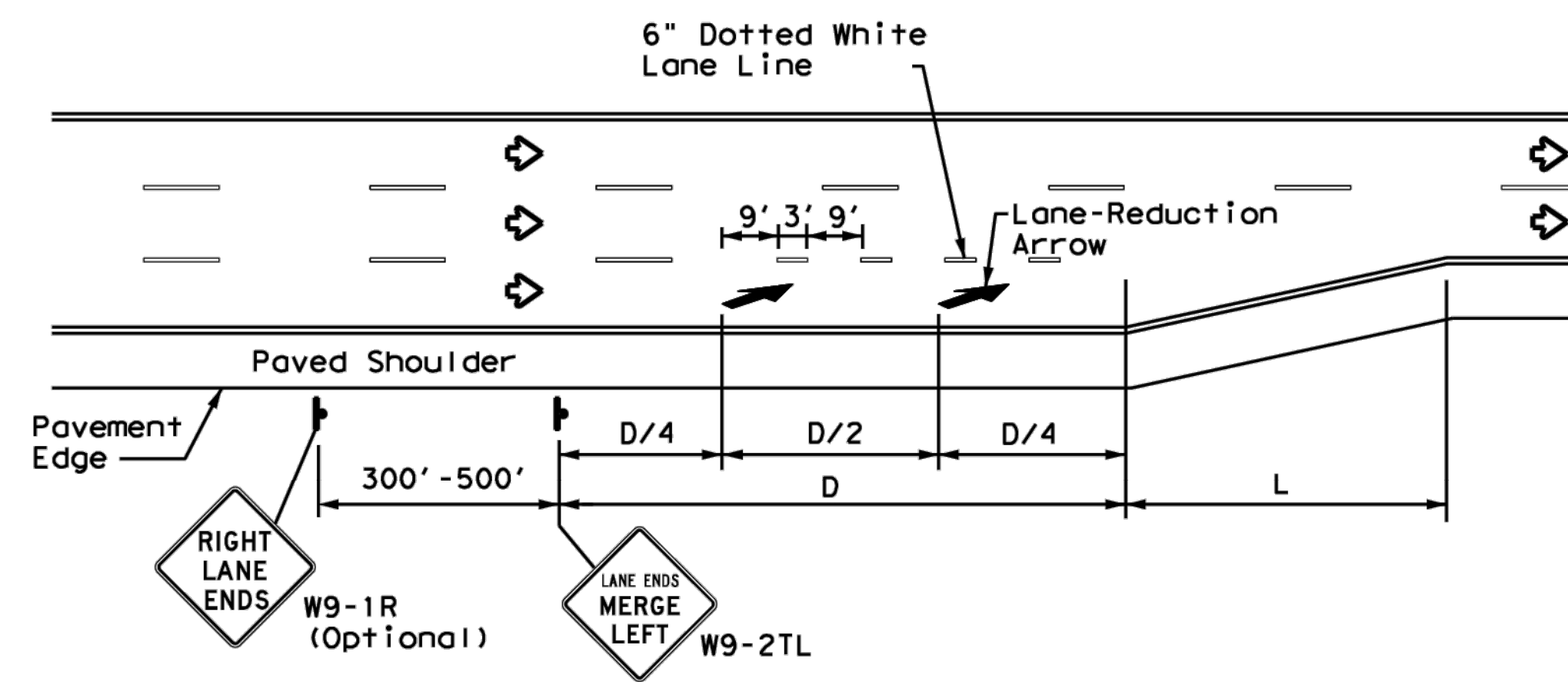


POSITION GUIDANCE USING RAISED MARKERS REFLECTORIZED PROFILE MARKINGS PM(2) - 22

FILE: pm2-22.dgn	DW: CK1	DW: CK1	CK1
© TxDOT December 2022	CONT	SECT	JOB
REVISIONS	DIST	COUNTY	SHEET NO.
4-77 8-00 6-20			
4-92 2-10 12-22			
5-00 2-12			

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LANE REDUCTION

NOTES

- Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
- On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
- Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
- For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	$L = \frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	

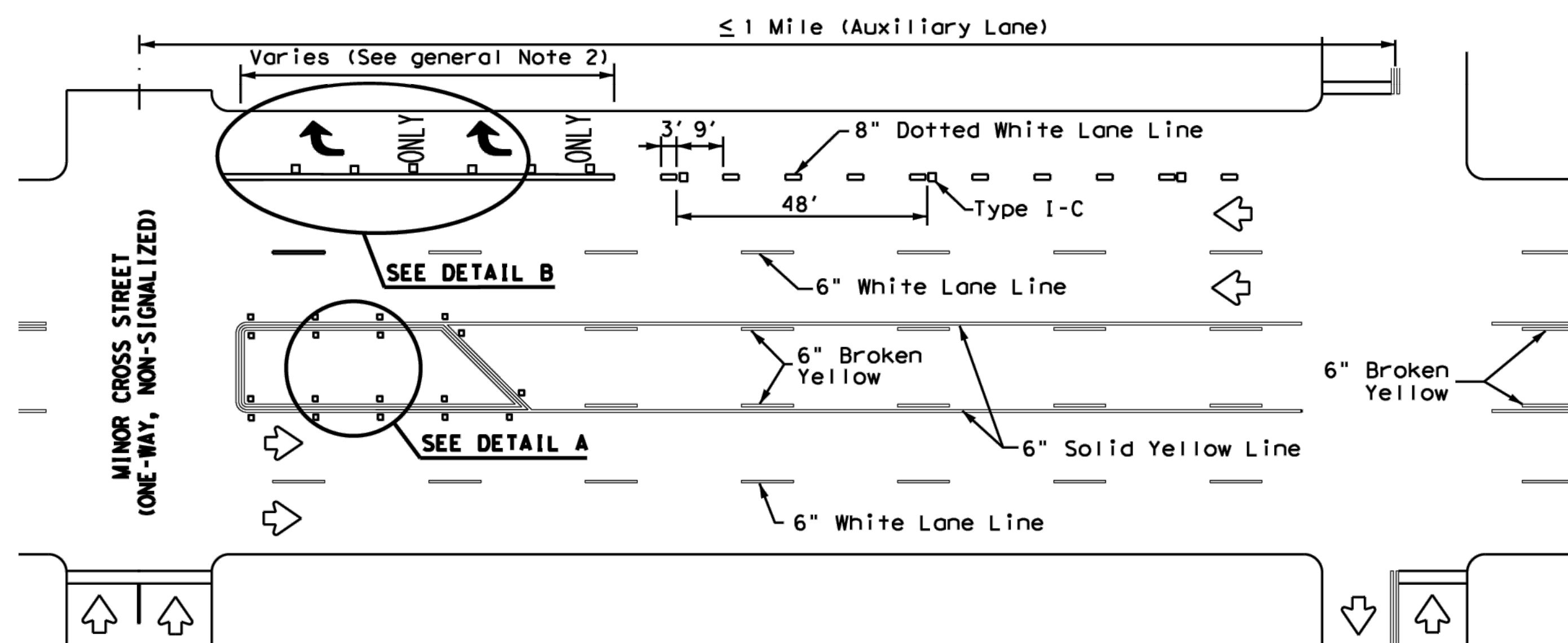
GENERAL NOTES

- Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
- When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
- Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
- Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

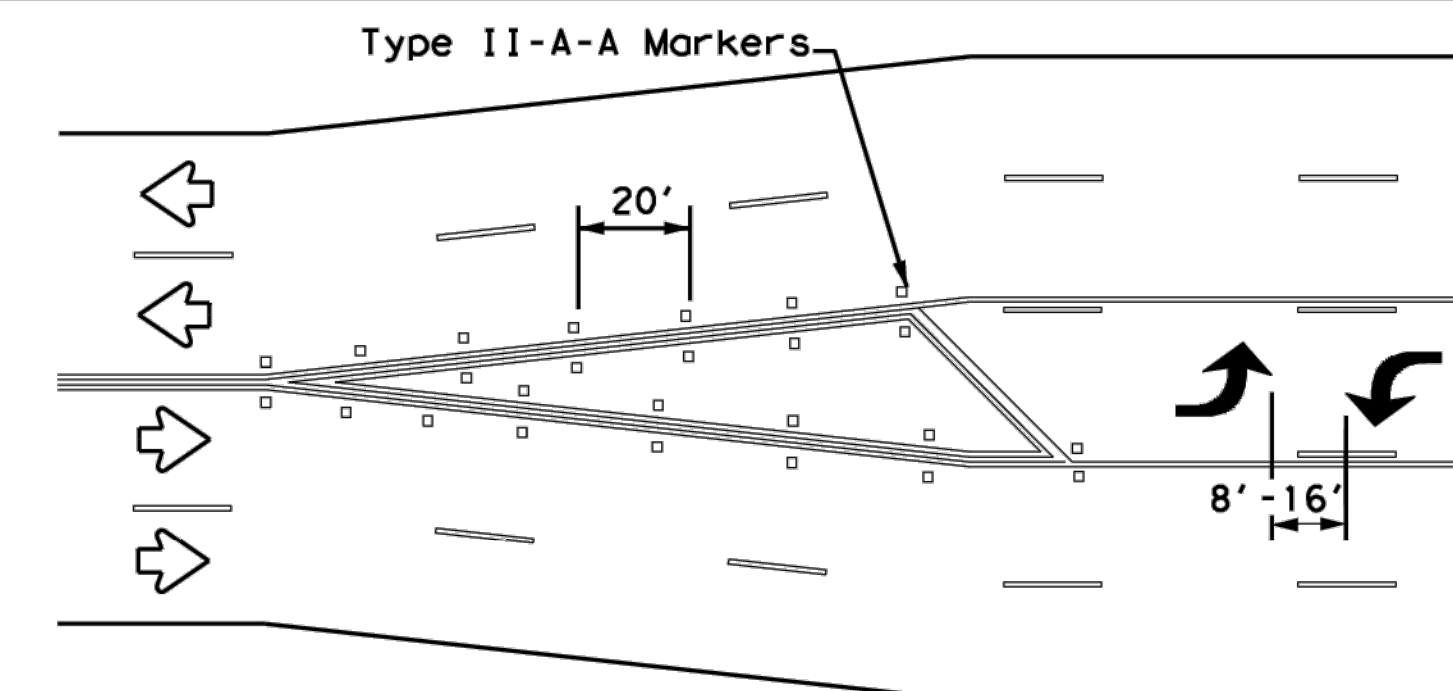
MATERIAL SPECIFICATIONS

PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

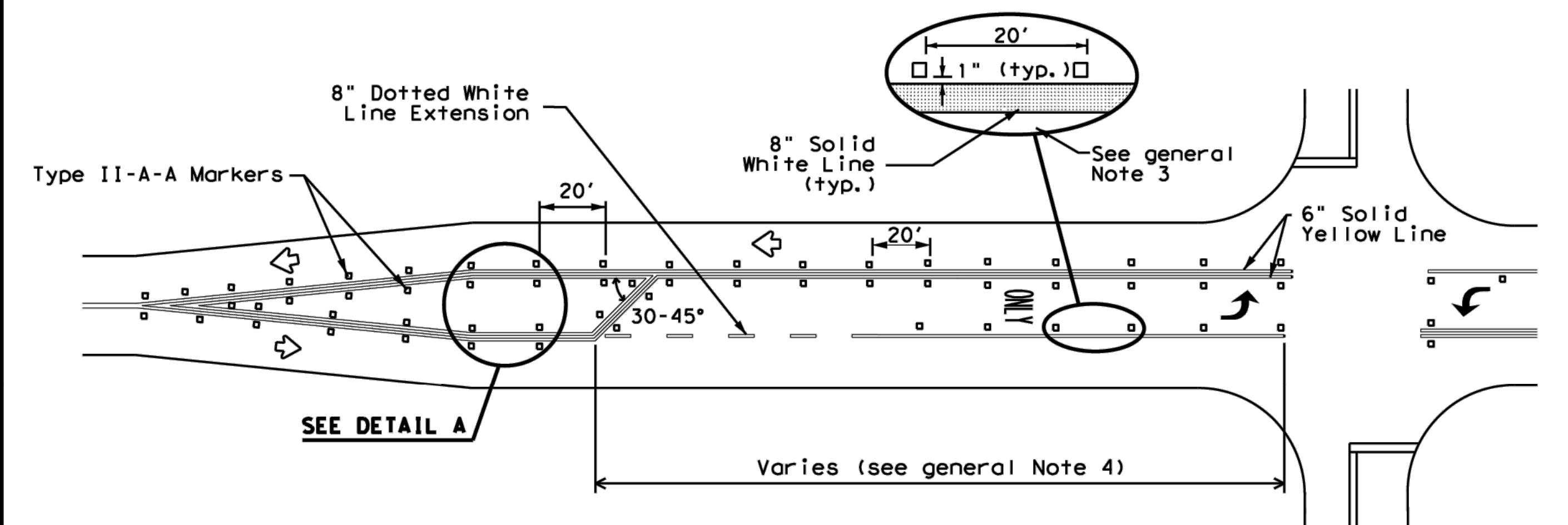


TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE

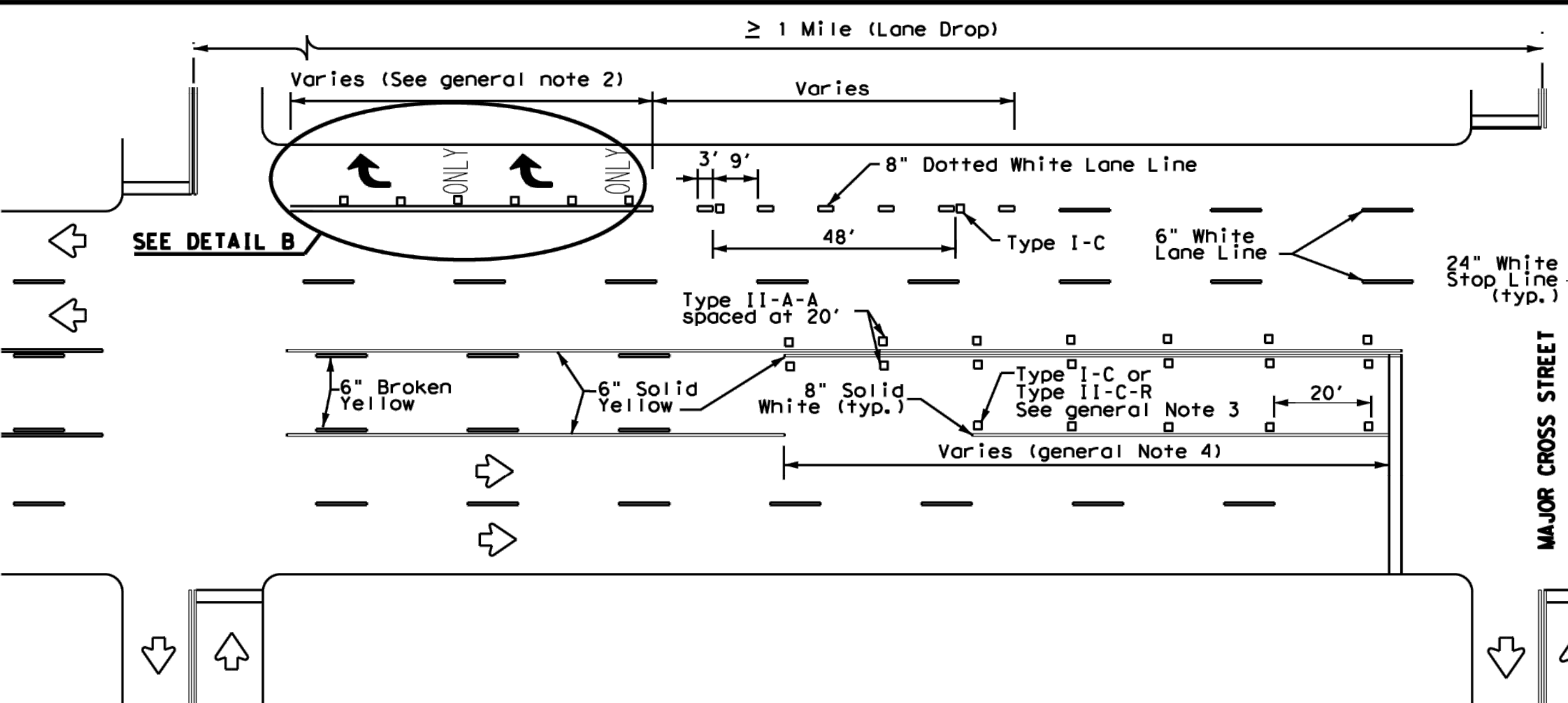


A two-way left-turn (TWLTL) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

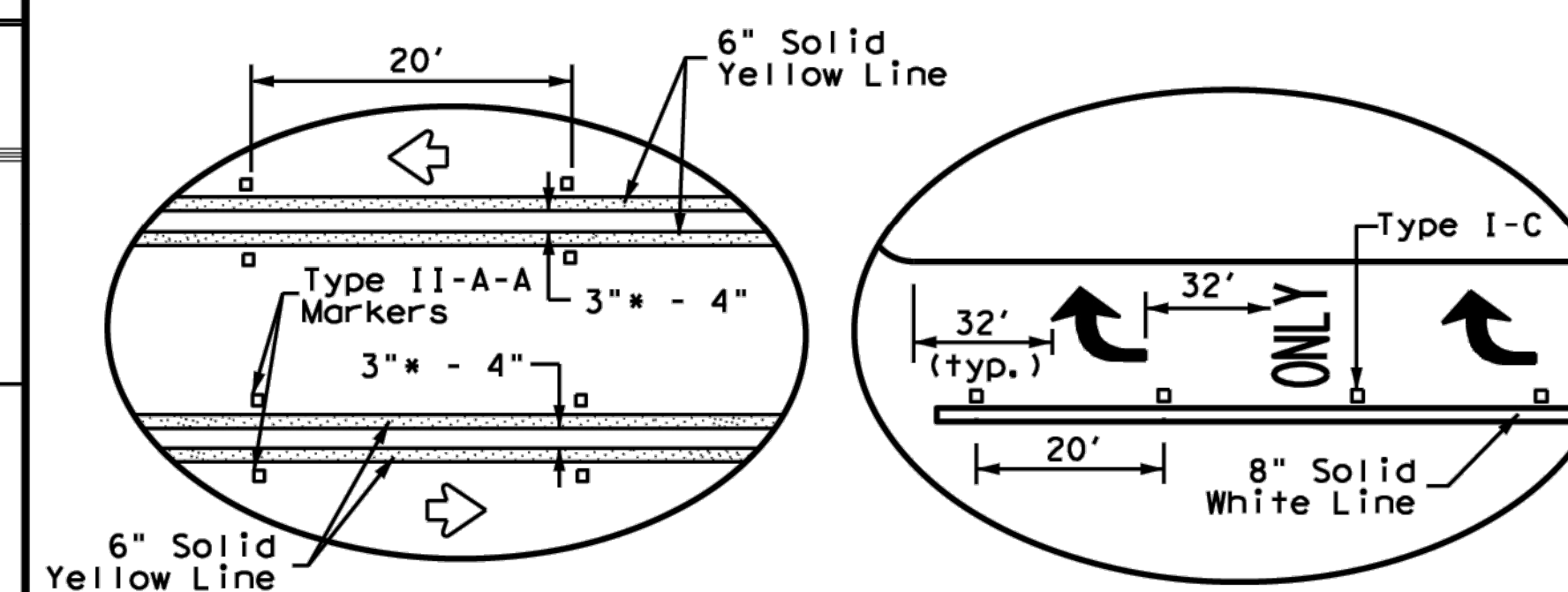
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



DETAIL A

DETAIL B

* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

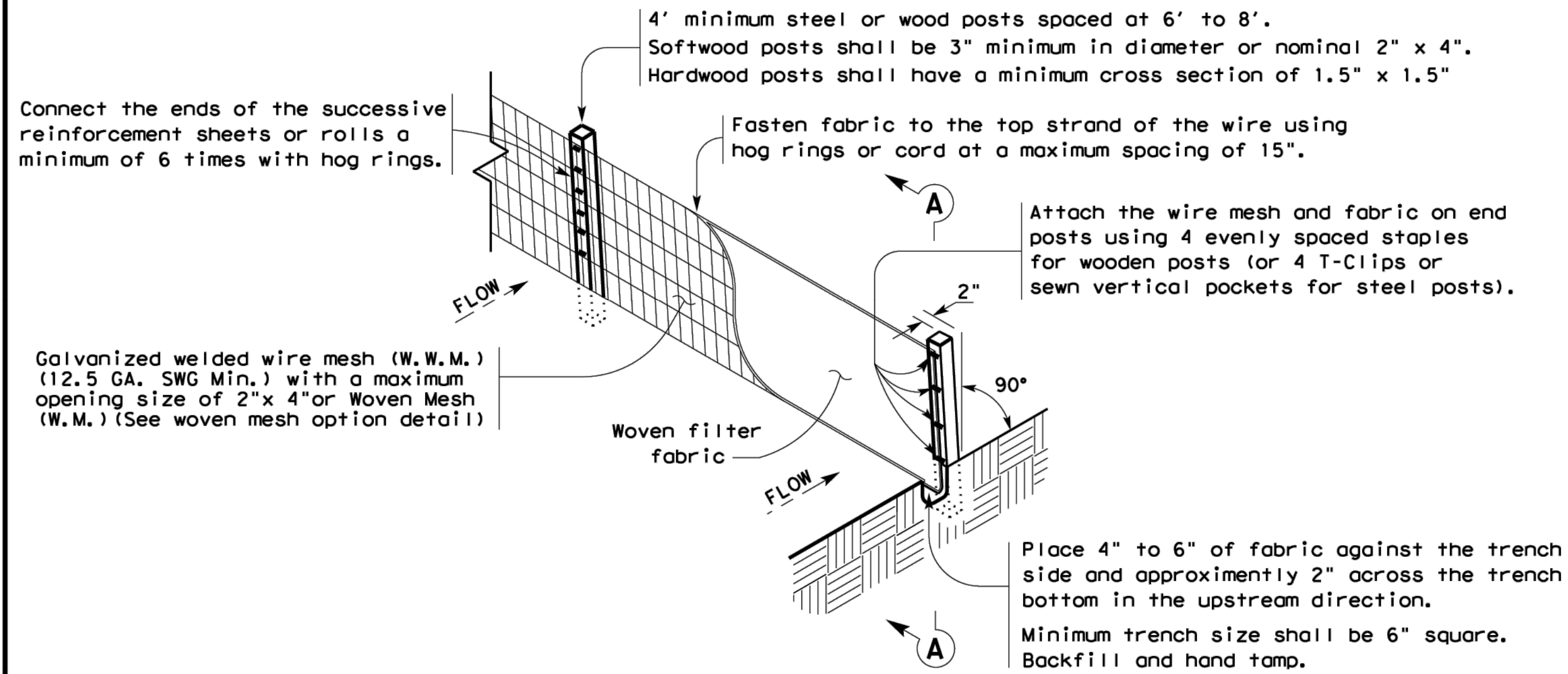
TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS PM(3)-22

FILE: pm3-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
4-98 3-03 6-20	REVISIONS			
5-00 2-10 12-22				
8-00 2-12				
	DIST	COUNTY		SHEET NO.

22C

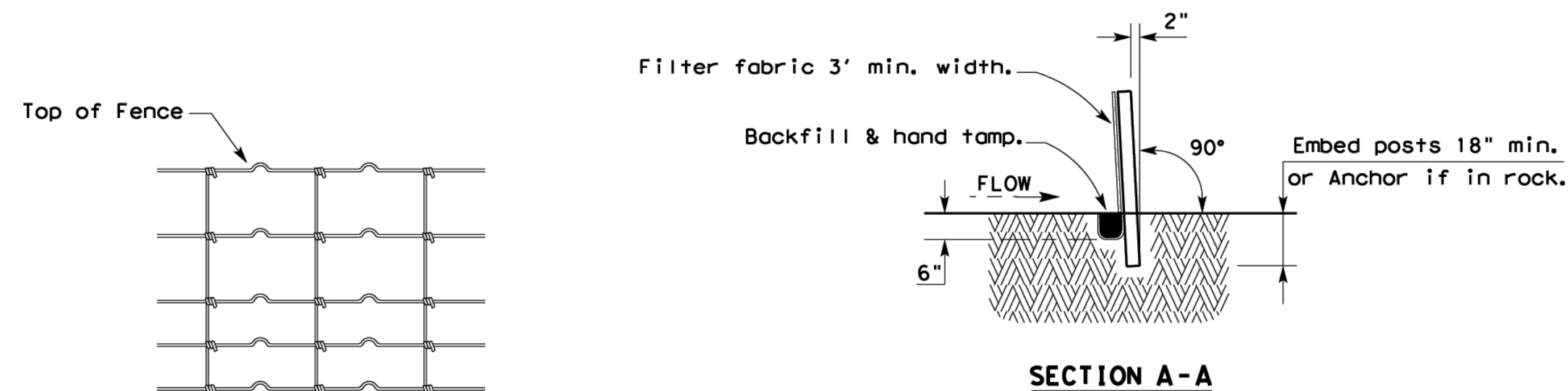
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DATE
FILE



TEMPORARY SEDIMENT CONTROL FENCE

SCF



HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA. SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT². Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

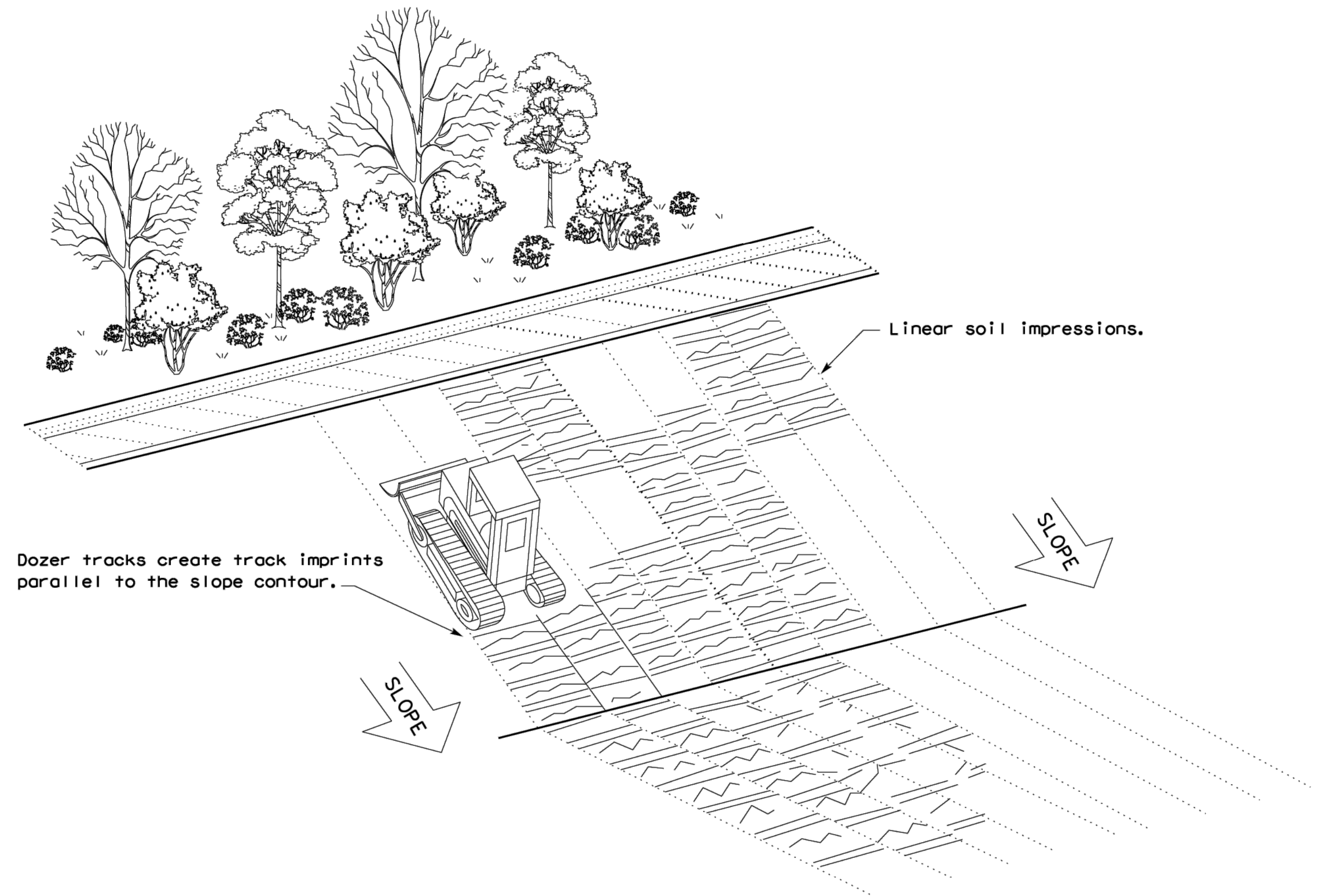
LEGEND

Sediment Control Fence

SCF

GENERAL NOTES

1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporarily stabilize soil.
3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Install continuous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.

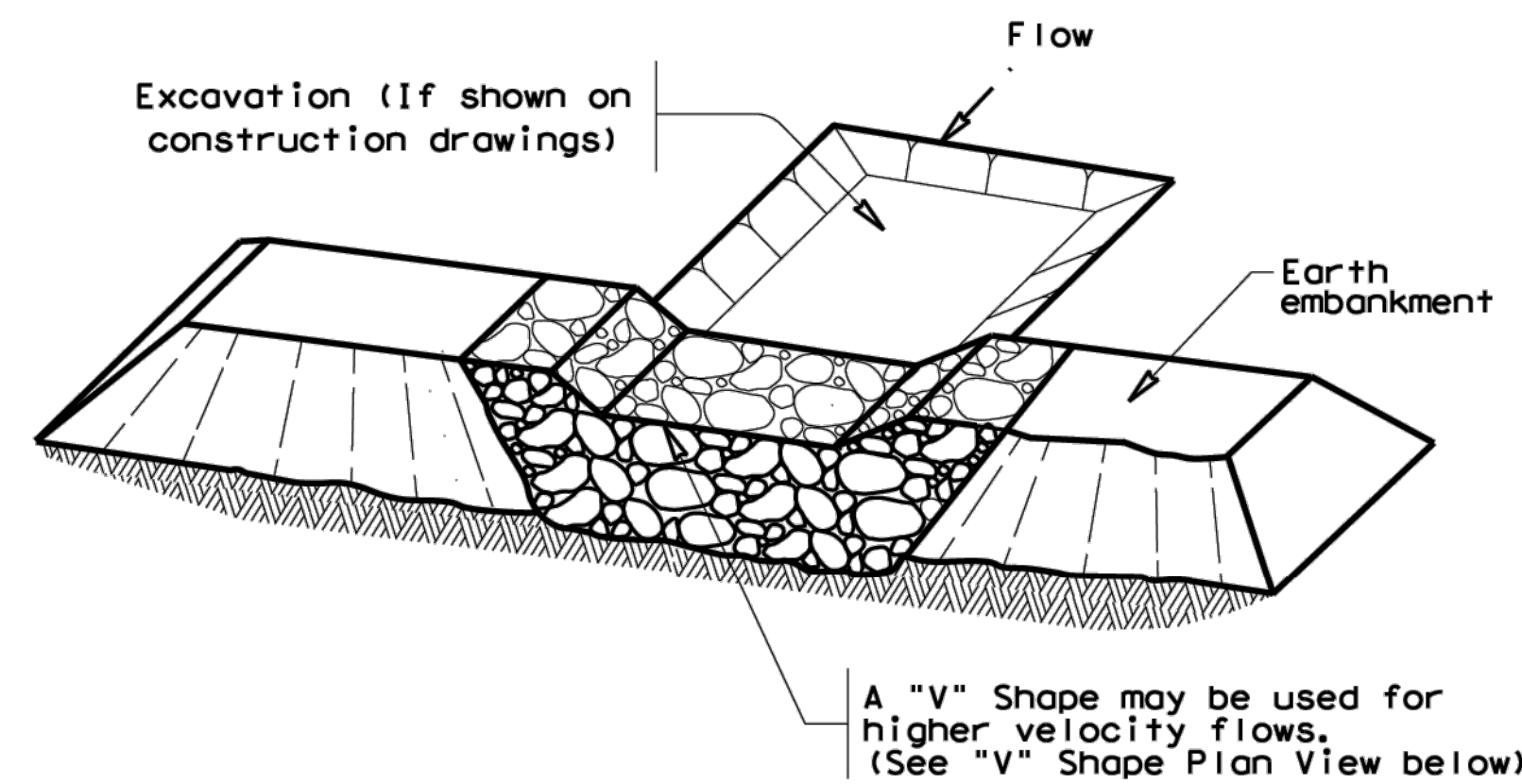
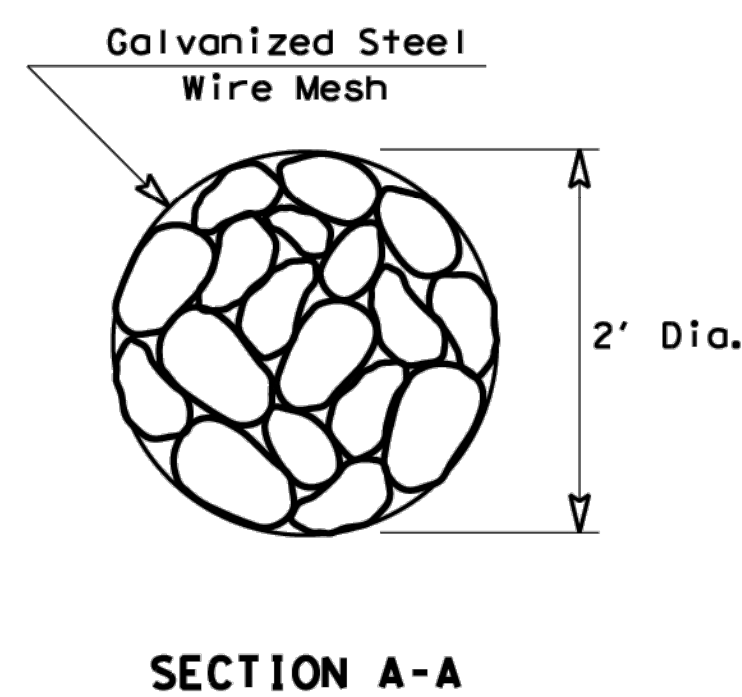
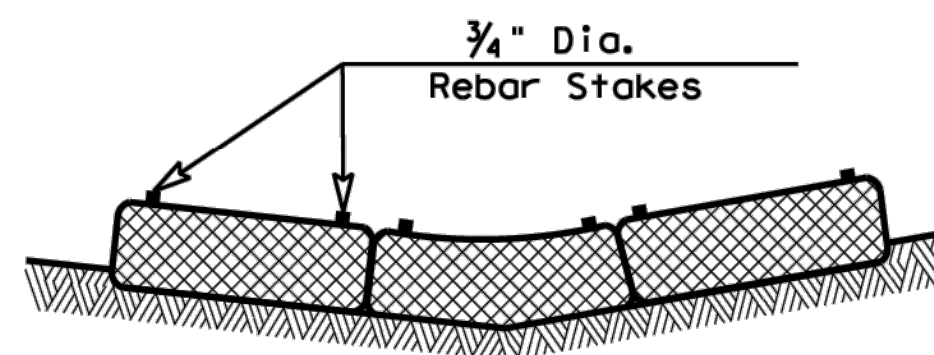
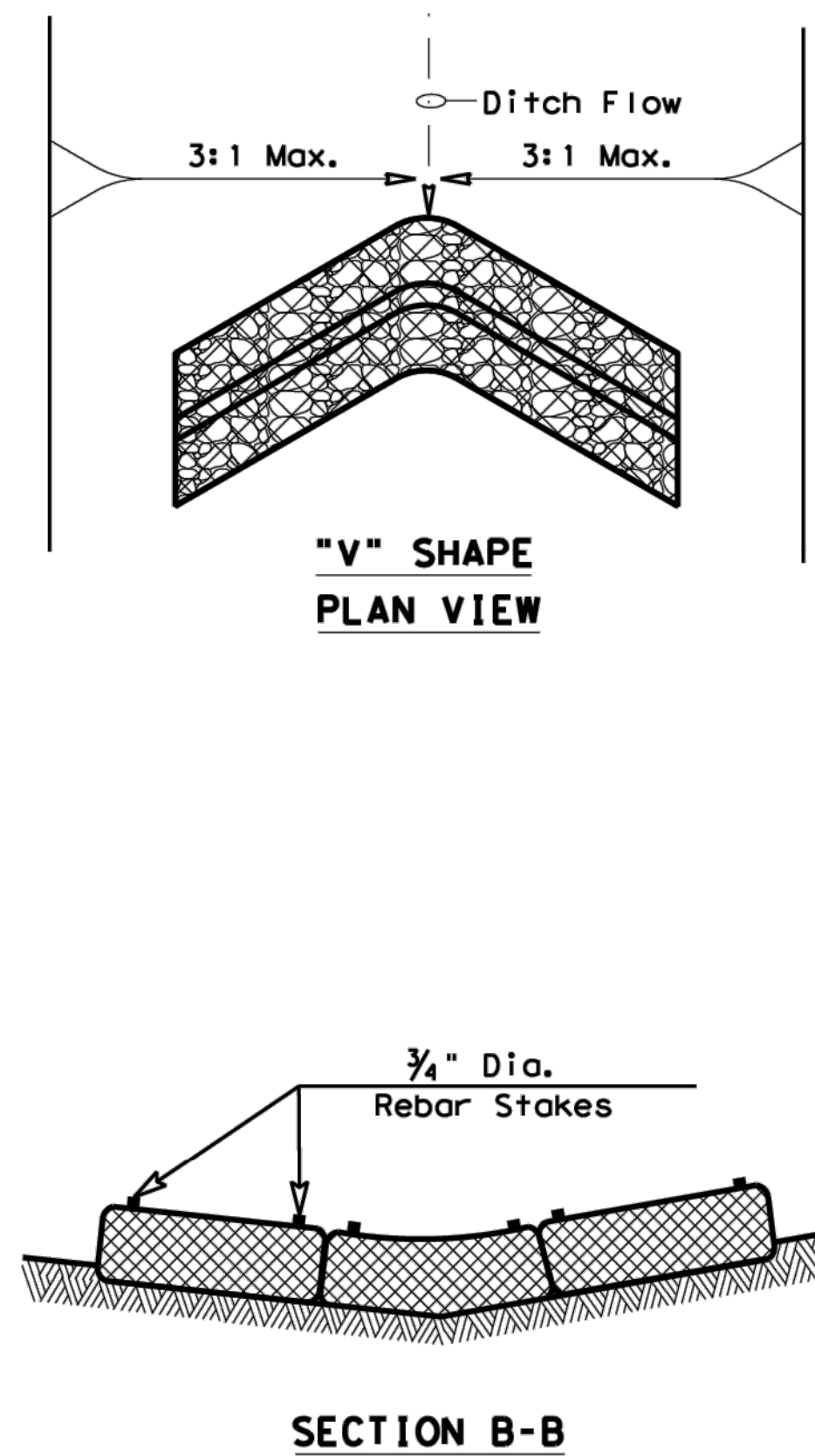
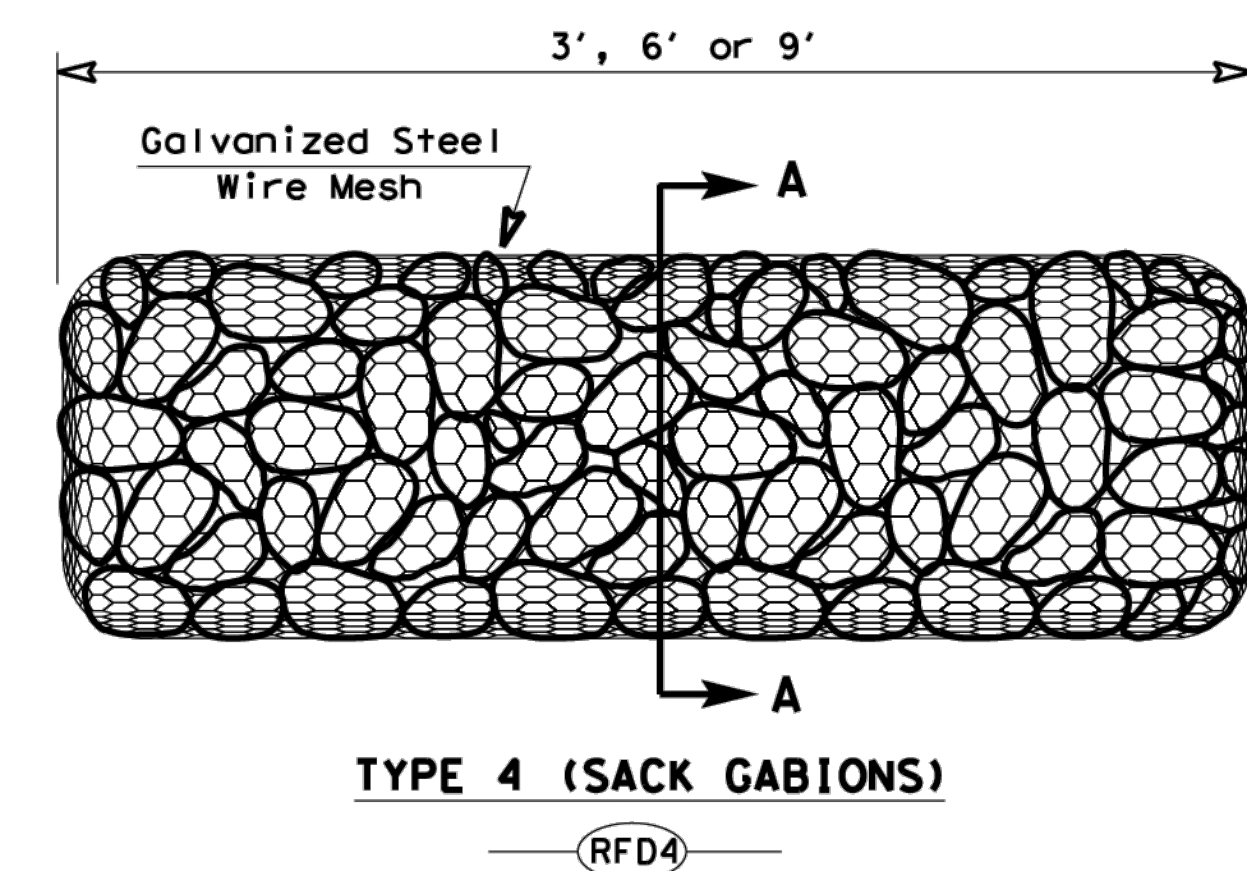
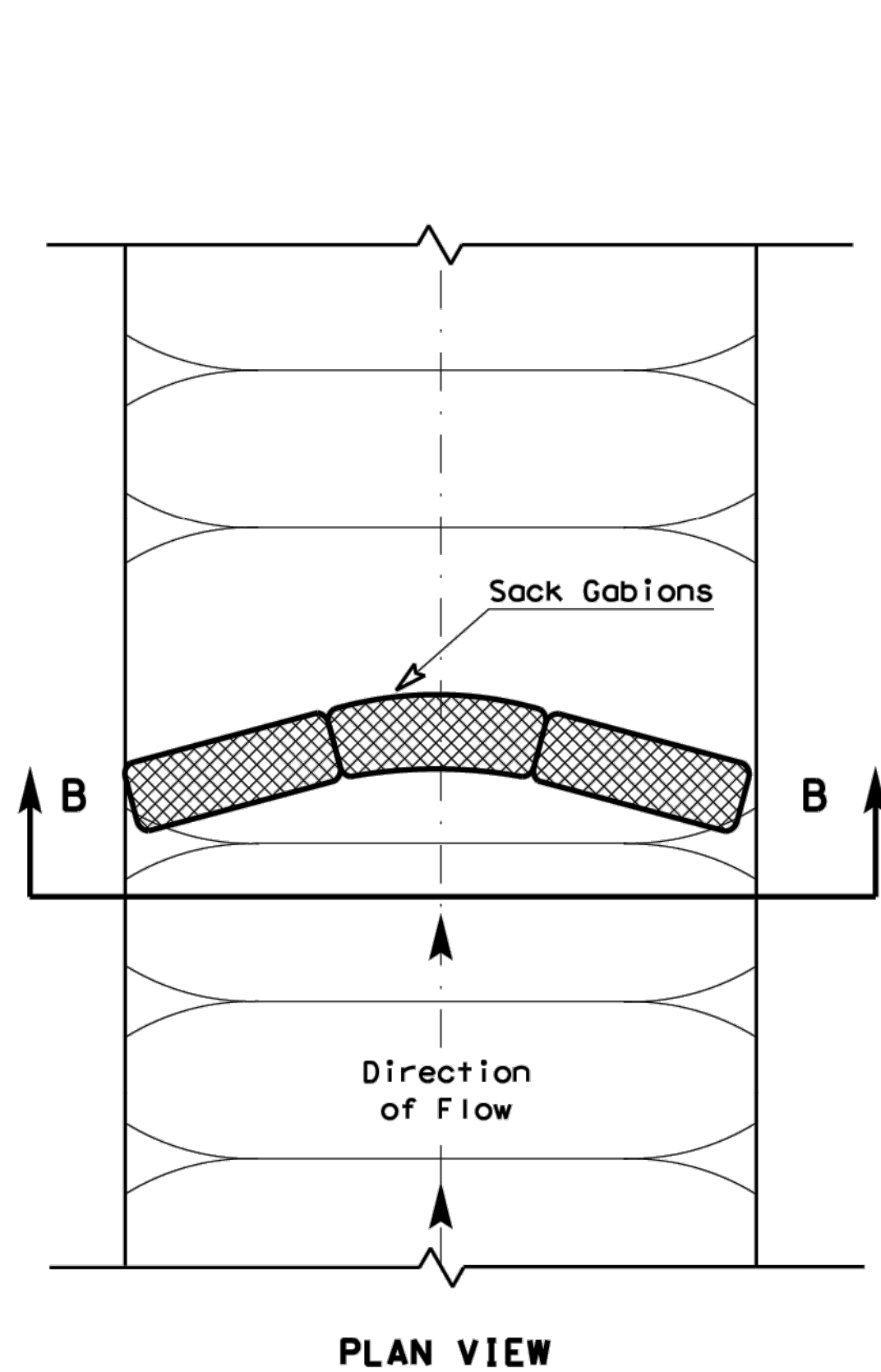
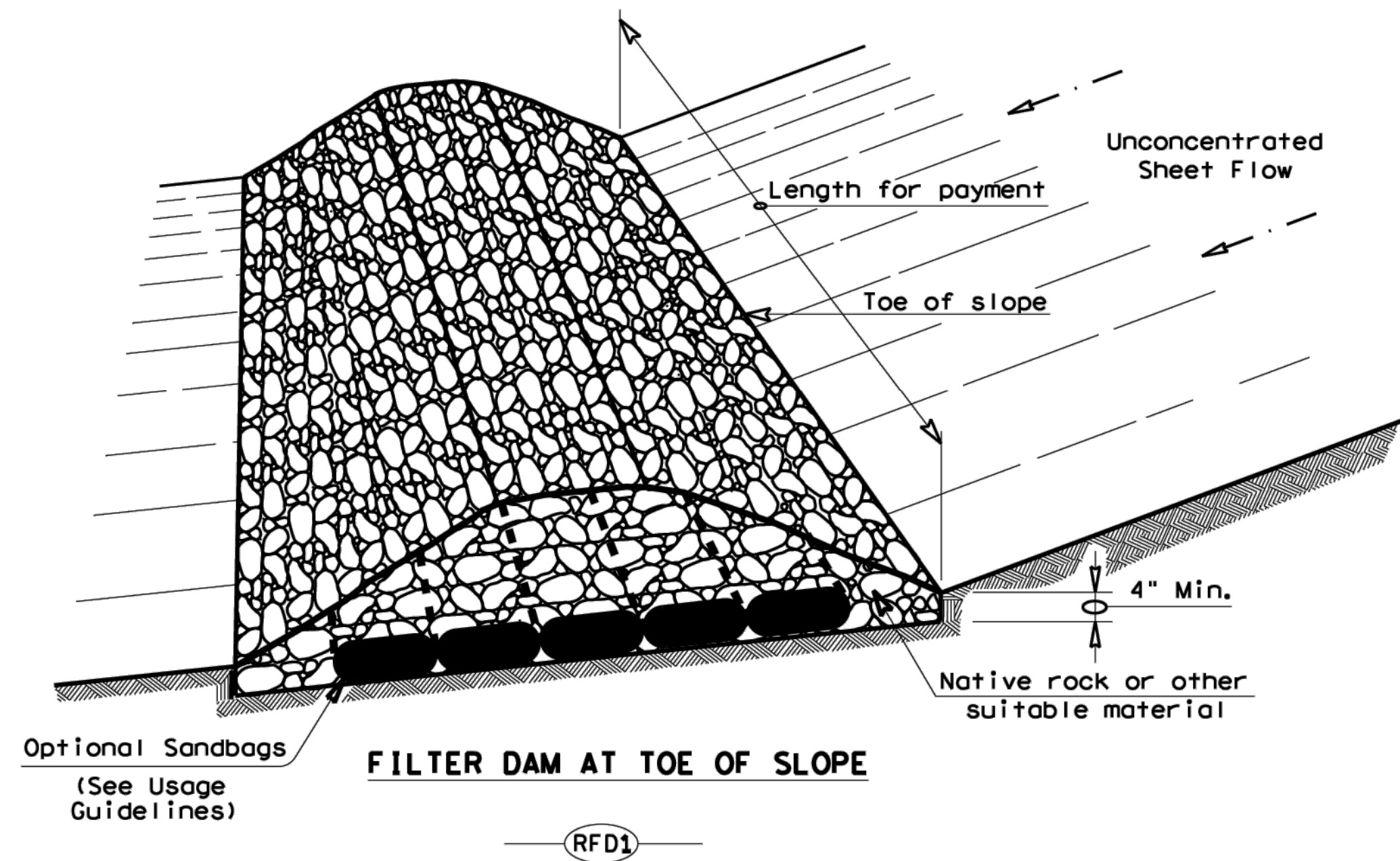


VERTICAL TRACKING

				Design Division Standard	
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES FENCE & VERTICAL TRACKING					
EC(1)-16					
FILE: ec116	DN: TxDOT	CK: KM	DN: VP	DN/CK: LS	
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY	
REVISIONS		DIST	COUNTY	SHEET NO.	

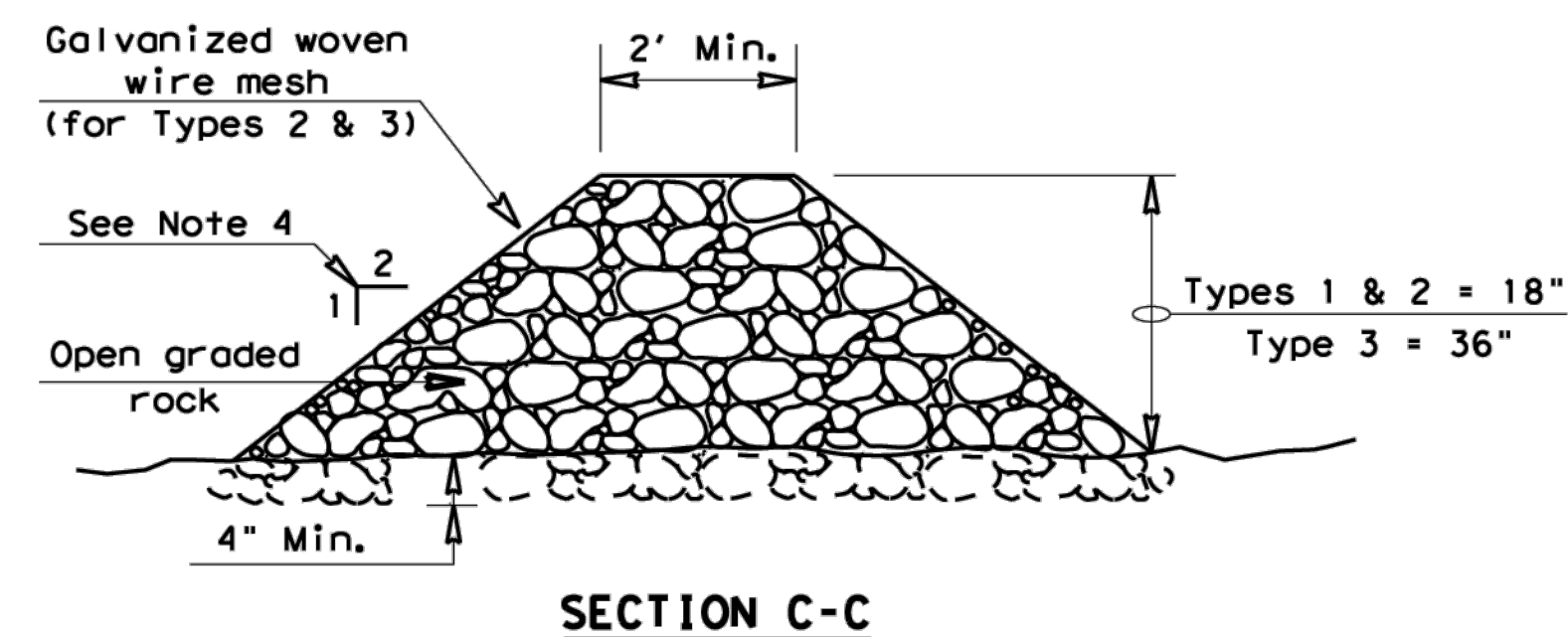
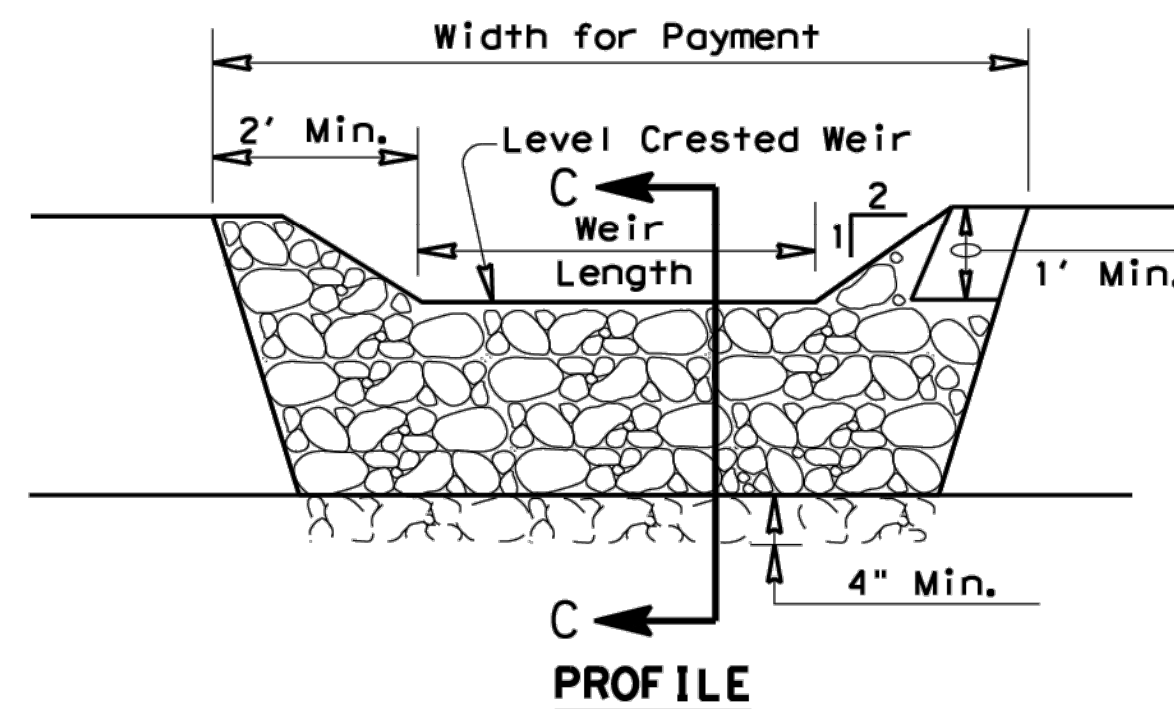
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FILTER DAM AT SEDIMENT TRAP

RFD1 OR RFD2



ROCK FILTER DAM USAGE GUIDELINES

Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 GPM/FT² of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

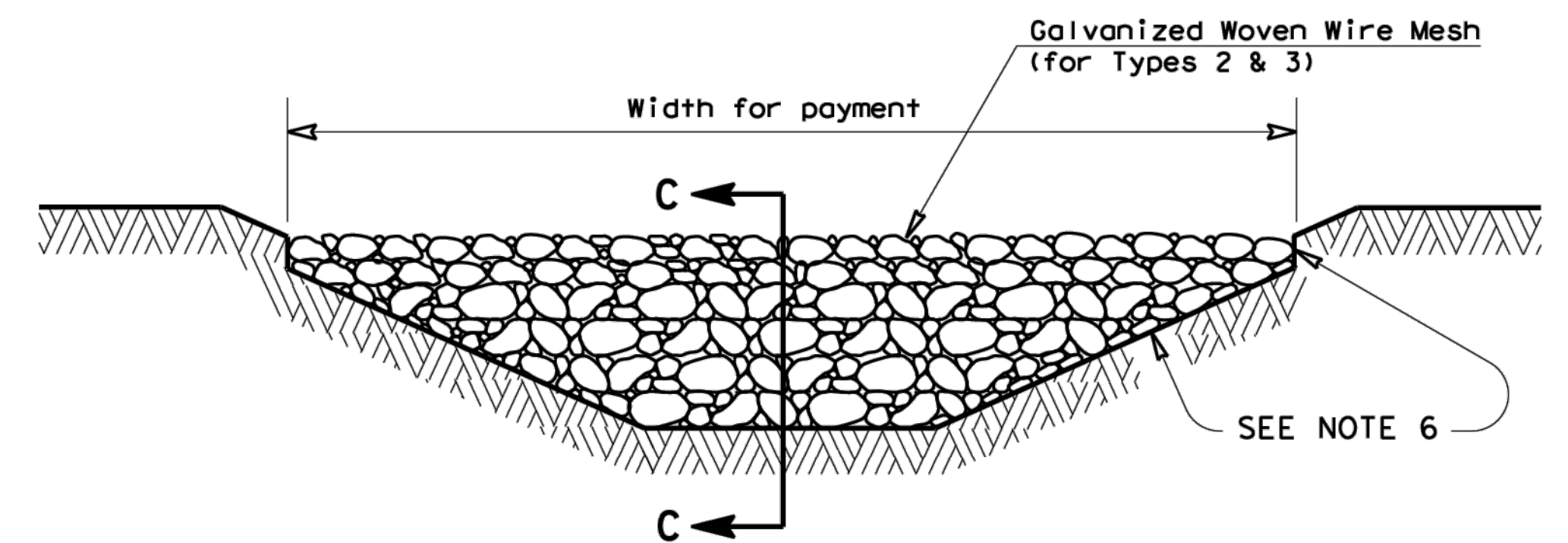
Type 1 (18" high with no wire mesh) (3" to 6" aggregate): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approximately 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh) (3" to 6" aggregate): Type 2 may be used in ditches and at dike or swale outlets.

Type 3 (36" high with wire mesh) (4" to 8" aggregate): Type 3 may be used in stream flow and should be secured to the stream bed.

Type 4 (Sack gabions) (3" to 6" aggregate): Type 4 May be used in ditches and smaller channels to form an erosion control dam.

Type 5: Provide rock filter dams as shown on plans.



FILTER DAM AT CHANNEL SECTIONS

RFD1 OR RFD2 OR RFD3

GENERAL NOTES

1. If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
2. Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
4. Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
5. Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
6. Filter dams should be embedded a minimum of 4" into existing ground.
7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. For in stream use, the mesh should be secured or staked to the stream bed prior to aggregate placement.
9. Sack Gabions should be staked down with 3/4" dia. rebar stakes, and have a double-twisted hexagonal weave with a nominal mesh opening of 2 1/2" x 3 1/4".
10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

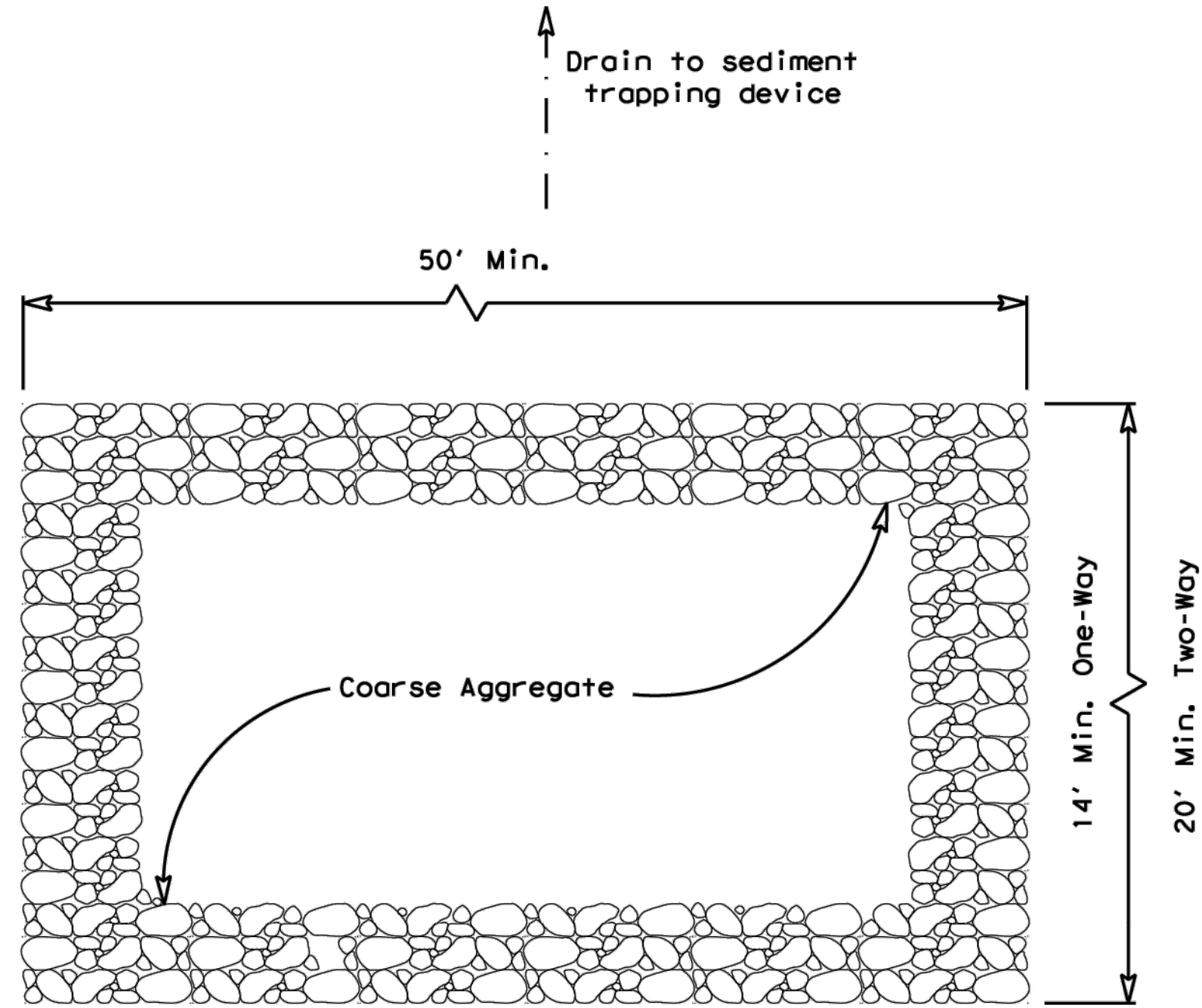
PLAN SHEET LEGEND

- Type 1 Rock Filter Dam — RFD1 —
Type 2 Rock Filter Dam — RFD2 —
Type 3 Rock Filter Dam — RFD3 —
Type 4 Rock Filter Dam — RFD4 —

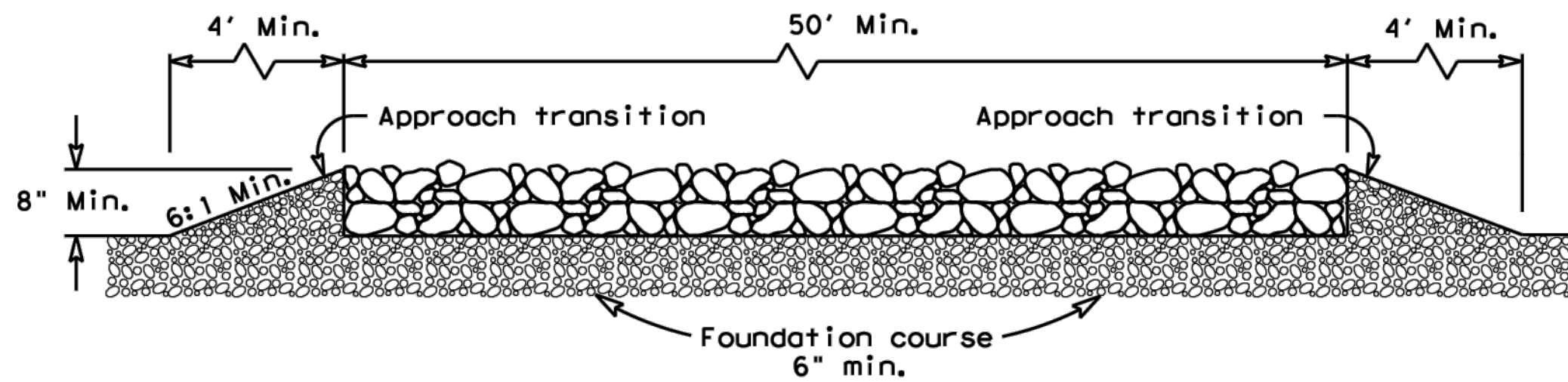
		Design Division Standard	
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES			
ROCK FILTER DAMS			
EC(2)-16			
FILE: ec216	DN: TxDOT	CK: KM	DN: VP
© TxDOT: JULY 2016	CONT	SECT	JOB
REVISONS		DIST	COUNTY
		SHEET NO.	

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DATE: \$DATES\$
FILE: \$FILES\$



PLAN VIEW

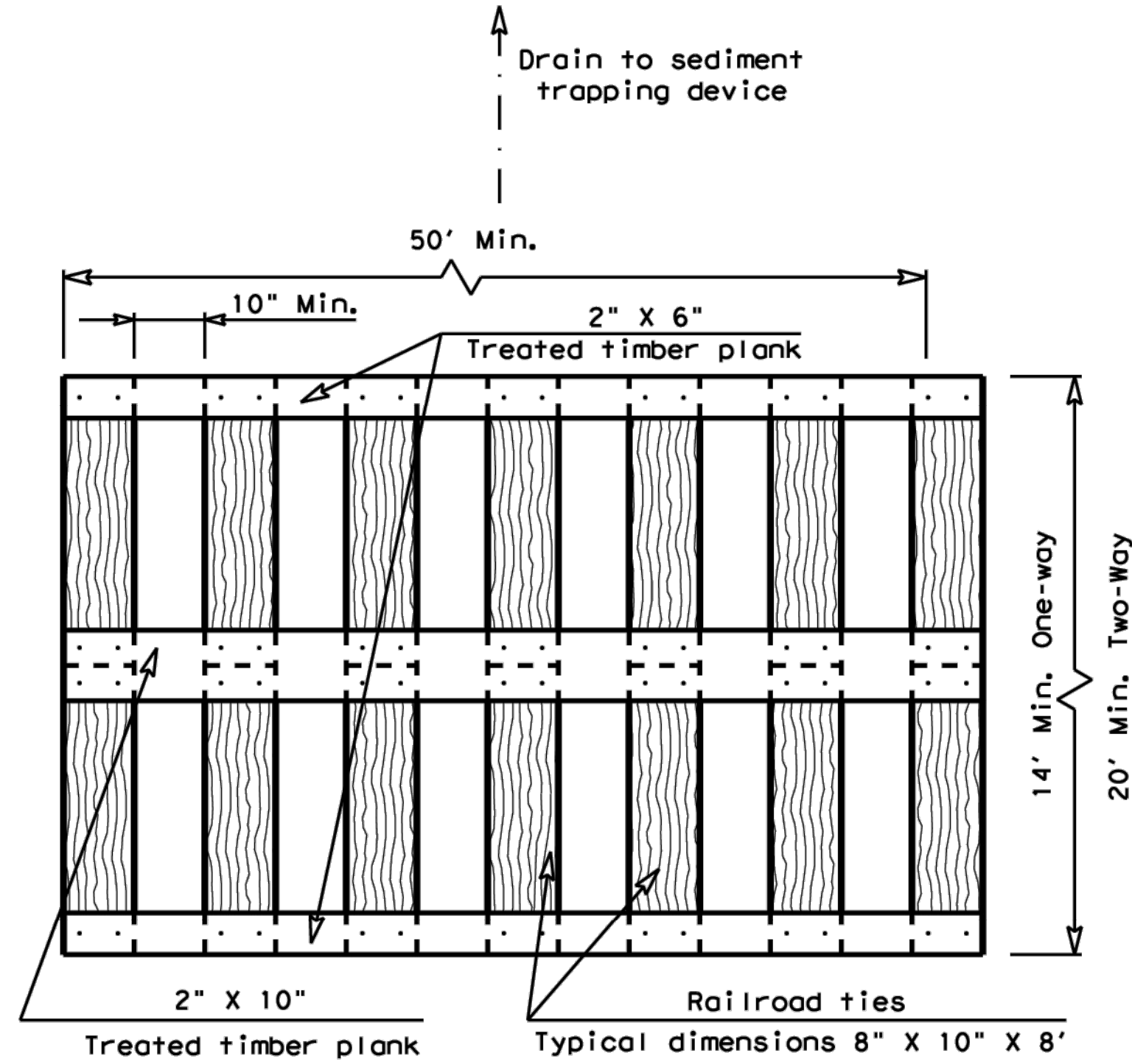


ELEVATION VIEW

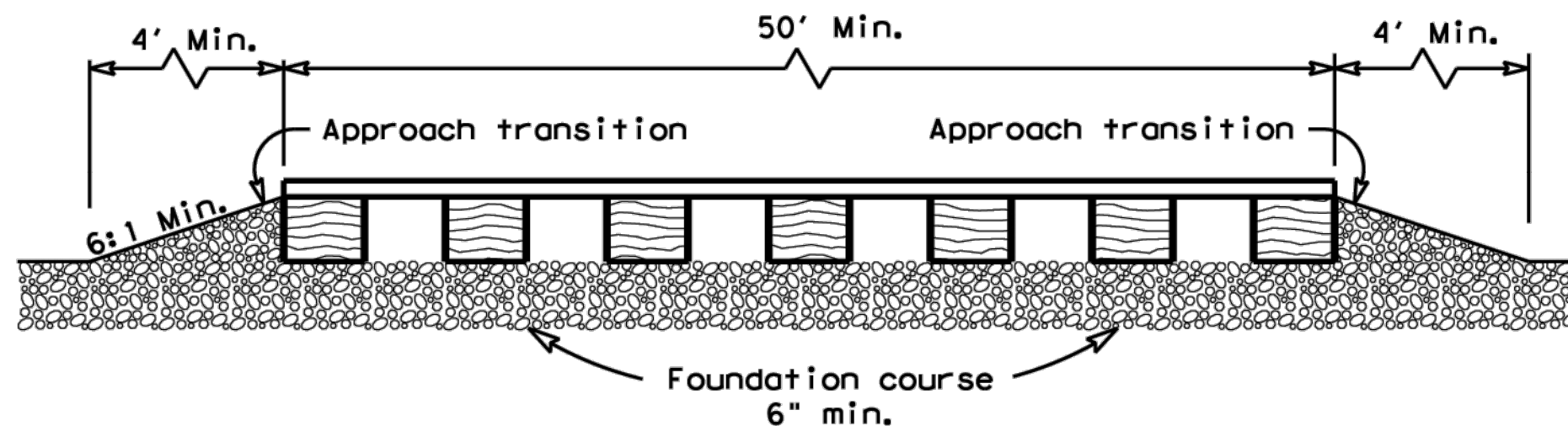
CONSTRUCTION EXIT (TYPE 1)
ROCK CONSTRUCTION (LONG TERM)

GENERAL NOTES (TYPE 1)

1. The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
2. The coarse aggregate should be open graded with a size of 4" to 8".
3. The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
4. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other materials approved by the Engineer.
5. The construction exit shall be graded to allow drainage to a sediment trapping device.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.
7. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



PLAN VIEW

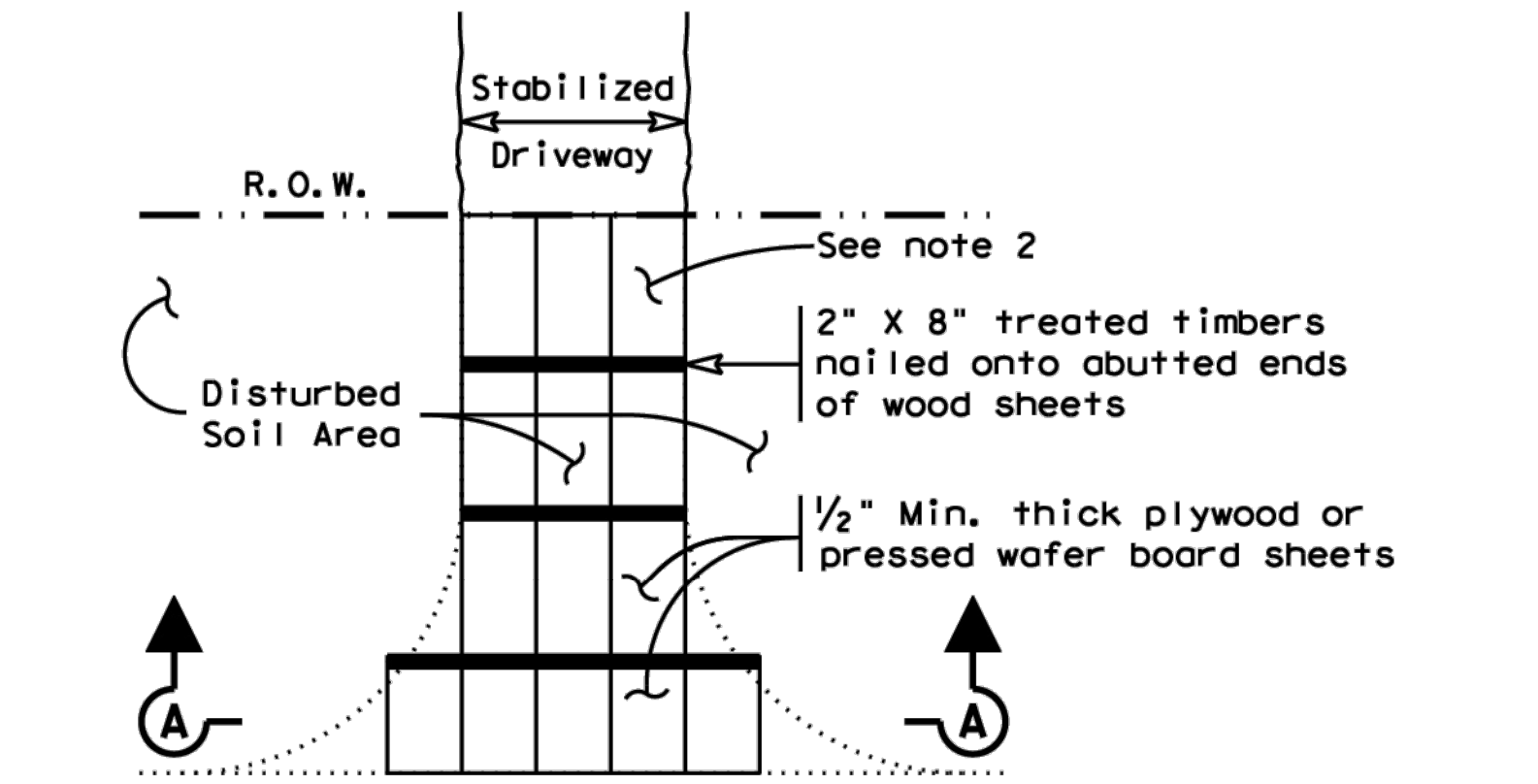


ELEVATION VIEW

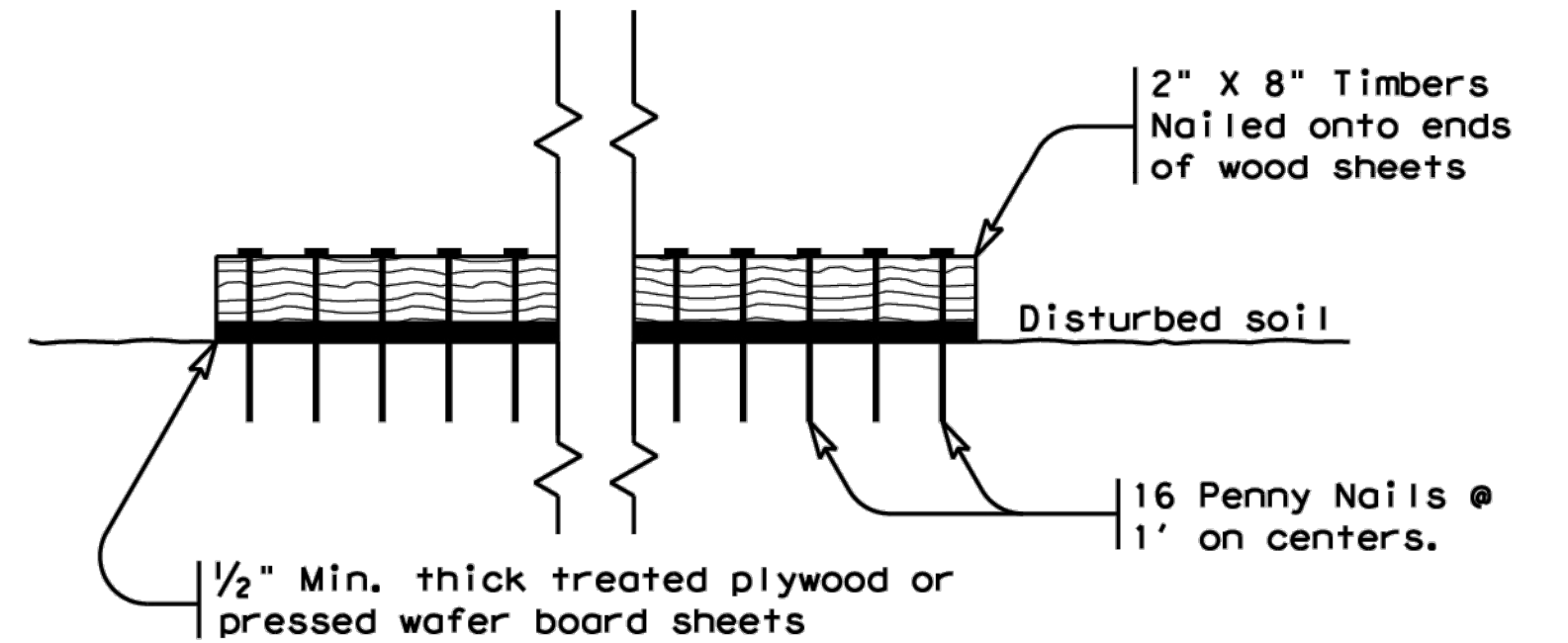
CONSTRUCTION EXIT (TYPE 2)
TIMBER CONSTRUCTION (LONG TERM)

GENERAL NOTES (TYPE 2)

1. The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
2. The treated timber planks shall be attached to the railroad ties with 1/2" X 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
5. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
6. The construction exit should be graded to allow drainage to a sediment trapping device.
7. The guidelines shown hereon are suggestions only and may be modified by the Engineer.
8. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



PLAN VIEW



SECTION A-A
CONSTRUCTION EXIT (TYPE 3)
SHORT TERM

GENERAL NOTES (TYPE 3)

1. The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
2. The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

		Design Division Standard	
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES CONSTRUCTION EXITS EC(3) - 16			
FILE: ec316	DN: TxDOT	CK: KM	DW: VP
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