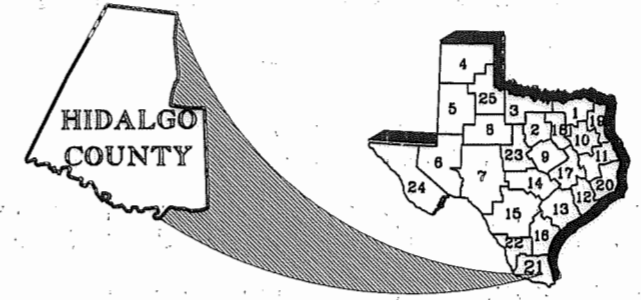


RAMON GARCIA.....COUNTY JUDGE
 JOEL QUINTANILLA.....PRECINCT NO. 1
 HECTOR "Tito" PALACIOS.....PRECINCT NO. 2
 JOE M. FLORES.....PRECINCT NO. 3
 OSCAR L. GARZA, Jr.....PRECINCT NO. 4

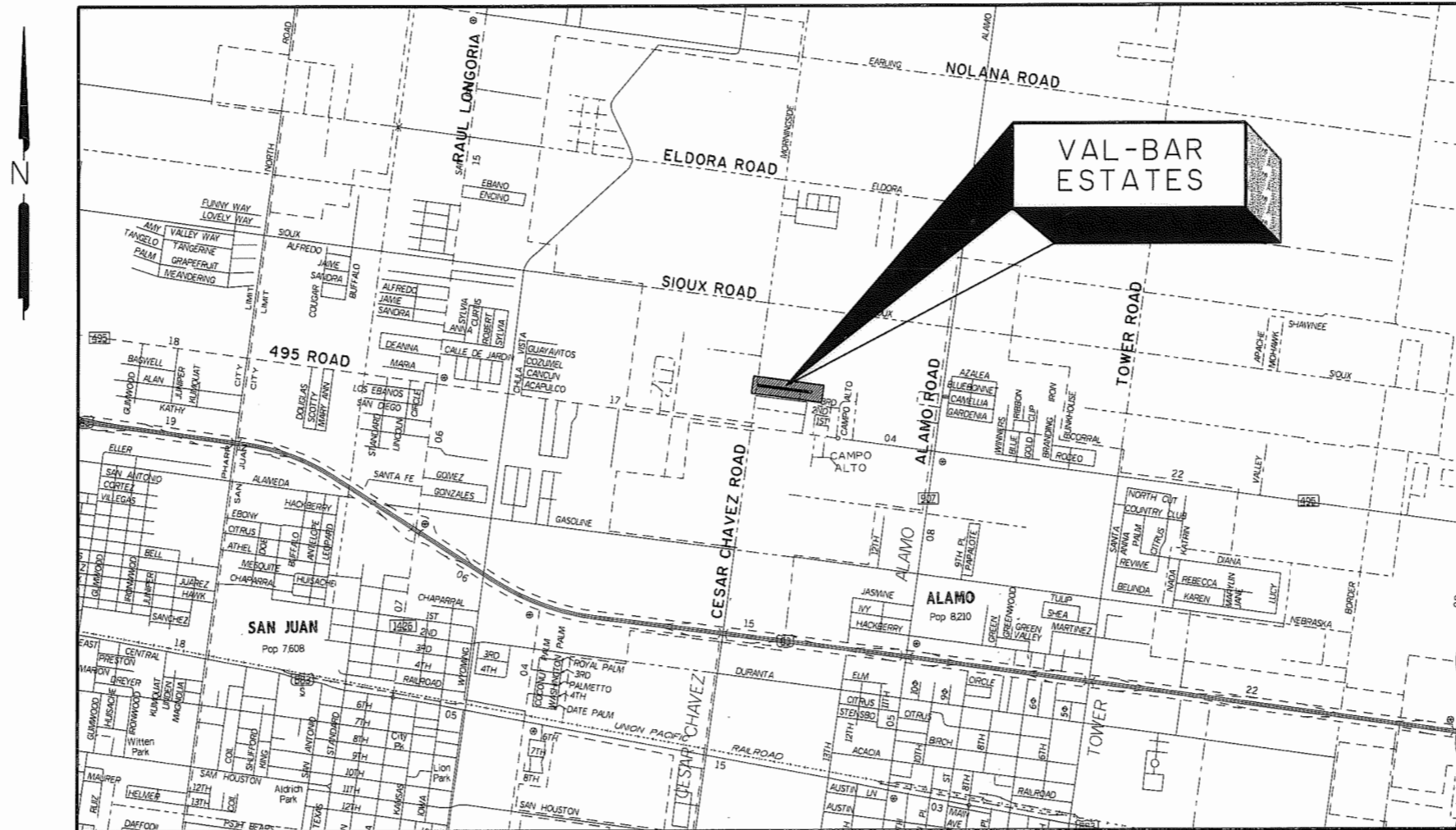
HIDALGO COUNTY PRECINCT NO. 2

VAL-BAR ESTATES CONSTRUCTION PLANS FOR BORDER ACCESS COLONIA PROJECT 2010



CSJ: 2C-1080-767- VAL-BAR DRIVE	FEET	MILES	AREA OF DISTURBED SOIL (AC)
	855.38	0.152 MILES	.99 AC

LIMITS: VAL-BAR ESTATES (SEE PROJECT LAYOUTS)
 CONSTRUCTION OF LOCAL STREET CONSISTING OF: GRADING, STRUCTURES,
 FLEXIBLE BASE, ASPHALTIC CONCRETE PAVEMENT, CONC. CURB & GUTTER,
 & CONCRETE RIP RAP



LOCATION MAP

APPROVAL:
 COLONIA ACCESS PROGRAM DATE: 02/15/11
 [Signature] NAME TITLE: Exec. Dir.

APPROVAL:
 HIDALGO COUNTY PCT. 2 DATE: 02/22/11
 [Signature] NAME TITLE: Comm. Rpt 2

APPROVAL:
 HIDALGO COUNTY PLANNER DATE: 02/25/11
 [Signature] NAME TITLE: Plan. Perm

CONCURRENCE:
 HIDALGO COUNTY DRAINAGE DIST. No.1 DATE: 2/27/11
 [Signature] NAME TITLE: Dist. Mgr.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

PROJECT DATA
 DESIGN SPEED: 30 MPH
 EXCEPTION: NONE
 EQUATION: NONE

STANDARD SHEETS IDENTIFIED ON THE INDEX OF SHEETS HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.
 2-9-11
 DATE
 [Signature] P.E.
 RAMIRO GUTIERREZ, P.E.

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION ON JUNE 1, 2004 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT.

R. Gutierrez Professional Engineers & Land Surveyors
 Engineering Corporation
 130 E. PARK AVENUE • PHARR, TEXAS 78577
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

SHEET NO.	DESCRIPTION
GENERAL	
1	TITLE SHEET
2	INDEX OF SHEETS
3	PROJECT LAYOUT
4	TYPICAL SECTIONS & GENERAL NOTES
5	ESTIMATE AND QUANTITIES
6	EARTHWORK TABLE
7	PROJECT QUANTITIES
8 - 12	DESIGN CROSS SECTIONS
TRAFFIC CONTROL PLAN	
13	TRAFFIC CONTROL PLAN
STANDARDS	
14 - 25	[S] BC (1) THRU (12) - 03
ROADWAY DETAILS	
26 - 27	PLAN & PROFILE
28	DRIVEWAY TABLE
STANDARDS	
29	[D] DRIVEWAY DETAILS
30	[D] CURB & GUTTER DETAILS
31 - 33	[S] MB - 05

SHEET NO.	DESCRIPTION
DRAINAGE DETAILS	
34	DRAINAGE AREA MAP
STANDARDS	
35	[D] SAFETY END TREATMENT DETAILS
SIGNING LAYOUT	
36	SIGNING LAYOUT
STANDARDS	
37 - 41	[S] SMD (1-1) THRU (1-5) - 98
42	[S] R (1) - 01
ENVIRONMENTAL ISSUES	
43	SW3P
STANDARDS	
44	[S] EC (1)



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

LEGEND

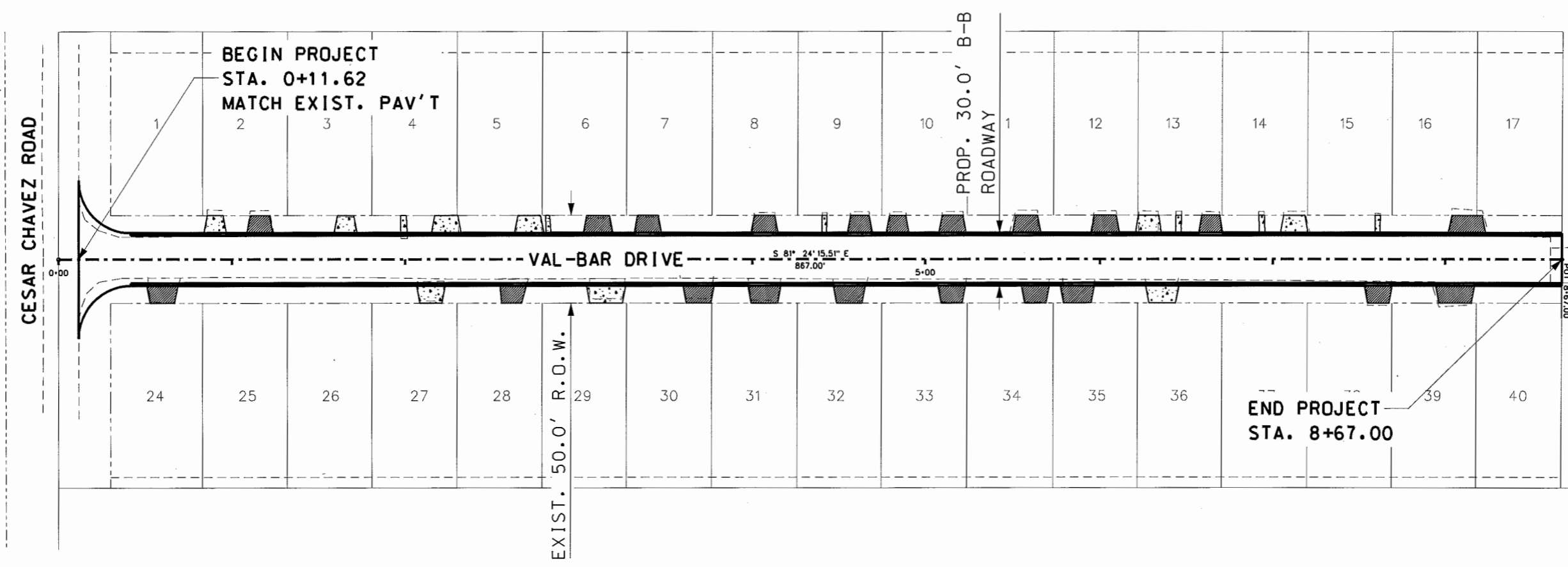
[S]- STATE STANDARD
 [D]- DISTRICT STANDARD

HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 INDEX OF SHEETS

Texas Department of Transportation
 © TxDOT 2010

R. Gutierrez Professional Engineers & Land Surveyors
 130 E. PARK AVENUE • PHARR, TEXAS 78577
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

FED. RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	2



F:\2005\Final\0121\VAL-BAR\PLANS\LAYOUT.dgn



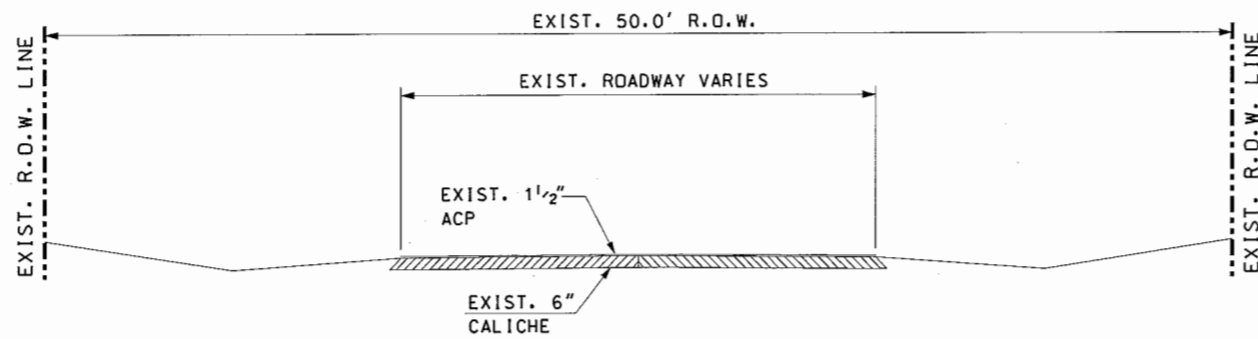
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 PROJECT LAYOUT

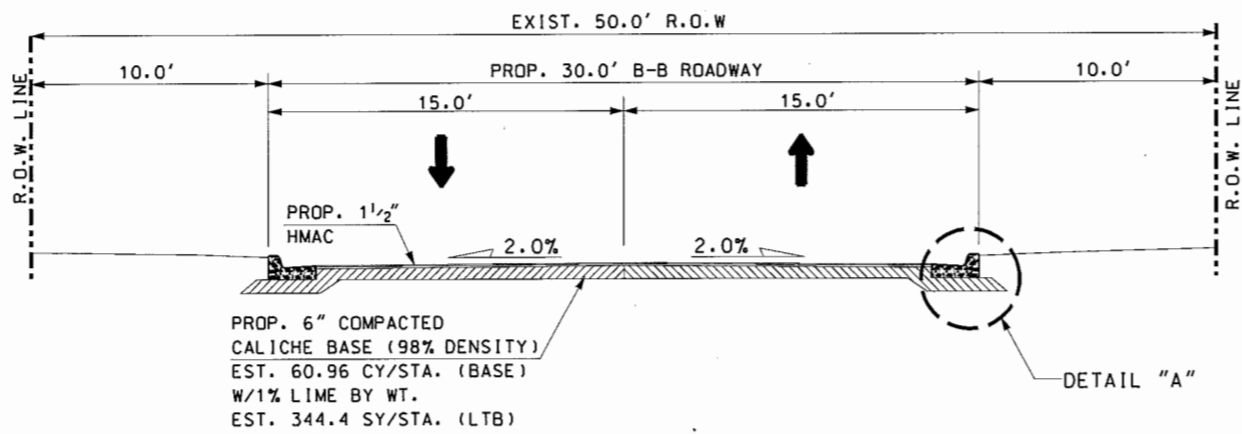


R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
 130 E. PARK AVENUE • PHARR, TEXAS 78577
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

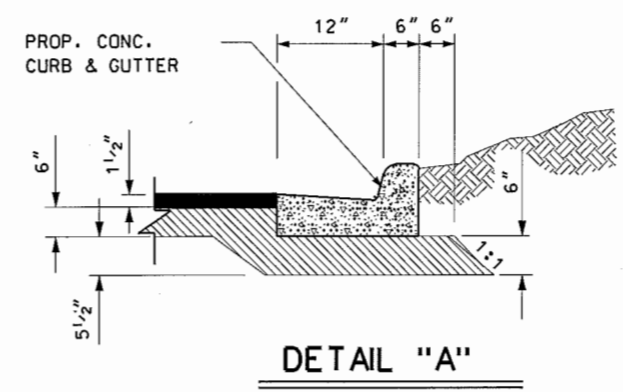
FED. RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	3



EXIST. TYPICAL SECTION
 CSJ: 2C-1080-767
 STA. 0+11.62 TO STA. 8+67.00 (8.5538 STA.)



PROP. TYPICAL SECTION
 CSJ: 2C-1080-767
 STA. 0+11.62 TO STA. 8+67.00 (8.5538 STA.)



DETAIL "A"

GENERAL NOTES:

- 1.) PGL - PROFILE GRADE LINE
 PCL - PERMISSIBLE CONSTRUCTION JOINT
- 2.) WHERE POSSIBLE AND UNLESS OTHERWISE DIRECTED BY THE ENGINEER, PERMISSIBLE CONSTRUCTION JOINTS SHALL FALL ON STRIPING LINES AS SHOWN ON STRIPING DETAILS.
- 3.) ALL GRADING SHALL BE WITHIN R.O.W. LIMITS
- 4.) WHERE REQUIRED BY FIXTURES OR UNUSUAL CONDITIONS THE GOVERNING SLOPES MAY BE VARIED WHEN SPECIFICALLY DIRECTED BY THE ENGINEER.
- 5.) THE SUBGRADE SHALL BE PROOF-ROLLED AND ANY SOFT SPOTS REPAIRED PRIOR TO FLEXIBLE BASE MATERIAL PLACEMENT. APPLICATION OF LIME TO REPAIR SOFT SPOTS MAY BE REQUIRED. IF LIME IS REQUIRED, ONLY LIME MATERIAL WILL BE PAID FOR AT THE UNIT COST BID FOR ITEM 262 "LIME FOR BASE". WORKING OF THE LIME FOR SOFT SPOTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.
- 6.) THE PROPOSED CURB AND GUTTER SHALL BE PLACED ON A 6" LAYER OF COMPACTED (98%) FLEXIBLE BASE MATERIAL. THE BACKFILL BEHIND THE CURB AND GUTTER SHALL BE COMPACTED AFTER THE PLACEMENT OF CURB AND GUTTER AND 100% OF THE FLEXIBLE BASE MATERIAL.
- 7.) 171 LBS/SY IS EQUIVALENT TO 1 1/2" IN DEPTH OF ACP TY "D"



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 TYPICAL SECTIONS &
 GENERAL NOTES



R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
 130 E. PARK AVENUE • PHARR, TEXAS 78877
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

FED. RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	4

BASIS OF ESTIMATE (ROADWAY)											
CSJ	SUBDIVISION/ROAD NAME	ITEM 100	ITEM 110	ITEM 132	ITEM 204	ITEM 247	LIME	LIME		PRIME COAT	ASPH.CONC. PAV.
		PREP. R.O.W. (⊗)	EXCAVATION (ROADWAY)	EMBANK (FINAL) (DENS. CONT.) (TY "C")	SPRINK DUST CONTROL (4 MG/STA)	FLEX BASE (RD DEL.) (TY E GR 4)	ITEM 260	ITEM 260	AREA (⊗)	ITEM 310	ITEM 340
		(STA)	(CY)	(CY)	(MG)	(CY)	(TON)	(SY)	(SY)	(GAL)	(SY)
2C-1080-767	VAL-BAR DRIVE	8.67	1,191	7	84.68	614	10.5	2946	2566	513	2566
TOTAL		8.67	1,191	7	84.68	614	10.5	2946	2566	513	2566

SUMMARY OF DRAINAGE STRUCTURE					
CSJ	SUBDIVISION/ROAD NAME	ITEM 400	ITEM 464	ITEM 467	ITEM 496
		STRUCT. EXCAV. PROT. (⊗)	RC PIPE (CL III) (18") (LF)	SET (TY II) (18")(RCP) (6:1)(P) (EA)	REMV. OLD STR. PIPE (LF) (⊗)
		(CY)	(LF)	(EA)	(LF)
2C-1080-767	VAL-BAR DRIVE	18	68	2	49
TOTAL		18	68	2	49

SUMMARY OF "SMALL SIGNS" (ITEM 644)		
CSJ	SUBDIVISION/ROAD NAME	TOTAL (EA) EST.
2C-1080-767	VAL-BAR DRIVE	1
TOTAL		1

SUMMARY OF CONC. CURB & GUTTER			
CSJ	SUBDIVISION/ROAD NAME	ITEM 529	ITEM 531
		CONC CURB & GUTTER (TY A) (BARRIER) (LF)	CONCRETE SIDEWALK (4") (SY)
		EST	EST
2C-1080-767	VAL-BAR DRIVE	1650	22.0
TOTAL		1650	22.0

SUMMARY OF DRIVEWAYS (ITEM 530)						
CSJ	SUBDIVISION/ROAD NAME	ITEM 530 DRIVEWAYS TY PRB-1				ITEM 530
		(SY)	⊗ FLEX BASE (CY)	⊗ AC-10 (GAL)	⊗ ACP (SURF) (TONS)	DRIVEWAYS (CONC) (SY)
		EST	EST	EST	EST	EST
2C-1080-767	VAL-BAR DRIVE	357	39.7	71.4	20.3	153
TOTAL		357	39.7	71.4	20.3	153

SUMMARY OF MAILBOXES (ITEM 560)		
CSJ*	SUBDIVISION/ROAD NAME	ITEM 560 MAILBOX INSTALLATION (SINGLE) EA
2C-1080-767	VAL-BAR DRIVE	29
TOTAL		29

SUMMARY OF TEMPORARY EROSION SEDIMENTATION AND ENVIROMENTAL CONTROLS									
CSJ	SUBDIVISION/ROAD NAME	ITEM 164	ITEM 164	ITEM 164	ITEM 166	ITEM 168	ITEM 506	ITEM 506	ITEM 506
		CELL FIBER MULCH SEED (TEMP) (WARM) (SY)	CELL FIBER MULCH SEED (TEMP) (COOL) (SY)	CELL FIBER MULCH SEED (PERM.) (URBAN CLAY) (SY)	⊗ FERTILIZER (TON)	VEGETATIVE WATERING (⊗) (MG)	CONST. EXITS TY (II) (INSTALL) (SY)	CONST. EXITS TY (II) (REMOVE) (SY)	TEMPORARY SEDIMENT CONTRL. FENCE # (LF)
		EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.
2C-1080-767	VAL-BAR DRIVE	711	711	1422	0.01	15.92	168	168	24
TOTAL		711	711	1422	0.01	15.92	168	168	24



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 7-2-12
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 ESTIMATE & QUANTITIES

Texas Department of Transportation
 © TxDOT 2010

R. Gutierrez Engineering Corporation Professional Engineers & Land Surveyors
 130 E. PARK AVENUE • PHARR, TEXAS 78577
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

FED.RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	5

NOTE:

1.) EST. WT. OF NEW & SALVAGE FLEXIBLE BASE = 3375 lb/cy (COMPACTED DRY WT.)
 EST. WT. OF SUBGRADE = 2970 lb/cy

LEGEND

⊗ FOR CONTRACTORS INFORMATION ONLY (NON- PAY)
 # QUANTITY BASED ON 36 LF PER INLET AND ALONG DITCH LINE. (12 LF/500 LF)

EARTHWORK TABLE

Station	Material Name	End Areas (sq. ft.)	Unadjusted Volumes (cu. yd.)	Adjusted Volumes (cu. yd.)	Mult Factor	Mass Ordinate
0+50.00	DIRT Excavation Fill	29.1 2.3	0 0	0 0	1.00 1.00	0
1+00.00	DIRT Excavation Fill	53.0 0.0	76 2	76 2	1.00 1.00	74
1+50.00	DIRT Excavation Fill	52.2 0.0	97 0	97 0	1.00 1.00	171
2+00.00	DIRT Excavation Fill	52.2 0.0	97 0	97 0	1.00 1.00	268
2+50.00	DIRT Excavation Fill	49.2 0.2	94 0	94 0	1.00 1.00	362
3+00.00	DIRT Excavation Fill	46.6 0.0	89 0	89 0	1.00 1.00	451
3+50.00	DIRT Excavation Fill	21.4 0.0	63 0	63 0	1.00 1.00	514
4+00.00	DIRT Excavation Fill	45.6 0.0	62 0	62 0	1.00 1.00	576
4+50.00	DIRT Excavation Fill	44.9 0.0	84 0	84 0	1.00 1.00	660
5+00.00	DIRT Excavation Fill	42.3 0.0	81 0	81 0	1.00 1.00	741
5+50.00	DIRT Excavation Fill	38.4 1.5	75 1	75 1	1.00 1.00	815
6+00.00	DIRT Excavation Fill	37.0 0.2	70 2	70 2	1.00 1.00	883
6+50.00	DIRT Excavation Fill	38.1 0.0	70 0	70 0	1.00 1.00	953
7+00.00	DIRT Excavation Fill	37.6 0.0	70 0	70 0	1.00 1.00	1023
7+50.00	DIRT Excavation Fill	37.3 1.3	69 1	69 1	1.00 1.00	1091
8+00.00	DIRT Excavation Fill	21.4 0.0	54 1	54 1	1.00 1.00	1144
8+50.00	DIRT Excavation Fill	21.4 0.0	40 0	40 0	1.00 1.00	1184



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948

DATE: 2-9-11
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
EARTHWORK TABLES



R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

* GRAND SUMMARY		TOTALS		
Material Name	Unadjusted Volumes (cu. yd.)	Adjusted Volumes (cu. yd.)	Mult Factor	
DIRT	1191	1191	1.00	
Excavation	7	7	1.00	
Fill				

FED. RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	6

PROJECT QUANTITIES

VAL-BAR SUBDIVISION				PROJECT TOTAL	
VAL-BAR DRIVE					
CSJ: 2C-1080-767					
ITEM	CODE	UNIT	DESCRIPTION	EST	FIN
ROADWAY					
110		CY	Excavation (Roadway)	1,191	
132		CY	Embankment (Final)(Dens Cont)(TY C)	7	
164		SY	Cell Fiber Seeding (Temp)(Warm)	711	
164		SY	Cell Fiber Seeding (Temp)(Cool)	711	
164		SY	Cell Fiber Seeding (Perm)(Urban)(Clay)	1,422	
247		CY	Flexible Base (6")	521	
260		TON	Lime	8.8	
260		SY	Lime Treat Base Course (6")	2946	
310		GAL	Prime Coat (MC-30)	513	
340		SY	ACP (Surf.) Ty. "D" (1 1/2")	2566	
502		MO	Barricades	2	
506		SY	Construction Exits (Ty 2)(Install)	168	
506		SY	Construction Exits (Ty 2)(Remove)	168	
506		LF	Temporary Sediment Control Fence	24	
560		EA	Mailboxes (Single)	29	
644		EA	Small Rdsd Sgn Assm (Ty A)	1	
DRAINAGE					
464		LF	RC Pipe CL III 18"	68	
467		EA	SET Ty II 18" RCP (6:1)(P)	2	
529		LF	Concrete Curb & Gutter (Ty A)(Barrier)	1,650	
530		SY	Driveways (CONCRETE)	153	
530		SY	Driveways (Ty PRB1)	357	
531		SY	Conc. Sidewalks (4")	22	



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 PROJECT QUANTITIES

Texas Department of Transportation
 © TxDOT 2010

R. Gutierrez Professional Engineers & Land Surveyors
 Engineering Corporation
 130 E. PARK AVENUE • PHARR, TEXAS 77577
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

FED.RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	7

F:\2005\Eng\0121\VAL-BAR\PLANS\PROJQUANTY.dgn

F:\2005\End\12\VAL-BAR\GEOPAK\dxshhets_mando.dgn

110

105

R.O.W.

28.5:1

0.020 FT./FT.

0.020 FT./FT.

20.6:1

R.O.W.

110

105

2+00.00

110

105

R.O.W.

74.5:1

0.020 FT./FT.

0.020 FT./FT.

272.1:1

R.O.W.

110

105

1+50.00

110

105

R.O.W.

396.6:1

0.020 FT./FT.

0.020 FT./FT.

34.5:1

R.O.W.

110

105

1+00.00

110

105

R.O.W.

1037.1:1

0.020 FT./FT.

0.020 FT./FT.

1319.8:1

R.O.W.

110

105

0+50.00

50

40

30

20

10

0

10

20

30

40

50



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948 DATE: 2-9-11 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
DESIGN CROSS SECTIONS



R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

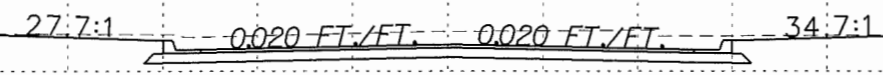
FED. RD. DIV. NO.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS					
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	8

F:\2005\Enc\012\VAL-BAR\GEOPAK\dssheets_mando.dgn

110

105

R.O.W.



4+00.00

R.O.W.

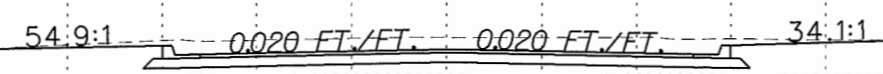
110

105

110

105

R.O.W.



3+50.00

R.O.W.

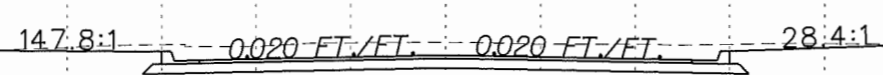
110

105

110

105

R.O.W.



3+00.00

R.O.W.

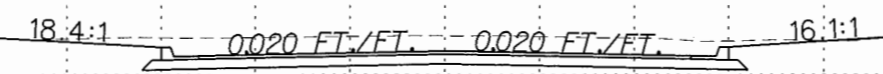
110

105

110

105

R.O.W.



2+50.00

R.O.W.

110

105

50 40 30 20 10 0 10 20 30 40 50



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 DESIGN CROSS SECTIONS



R. Gutierrez Engineering Corporation Professional Engineers & Land Surveyors
 130 E. PARK AVENUE • PHARR, TEXAS 78677
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

FED.RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS					
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	9

F:\2005\Eng\0121\VAL-BAR\GEOPAK\dsk\sheet5.mxd.dwg

110

105

R.O.W.

66.3:1

0.020 FT./FT.

0.020 FT./FT.

289.3:1

R.O.W.

110

105

6+00.00

110

105

R.O.W.

49.2:1

0.020 FT./FT.

0.020 FT./FT.

90.9:1

R.O.W.

110

105

5+50.00

110

105

R.O.W.

46:1

0.020 FT./FT.

0.020 FT./FT.

63:1

R.O.W.

110

105

5+00.00

110

105

R.O.W.

80.6:1

0.020 FT./FT.

0.020 FT./FT.

48.8:1

R.O.W.

110

105

4+50.00

50

40

30

20

10

0

10

20

30

40

50



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 DESIGN CROSS SECTIONS



R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
 130 E. PARK AVENUE • PHARR, TEXAS 78877
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

FED. RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS					
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	10

FA:2005\Eng\0124\VAL-BAR\GEOPAK\dxsheets_mondo.dgn

110

105

R.O.W.

248.2:1 --- 0.020 FT./FT. --- 0.020 FT./FT. --- 2379.3:1

8+00.00

R.O.W.

110

105

110

105

R.O.W.

75.8:1 --- 0.020 FT./FT. --- 0.020 FT./FT. --- 6816.6:1

7+50.00

R.O.W.

110

105

110

105

R.O.W.

234.8:1 --- 0.020 FT./FT. --- 0.020 FT./FT. --- 36:1

7+00.00

R.O.W.

110

105

110

105

R.O.W.

48.2:1 --- 0.020 FT./FT. --- 0.020 FT./FT. --- 51.5:1

6+50.00

R.O.W.

110

105

50 40 30 20 10 0 10 20 30 40 50



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948 DATE: 2-9-11 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2 VAL-BAR SUBDIVISION DESIGN CROSS SECTIONS



R. Gutierrez Engineering Corporation Professional Engineers & Land Surveyors 130 E. PARK AVENUE • PHARR, TEXAS 78577 (TEL) 956 782-2557 • (FAX) 956 782-2558 FIRM No. 486

FED.RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS					
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	11

F:\2005\Eng\012\VAL-BAR\GEOPAK\dssheets_mondo.dgn

110

105

R.O.W.

27:1:1

0.020 FT./FT.

0.020 FT./FT.

81.4:1

R.O.W.

110

105

8+50.00

50

40

30

20

10

0

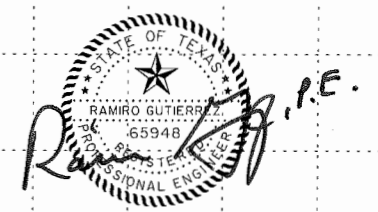
10

20

30

40

50



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948 DATE: 2-9-11 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
DESIGN CROSS SECTIONS



R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation 130 E. PARK AVENUE • PHARR, TEXAS 78577
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

FED. RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS					
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	12

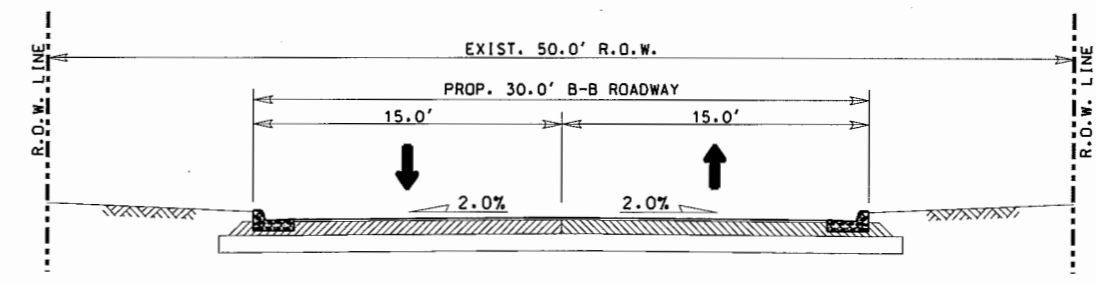
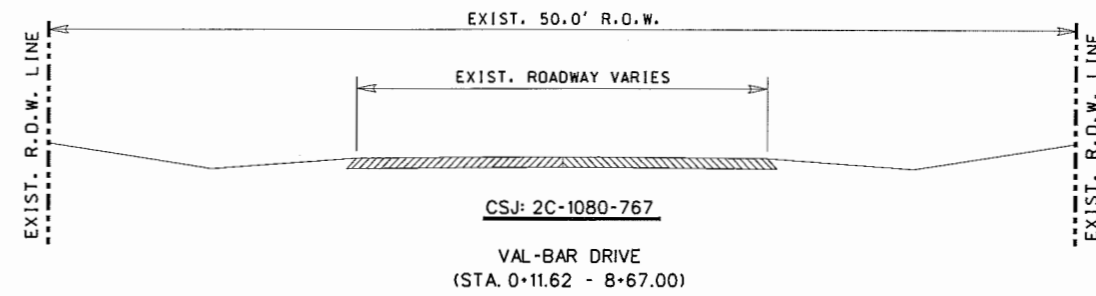
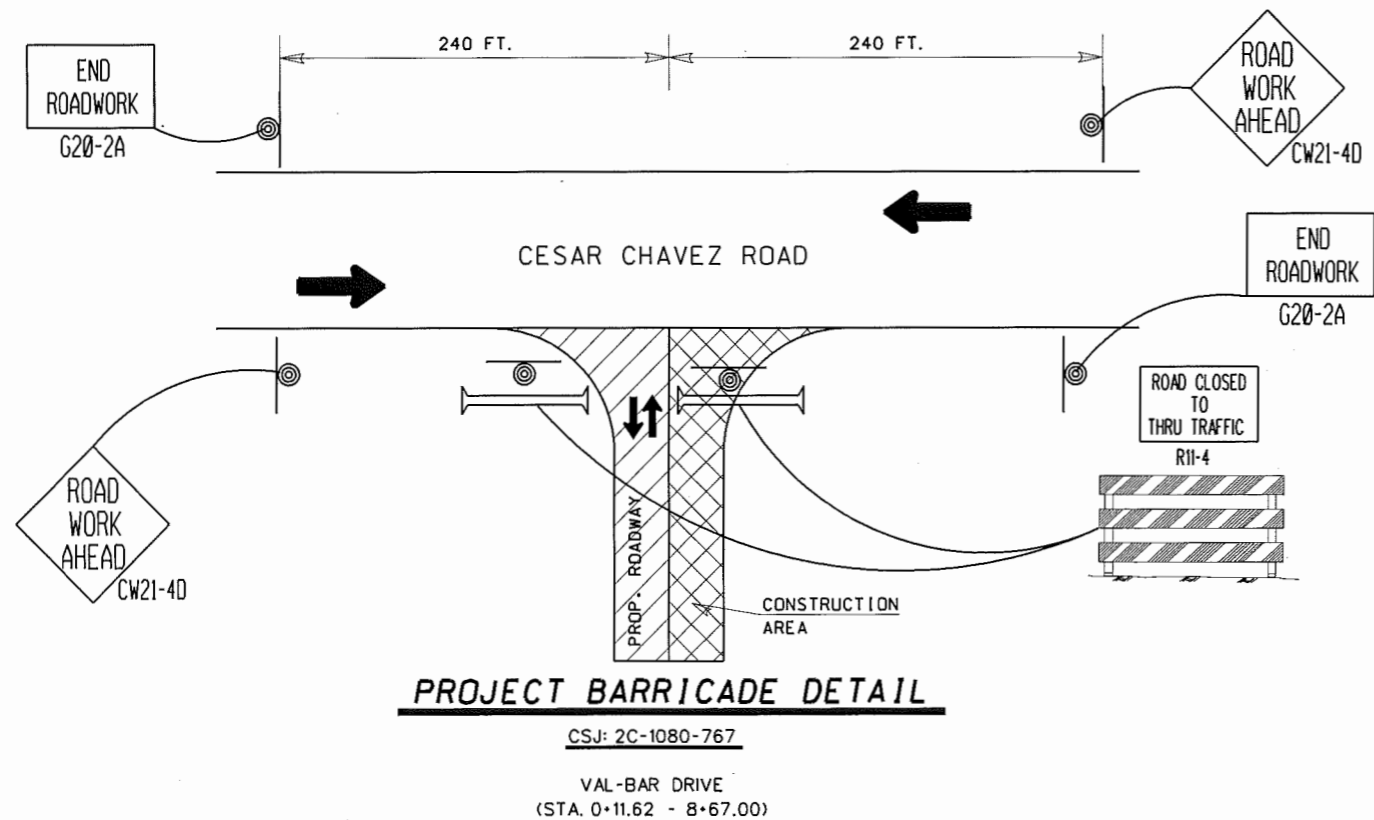
GENERAL NOTES:

- 1.) THE CONTRACTOR SHALL PROVIDE PROJECT BARRICADES & CONSTRUCTION WARNING SIGNS THRU OUT PROJECT WHICH COICIDE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. THE CONTRACTOR MAY SUBMIT A TRAFFIC CONTROL PLAN FOR THE APPROVAL OF THE PROJECT ENGINEER.
- 2.) THE CONTRACTOR SHALL TAKE ALL OF THE PRECAUTIONS IN DEALING WITH EXISTING UTILITIES AND SERVICES.
- 3.) THE CONTRACTOR SHALL MAINTAIN INGRESS AND EGRESS TO ALL PROPERTY OWNERS DURING THE VARIOUS PHASES OF CONSTRUCTION. CONTRACTOR TO COMMUNICATE WITH PROPERTY OWNERS AND KEEP THEM ADVISED AS TO THE ANTICIPATED CONSTRUCTION OPERATIONS.
- 4.) THE CONTRACTOR SHALL PROVIDE A SIX (6) INCH COMPACTED CALICHE SURFACE ROAD AT ALL TIMES FOR THE LOCAL TRAFFIC.
- 5.) EXCAVATED MATERIAL SHALL BE HANDLED BY THE CONTRACTOR IN SUCH A WAY THAT IT SHALL NOT BLOCK DRAINAGE.
- 6.) STOP SIGNS OF INTERSECTING STREETS SHALL BE ADJUSTED DURING THE VARIOUS CONSTRUCTION PHASES.
- 7.) MAIL BOXES SHALL BE ADJUSTED AND MAINTAINED BY THE CONTRACTOR DURING THE VARIOUS CONSTRUCTION PHASES.
- 8.) THE CONSTRUCTION SEQUENCE MAY BE ADJUSTED TO ALLOW FOR THE EXCAVATION OF THE FULL ROADWAY WIDTH. HOWEVER, THE CONTRACTOR SHALL PROOF-ROLL THE EXCAVATED SUBGRADE, REPAIR ANY SOFT SPOTS, AND PLACE A MINIMUM 6" CALICHE BASE MATERIAL ON THE SUBGRADE PRIOR TO THE END OF THE WORKING DAY. NO UNCOVERED RAW SUBGRADE SHALL BE ALLOWED AT THE END OF THE WORKING DAY.

SEQUENCE OF CONSTRUCTION:

PHASE PROJECT

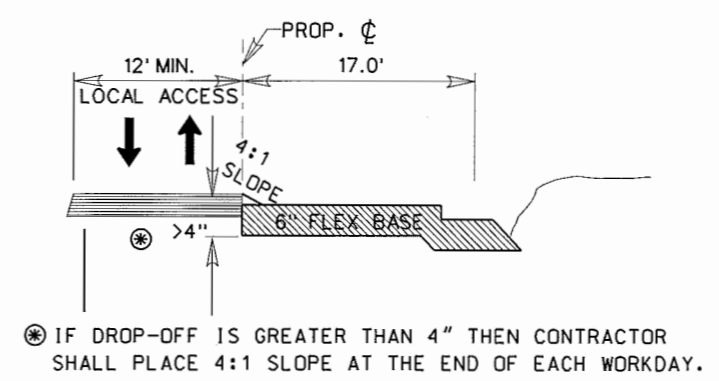
- 1.) INSTALL ALL NECESSARY TRAFFIC CONTROL DEVICES.
- 2.) CONSTRUCT BASE COURSE ON ONE-HALF OF STREET AS SHOWN IN DETAIL.
- 3.) CONSTRUCT OTHER HALF OF BASE COURSE ON STREET AS SHOWN ON DETAIL.
- 4.) CONSTRUCT CURB & GUTTER.
- 5.) CONSTRUCT ASPHALTIC CONCRETE SURFACE.



PHASE I CONSTRUCTION

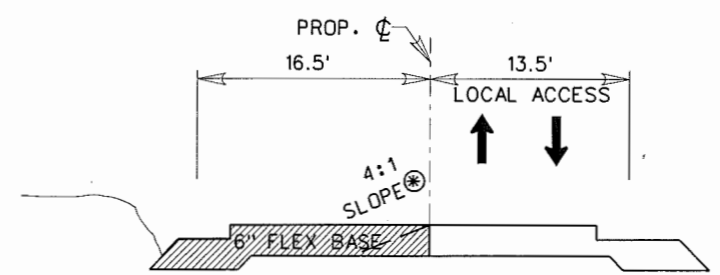
CSJ: 2C-1080-767
VAL-BAR DRIVE
(STA. 0+11.62 - 8+67.00)

NOTE: SEE TYPICAL SECTIONS FOR PROPOSED MATERIALS.



* IF DROP-OFF IS GREATER THAN 4" THEN CONTRACTOR SHALL PLACE 4:1 SLOPE AT THE END OF EACH WORKDAY.

PHASE 3



PHASE 4



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65946
DATE: 2-9-11
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
TRAFFIC CONTROL PLAN

Texas Department of Transportation
© TxDOT 2010

R. Gutierrez Engineering Corporation
Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78677
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

FED. RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	13

F:\2005\ENG\012J_VAL-BAR\TCPTCP.dgn

Definition of Responsibilities and Purpose of the Barricade and Construction (BC) Standard Sheets

1. The Barricade and Construction Standard Sheets (BC SHEETS) are intended to show typical examples for placement of traffic control devices, construction pavement markings, and typical construction signs. These sheets alone shall not be used for the Traffic Control Plan (TCP), but may be used to supplement the TCP. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. The BC SHEETS are intended for use by the following groups:
 - a. **TxDOT Engineers**-these sheets provide typical design requirements and guidelines for TCP's, example sign placement locations, information on approved sign supports, reflective sheeting, sign substrates and other approved traffic control devices. An evaluation of field conditions and engineering judgement must be considered when designing and implementing the TCP in the field.
 - b. **TxDOT Inspectors**-these sheets show typical sign placement and guidelines. These sheets provide information on approved traffic control devices and lists responsibilities of TxDOT and Contractor personnel for implementing and maintaining the TCP.
 - c. **Contractors**-these sheets show approved devices and locations the Contractor may install and maintain on the roadway. The BC Sheets serve as a reminder that the Engineer is responsible for the design of the TCP and the Contractor may not alter the TCP without written approval of the Engineer. The Contractor is responsible for implementation of the TCP, including maintaining the traffic control devices.
3. The development and design of the TCP is the responsibility of the Engineer. The Engineer/Designer, when possible, shall ensure lane shifts and detours meet the applicable design criteria contained in the American Association of State Highway and Transportation Officials (AASHTO) "Policy on the Geometric Design of Highways and Streets" or the TxDOT "Roadway Design Manual." The Engineer or his/her assigned responsible person, typically an inspector, has the final decision on the location of all traffic control devices shown in the plans.
4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the location of any device without the approval of the Engineer/Inspector. Any variation in the plans shall be documented by written agreement between the Engineer/Inspector and the Contractor's Responsible Person. All agreed upon changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary or a memorandum to the project file.
5. The Engineer/Inspector shall ensure that construction work zone signs are installed with adequate spacing between the signs so the legibility of existing permanent and other work zone signs is not obstructed or compromised. All signs should fulfill a need, command attention, convey a clear and simple message, command respect of the road users and give adequate time for proper response.
6. Additional traffic control devices are needed in advance of the Control-Section-Job (CSJ) limits in those cases where a work area is at or less than 2000 feet inside the CSJ limits. Follow the applicable TCP sheets for exact spacing of signs and channelizing devices placed outside the CSJ limits.
7. The traffic control devices used in the illustrations shown on the BC sheets are examples only. The TxDOT Engineer/Inspector must evaluate field conditions and use their judgement to determine the most appropriate traffic control device to be used. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary or a memorandum to the project file.
8. As shown on BC(2), the OBSERVE WARNING SIGNS STATE LAW, BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The Engineer/Inspector should ensure adequate spacing between existing signs.
9. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor will erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
10. The Engineer/Inspector may require duplicate construction warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
11. Except for devices required by Note 8, traffic control devices should be in place only while work is actually in progress or a definite need exists.
12. The Engineer/Inspector shall specify the sign size based on the TMUTCD or the table, "Typical Construction Warning Sign Size and Spacing," shown on BC(2).
13. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas 1980." Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
14. After the traffic control devices have been installed, the Engineer/Inspector should drive the work zone area both during the day and after dark to ensure the devices are properly positioned, spaced, legible and are reflective. The Contractor shall be notified of any deficiencies and shall correct the deficiencies within an agreed upon time.

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.


LS DISPLAYED
ACC:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3120
Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start at website - www.dot.state.tx.us
Click on "About TxDOT".
Click on "Functional Organizational Chart".
Click on Traffic Operations Box.
Click on "Compliant Work Zone Traffic Control Devices".
Again click on "Compliant Work Zone Traffic Control Devices".
This site is printable.



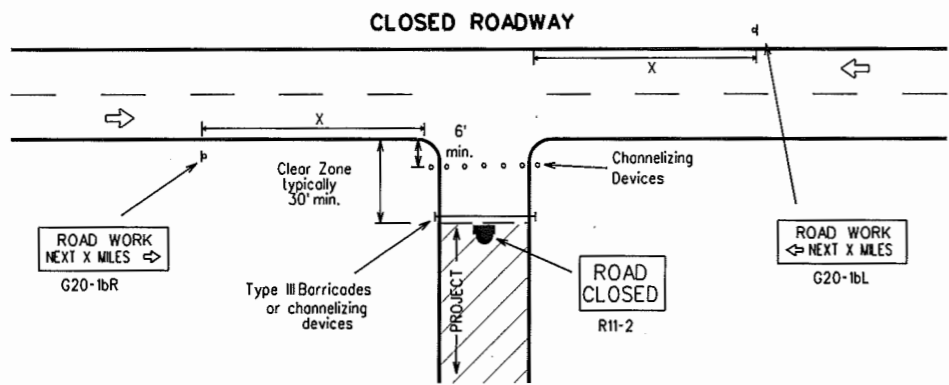
STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION
GENERAL NOTES
AND REQUIREMENTS

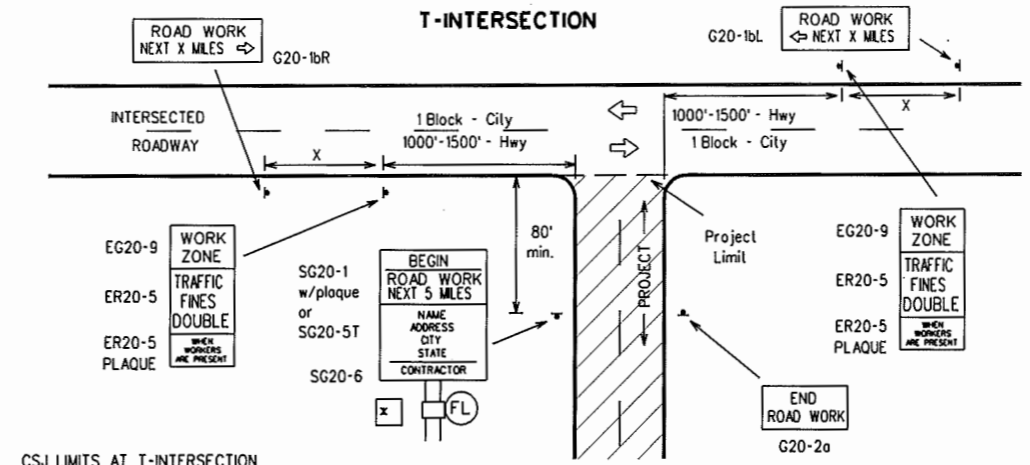
1 of 12 BC(1)-03

© TxDOT 11-4-02		DR- BAS	CR- GRB	DR- FDN	CR- CAL
REVISIONS	STATE DISTRICT	FEDERAL PROJECT	SHEET		
21		ENG05.12J	14		
COUNTY	CONTROL	SECTION	JOB	HIGHWAY	
Hidalgo	2C	1080	767		

DISCLAIMER
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



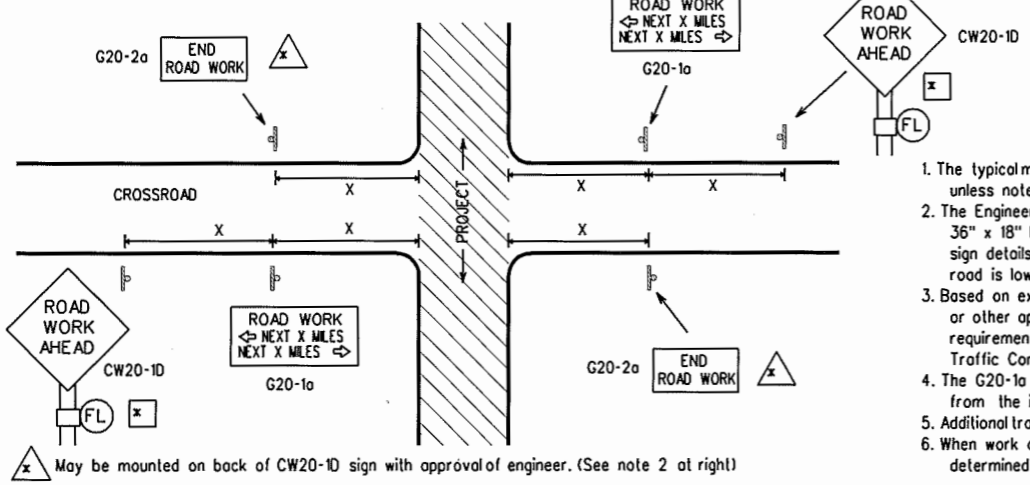
Barricades or channelizing devices shall be erected completely across roadway. Drums, vertical panels or cones shall be used in place of Type III Barricades when shown in plans or as specified by the Engineer.



CSJ LIMITS AT T-INTERSECTION

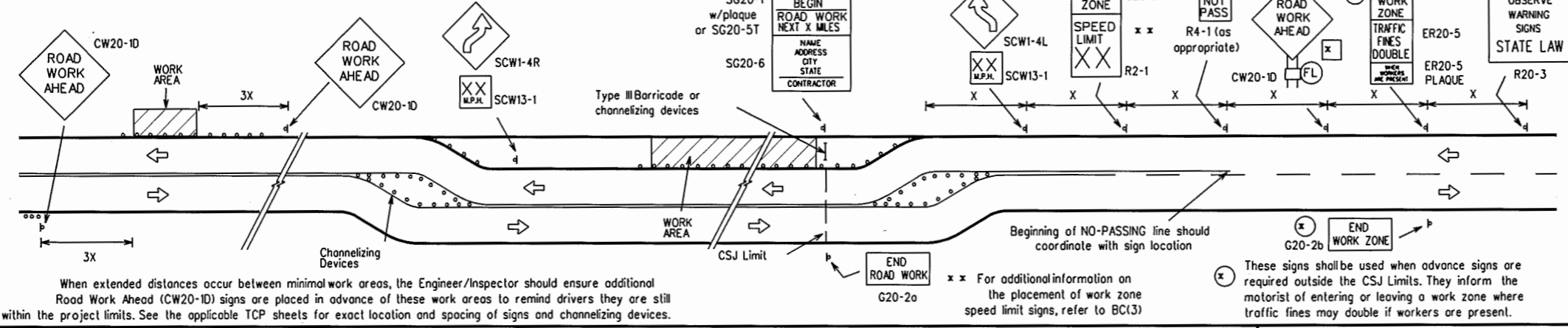
1. A ROAD WORK NEXT X MILES (G20-1bR(L)) sign should be erected on the intersected highway as shown above.
2. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
3. The Engineer/Inspector shall ensure that construction work zone signs are installed with adequate spacing between the signs so the legibility of existing permanent and other work zone signs is not obstructed.

TYPICAL LOCATION OF CROSSROAD SIGNS



1. The typical minimum signing on a crossroad approach should be a CW20-1D ROAD WORK AHEAD sign and a G20-2a END ROAD WORK sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (MCW20-1D) sign mounted back to back with the reduced size 36" x 18" END ROAD WORK (SG20-2a) sign on low volume crossroads. See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The G20-1a sign shall be required on major crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

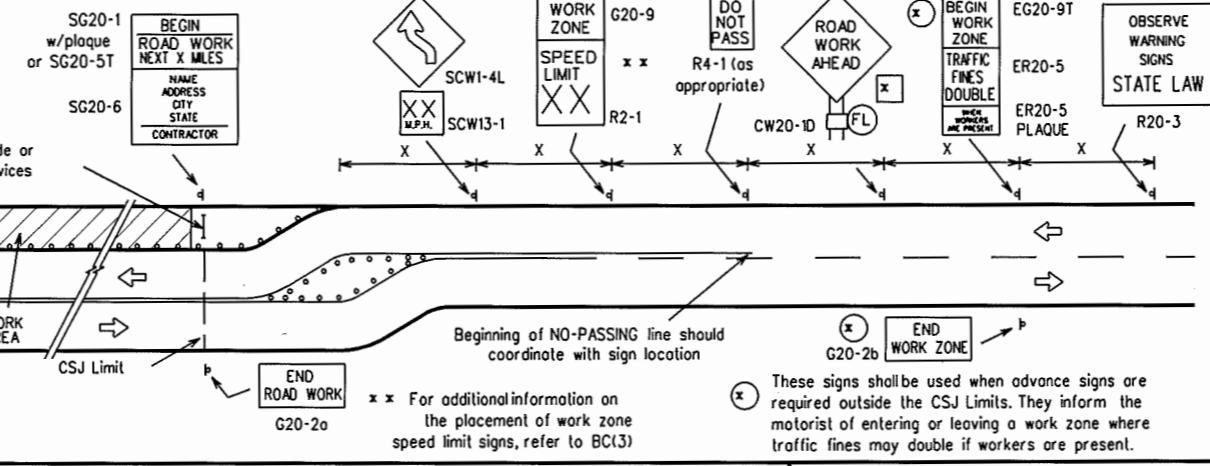
TYPICAL DETAILS FOR WORK AREAS IN VARIOUS LOCATION WITHIN CSJ LIMITS



When extended distances occur between minimal work areas, the Engineer/Inspector should ensure additional Road Work Ahead (CW20-1D) signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

TYPICAL SIGNING AND TRAFFIC CONTROL DEVICE DETAILS FOR WORK BEGINNING AT THE CSJ LIMITS

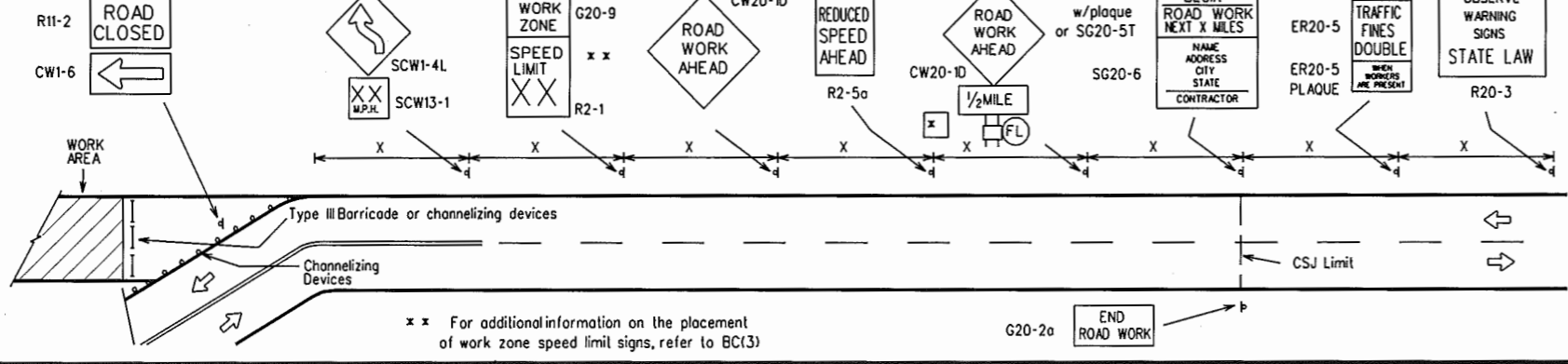
(Less than 2000 feet between project limits and work area) (Typical signing shall be installed at all CSJ Limits)



These signs shall be used when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a work zone where traffic fines may double if workers are present.

TYPICAL DETAIL FOR PROJECT LIMIT AWAY FROM WORK AREA

(Greater than 2000 feet between project limits and work area) (Typical signing shall be installed at all CSJ Limits)



For additional information on the placement of work zone speed limit signs, refer to BC(13)

- LEGEND**
- Sign
 - Ⓛ Flashing Type A-Low Intensity Warning Light
 - Channelizing Devices
 - ▬ Type III Barricade
 - ⓧ The Type A Warning Lights shall not be used with signs manufactured with Type E Sheeting (Fluorescent Prismatic) meeting the requirements of Departmental Material Specification DMS-8300.
 - ✕ See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING

Posted Speed	Sign Spacing "X"	Long-term Or Intermediate-term Stationary Approach Warning Signs CW20 and CW767 Series		Short-term Stationary Or Short Duration Approach Warning Signs CW767 Series		Other Warning Signs
		Standard inches	Minimum inches	Standard inches	Minimum inches	
30	120	48 x 48	36 x 36	30 x 30 or 36 x 36	24 x 24 or 30 x 30	30 x 30 or 36 x 36
35	160					
40	240	Use Standard Size	Use Standard Size	Use Standard Size	Use Standard Size	Use Standard Size
45	320					
50	400					
55	500 ²	48 x 48	48 x 48	48 x 48	48 x 48	48 x 48
60	600 ²					
65	700 ²					
70	800 ²	900 ²	900 ²	900 ²	900 ²	900 ²
75	900 ²					
*	*					

- * For typical sign spacings on expressways and freeways, see Part VI of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.
- Δ Minimum distance from work area to first Advance Warning sign and/or distance between each additional sign.
- General Notes:
1. Special or larger size signs may be used as necessary.
 2. Distance between signs should be increased as required to have 1500 feet advance warning.
 3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
 4. For use only on secondary roads or city streets where speeds are low.
 5. Only diamond shaped warning sign sizes are indicated.
 6. See sign size listing in "TMUTCD", Appendix A or the "Standard Highway Sign Design" manual for complete list of available sign design sizes.
 7. Where two sizes are listed, see sign size listing in "TMUTCD", Appendix A or the "Standard Highway Sign Design" manual for proper size.

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCO) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
 Traffic Operations Division - TE
 Texas Department of Transportation
 125 East 11th Street
 Austin, Texas 78701-2483
 Phone (512) 416-3120
 Fax (512) 416-3299

Instructions to locate the "CWZTCO" on TxDOT website are:

Start at website - www.dot.state.tx.us
 Click on "About TxDOT".
 Click on "Functional Organizational Chart".
 Click on "Traffic Operations Box".
 Click on "Compliant Work Zone Traffic Control Devices".
 This site is printable.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
 Traffic Operations Division

BARRICADE AND CONSTRUCTION PROJECT LIMIT STANDARD

2 of 12 **BC(2)-03**

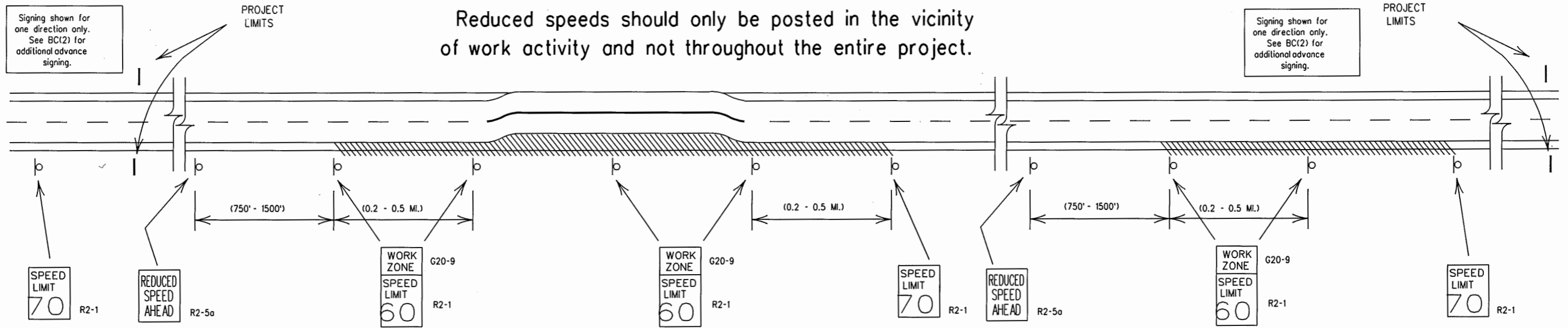
REVISED	STATE DISTRICT	FEDERAL PROJECT	DATE	BY	CHK
21		ENG05.12J			15
COUNTY	CONTROL	SECTION	JOB	HIGHWAY	
HIDALGO	2C	1080	767		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones,"
and approved by the Texas Transportation Commission.

Reduced speeds should only be posted in the vicinity
of work activity and not throughout the entire project.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMIT signs should be posted and visible to the motorists at all times. Work activity in the area of reduced speed zone should be greater than 12 consecutive hours per day. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

- rough road or damaged pavement surface
- substantial alteration of roadway geometrics (diversions)
- construction detours
- grade
- width
- other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, work activity is within 15 feet of pavement edge or actually on the pavement.

SHORT TERM WORK ZONE SPEED LIMIT signs should be posted and visible to the motorists only when work activity is present. Work activity in the area of reduced speed should be less than 12 consecutive hours. When work activity is not present, signs should be covered with an approved sign cover or removed from work area.

GENERAL NOTES:

- Regulatory work zone speed limits should be used only for sections of construction projects where speed controls of major importance. Regulatory work zone speed signs (R2-1) should be removed during periods when they are not needed to minimize interference with traffic.
- Regulatory work zone speed limit signs shall be placed on supports at a 7 foot mounting height.
- Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
- Frequency of speed limit signs should be:

40 mph and greater	0.2 to 2 miles
35 mph and less	0.2 to 1 mile
- Regulatory speed limit signs shall have black legend and border on a white reflective background.
- Fabrication, erection and maintenance of REDUCED SPEED AHEAD sign, WORK ZONE plaque and SPEED LIMIT signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
- Turning signs from view, laying signs over or down will not be allowed, unless otherwise noted.
- Techniques that may help reduce traffic speeds. (In order of effectiveness.)
 - Flagger stationed next to sign.
 - Low enforcement.
 - Portable changeable message sign (PCMS).
 - Low-power radar transmitter.
- Refer to "Work Zone Speed Limit Work Sheets 1 and 2" to determine when a construction speed zone should be required.

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

ACC: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

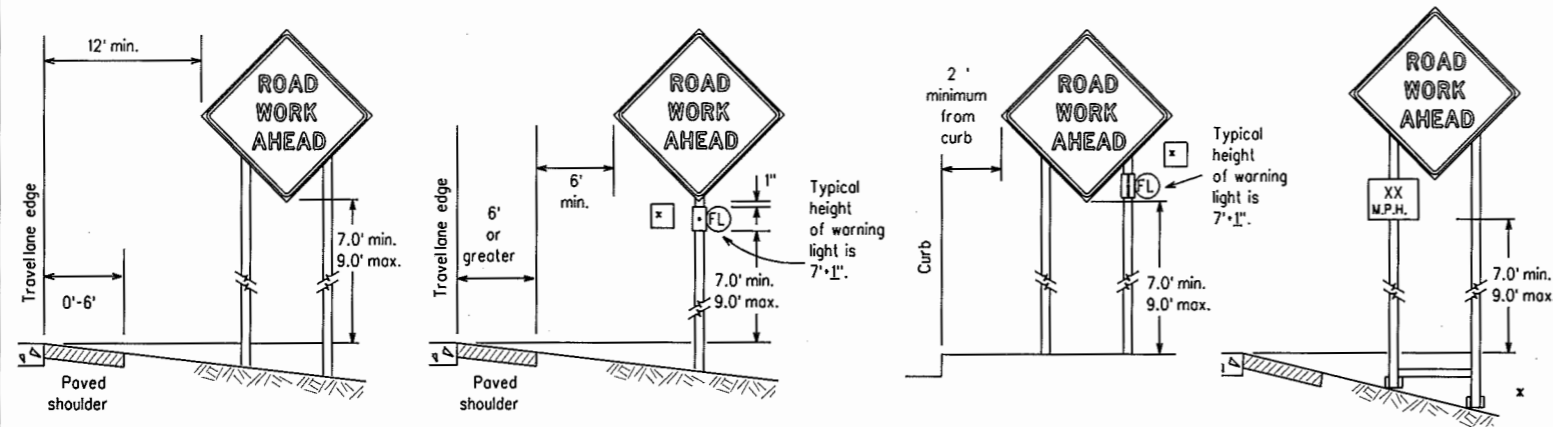
BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT STANDARD

3 of 12

BC(3)-03

© TxDOT 11-4-02	DR- JMT	CR- GRB	DR- FDN	CR- CAL
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
21		ENG05.12J		16
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
Hidalgo	2C	1080	767	

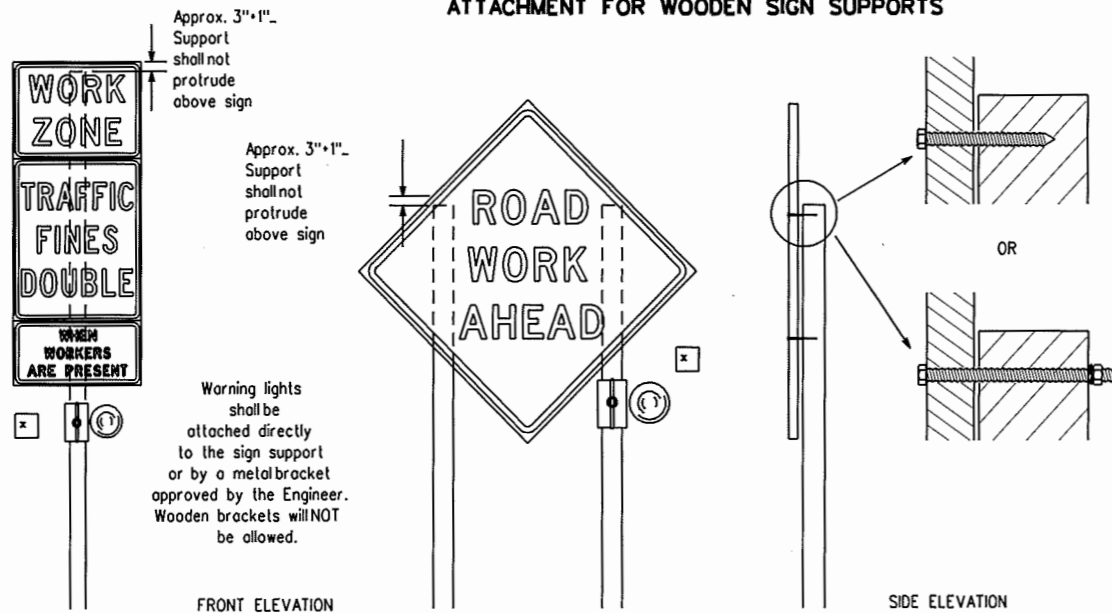
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



It is the intent of these plans to provide positive guidance to motorists throughout the project limits by the use of signs, pavement markings, delineation and/or channelizing devices. All traffic control devices shall conform with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" list (CWZTCD).

* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

ATTACHMENT FOR WOODEN SIGN SUPPORTS



Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails will NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Supports shall not be extended or repaired by splicing or other means.

GENERAL NOTES FOR WORK ZONE SIGNS

- Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
- Wooden sign posts shall be painted white.
- Barricades shall NOT be used as sign supports.
- Nails shall NOT be used to attach signs to any support.
- All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
- The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes. The additional signs requested by the Engineer/Inspector shall not be subsidiary.
- The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so that the Engineer can verify the correct procedures are being followed.
- The contractor is responsible for sign installations and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
- Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1".
- The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part VII)

- The types of sign supports, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring that the sign support and substrate meets crashworthiness and length of work requirements.
 - Long-term stationary - work that occupies a location more than 3 days.
 - Intermediate-term stationary - work that occupies a location from overnight to 3 days.
 - Short-term stationary - daytime work that occupies a location from 1 to 12 hours.
 - Short, duration - work that occupies a location up to 1 hour.
 - Mobile - work that moves intermittently or continuously. Does not stop for more than 15 minutes at a time.

SIGN MOUNTING HEIGHT

- The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface.
- The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
- Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
- Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday.
- Regulatory signs shall be mounted at least 7 feet, but not more than 9.0 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

- The Engineer may allow the use of smaller size construction warning signs on secondary roads or city streets where speeds are low if the sign size is listed as an option on the "Typical Construction Warning Sign Size and Spacing" chart shown on BC(2).
- The Contractor shall furnish the sign sizes shown in plans, the BC Sheets, the TCP sheets or as directed by the Engineer.

SIGN SUBSTRATES

- The Contractor shall ensure that the sign substrate is allowed for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
- "Mesh" type materials are NOT an approved sign substrate.
- All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign faces.

REFLECTIVE SHEETING

- ReflectORIZED signs shall be constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 or DMS-8310. The DMS specifications can be accessed from the following web address: <http://manuals.dot.state.tx.us:80/dynaweb/colmat/dms/@GenericBookView>
- White sheeting, meeting the requirements of DMS-8300 Type C (High Specific Intensity), shall be used for signs with white background and channelizing devices.
- Orange sheeting, meeting the requirements of DMS-8300 Type E (Fluorescent Prismatic), shall be used for signs with orange backgrounds.

SIGN LETTERS

- All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

- When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
- Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This type of sign support meets the crashworthiness standards regardless of the direction of impact. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
- Signs installed on skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
- When signs are covered, the material used shall be opaque, such as heavy mil black plastic.
- Burlap shall NOT be used to cover signs.
- Duct tape or other adhesive material shall NOT be affixed to a sign face. These materials can damage the retroreflectivity of sign sheeting.
- Signs shall be removed upon completion of the work.

SIGN SUPPORT WEIGHTS

- Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended.
- The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
- Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support weights.
- Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
- Sandbags shall be made of a durable material that tears upon vehicular impact.
- Rubber (such as tire inner tubes) shall NOT be used for sandbags.
- Rubber ballasts (such as those used with cones or edgeline channelizers) shall NOT be used as sign support weights.
- Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
- Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

ACC: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3120
Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start at website - www.dot.state.tx.us
Click on "About TxDOT",
Click on "Functional Organizational Chart",
Click on Traffic Operations Box,
Click on "Compliant Work Zone Traffic Control Devices",
again click on "Compliant Work Zone Traffic Control Devices".
This site is printable.

- (FL) Flashing Type A - Low Intensity Warning Light
- (X) The Type A Warning lights shall not be used with Type E Sheeting (Fluorescent Prismatic) meeting the requirements of DMS-8300.

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

- Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
- When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.
- When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
- If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
- If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
- Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

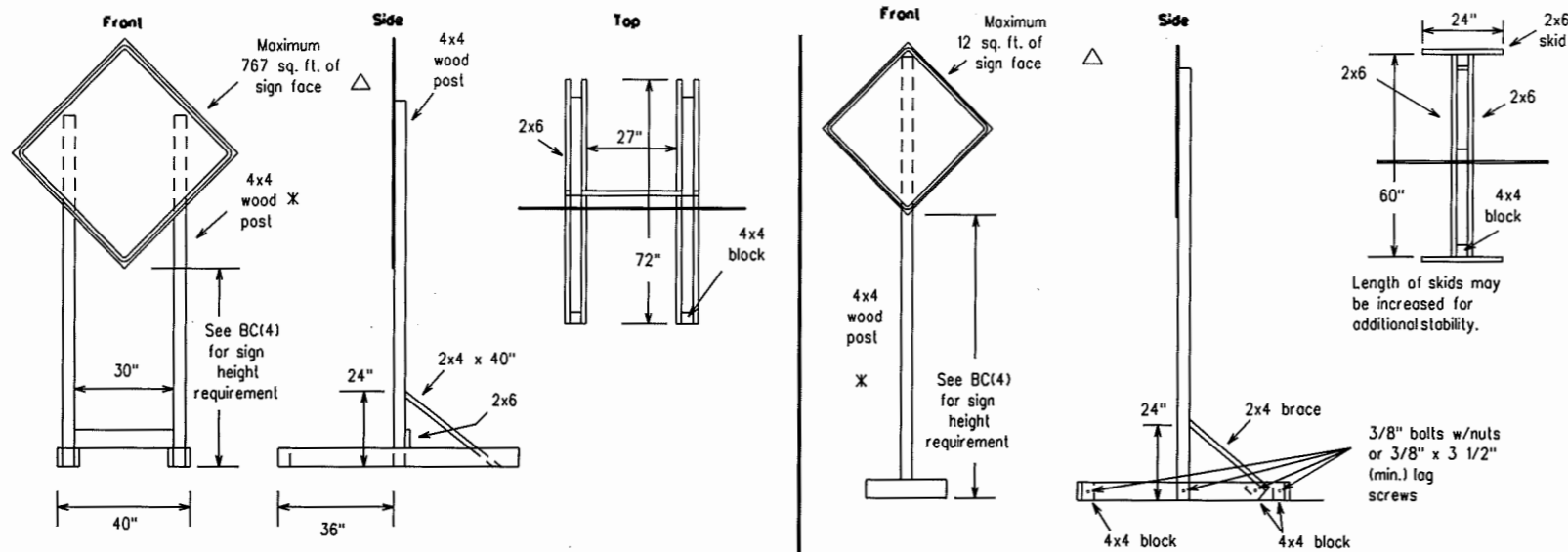
**BARRICADE AND CONSTRUCTION
TEMPORARY SIGN NOTES
STANDARD**

4 of 12 **BC(4)-03**

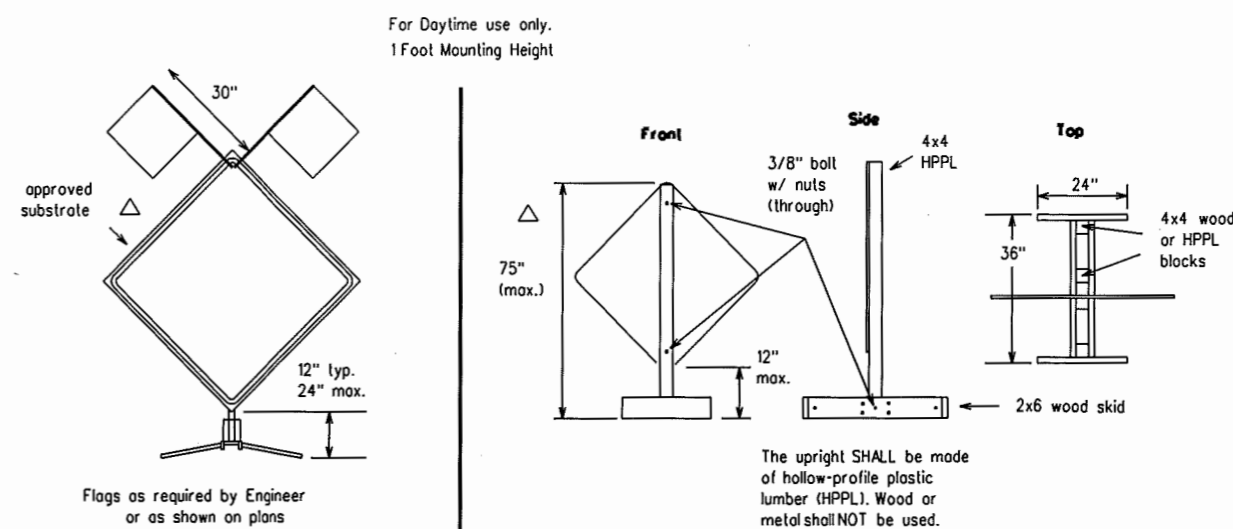
© TxDOT 11-4-02		DR- BAS	CR- GRB	DW- FDN	CP- CAL
REVISIONS	STATE DISTRICT	FEDERAL PROJECT		SHEET	
	21	ENG05.12J		17	
	COUNTY	CONTROL SECTION	JOB	HIGHWAY	
	Hidalgo	2C	1080	767	

EXAMPLES OF SKID MOUNTED SIGN SUPPORTS

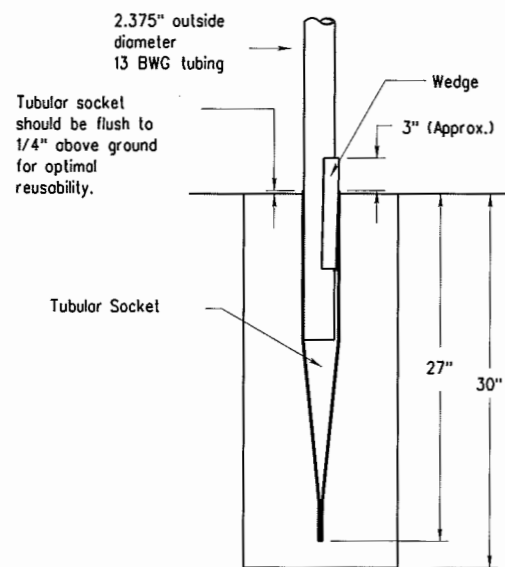
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS



SHORT TERM STATIONARY/SHORT DURATION - PORTABLE SIGN SUPPORTS



EXAMPLES OF GROUND MOUNTED SIGN SUPPORTS



WEDGE ANCHOR SYSTEM WITH THIN-WALL TUBE

The wedge anchor system with thin wall tubing may be used to support up to 10 sq. ft. of sign area.

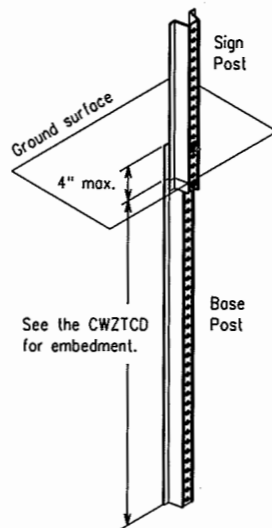
Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18 inches. When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18 inches or provide a minimum foundation depth of 30 inches. If solid rock is encountered, the socket/stub may be reduced in length as required to a min. length of 18 inches. Any material removed from the socket/stub shall be from the bottom and the clearance requirements shown above must still be adhered to. The inner surfaces of the socket/stub must remain free of debris.

Install Wedge Anchor System per manufacturer recommendations. Attach the sign to the sign post. Insert the sign post into the socket and align the sign face with the roadway. Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

Supports shall be straight within 1/4 inch per 5 feet of length and shall have a smooth, uniform finish free from defects affecting strength or appearance. Any bolt holes and sheared ends shall be free from burrs.

WING CHANNEL

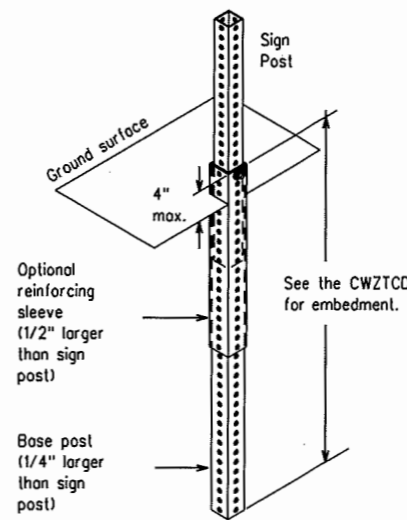
Lap-splice/base bolted anchor



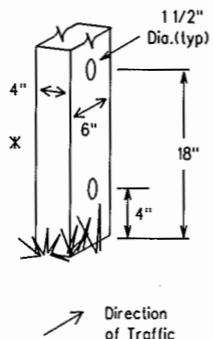
Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation. Two post installations can be used for larger signs.

PERFORATED SQUARE METAL TUBING

With Anchor



WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS



Nominal Post Size	No. of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	NO
4 x 4	2	767	36"	NO
4 x 6	1	767	36"	YES
4 x 6	2	36	36"	YES

No more than 2 sign posts shall be mounted within a 7 ft. circle.

When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

□ See BC(4) for definition of "Work Duration."

* Sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

△ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3120
Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start at website - www.dot.state.tx.us
Click on "About TxDOT".
Click on "Functional Organizational Chart".
Click on Traffic Operations Box.
Click on "Compliant Work Zone Traffic Control Devices".
again click on "Compliant Work Zone Traffic Control Devices".
This site is printable.

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT STANDARD

5 of 12

BC(5)-03

© TxDOT 11-4-02		DES- JMT	CD- GRB	DIR- FDN	CO- CAL
STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET	
21		ENG05.12J		18	
COUNTY	CONTROL SECTION	JOB	HIGHWAY		
Hidalgo	2C	1080	767		

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 ACC:
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PORTABLE CHANGEABLE MESSAGE SIGNS

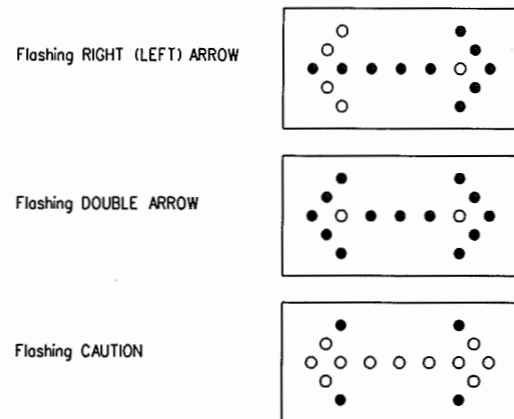
- The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
- PCMS placed on the shoulder or within the R-O-W, but are not behind a concrete traffic barrier shall have a minimum of four plastic drums placed perpendicular to traffic, on the upstream side of the PCMS.
- Messages on PCMS should contain no more than 8 words (four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
- Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed.
- Each phase of the message should convey a single thought.
- Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
- Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
- Specify the actual days of the week; e.g., TUES THROUGH FRI or TUES-FRI in the coming week that work activity will occur.
- The message term "WEEKEND" should be used only if the work is to start on Saturday morning and/or continue into Monday morning.
- The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for two seconds each.
- Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
- Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
- Do not use the words "Danger" or "Caution" in message.
- Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
- Do not display messages that scroll horizontally or vertically across the face of the sign.
- The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated.

Word or Phrase	Abbreviation	Word or Phrase	Abbreviation
Access Road	ACCES RD	Miles	MI
Air Quality	AIR QLTY	Miles Per Hour	MPH
Avenue	AVE	Time Minutes	Time MIN
Best Route	BEST RTE	Monday	MON
Boulevard	BLVD	Normal	NORM
Bridge	BRDG	North	N
Canal	CANT	Parking	PKING
Center	CNTR	Parking Lot	PRK LOT
Construction Ahead	CONST AHEAD	Road	RD
Detour Route	DETOUR RTE	Right Lane	RGT LN
East	E	Saturday	SAT
Emergency	EMER	Service Road	SERV RD
Emergency Vehicle	EMER VEH	Shoulder	SHLDR
Entrance, Enter	ENT	Slippery	SLIP
Express Lanes	EXP LANE	South	S
Expressway	EXPWY	Speed	SPD
Distance Feet	Distance FT	Street	ST
Fog Ahead	FOG AHD	Sunday	SUN
Freeway	FRWY, FWY	Telephone	PHONE
Freeway Blocked	FWY BLKD	Thursday	THURS
Friday	FRI	To Downtown	TO DWNTN
Hazardous Driving	HAZ DRIVING	Traffic	TRAF
Highway	HWY	Travelers	TRVLRS
Hours	HR	Tuesday	TUES
Information	INFO	Turnpike	Name TRNPK
Left	LFT	Upper Level	UPPR LVL
Left Lane	LFT LN	Warning	WARN
Lane Closed	LN CLSD	Wednesday	WED
Lower Level	LOWR LVL	Weight Limit	WT LIMIT
Maintenance	MAINT	Wet Pavement	WET PVMT
Roadway designation *	IH-number, US-number, SH-number, FM-number	West	W

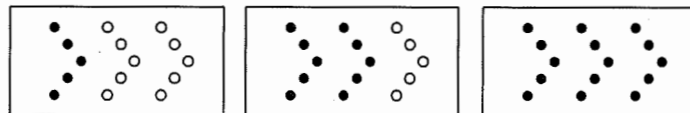
WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND CONCRETE TRAFFIC BARRIER.

TYPICAL FLASHING ARROW PANEL

- The Flashing Arrow Panel should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
- Flashing Arrow Panels should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
- The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Panel.
- The Flashing Arrow Panel should be able to display the following symbols:



- The "CAUTION" display consists of four corner lamps flashing simultaneously.
- The straight line caution display is NOT ALLOWED.
- The Flashing Arrow Panel shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
- Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
- The sequential arrow display is NOT ALLOWED.
- The flashing arrow display is the TxDOT standard; however, the sequential Chevron display may be used during daylight operations.



- The Flashing Arrow Panel shall be mounted on a vehicle, trailer or other suitable support.
- A Flashing Arrow Panel SHOULD NOT BE USED to laterally shift all lanes of traffic on a multi-lane roadway at once.

REQUIREMENTS

TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION: Flashing Arrow Panels shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW PANEL FROM THE RIGHT-OF-WAY OR PLACE THE ARROW PANEL BEHIND CONCRETE TRAFFIC BARRIER.

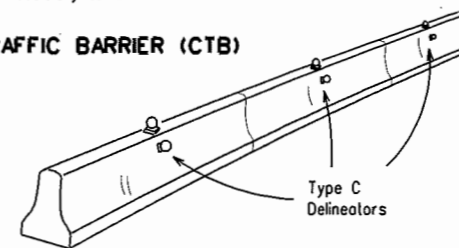
TRUCK-MOUNTED ATTENUATORS

- Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350).
- Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
- Refer to the dates shown in the CWZTCD to ensure that the TMA meets the age requirements and the crashworthiness criteria established by the Federal Highway Administration (FHWA) for TMAs.
- Refer to the CWZTCD for a list of approved TMAs.
- TMAs are required on freeways unless otherwise noted in the plans.
- A TMA should be used anytime that it can be positioned approximately 100 feet or less in advance of the area of crew exposure without adversely affecting the work performance.
- The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

TYPE C DELINEATORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

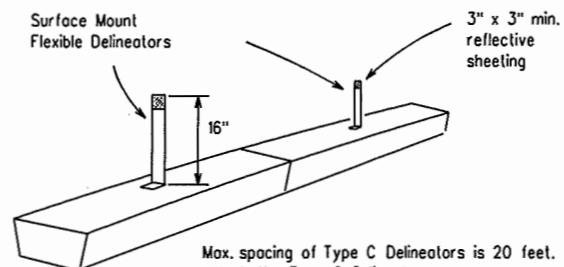
- Type C Delineators shall be prequalified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Type C Delineators can be found at the following Web site: <http://tp.dot.state.tx.us/pub/txdot-info/gsd/pdf/dms8600preq.pdf>.
- Color of delineators shall be as specified in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD). The cost of the Type C Delineators shall be considered subsidiary to Item 502.

CONCRETE TRAFFIC BARRIER (CTB)

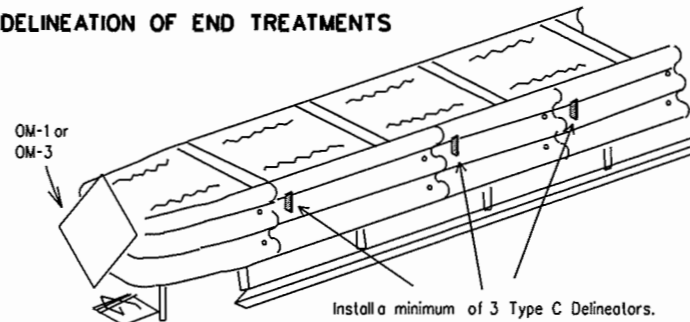


- Two (2) Type C Delineators should be mounted on each section of CTB in approximately the midsection of the CTB. The Type C Delineator on the side of the CTB shall be installed directly below the Type C Delineator mounted on top of the CTB.
- Maximum spacing of Type C Delineators is 40 feet.
- Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
- Attach Type C Delineators on CTB as per manufacturer's recommendations.
- Missing or damaged Type C Delineators shall be replaced as directed by the Engineer.

LOW PROFILE CONCRETE BARRIER (LPCB)



DELINEATION OF END TREATMENTS



DELINEATION	APPROACHING TRAFFIC	
	BOTH SIDES	ONE SIDE
OM-1	OM-1	OM-3 or Vertical Panel

Attach the Type C Delineators as per manufacturer's recommendations.

WARNING LIGHTS

- Warning lights shall meet the requirements of the TMUTCD.
- Warning lights shall NOT be installed on barricades.
- Type A-Low Intensity Flashing Warning Lights are commonly used with signs. They are intended to warn of an approaching potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type E Sheeting (Fluorescent Prismatic) meeting the requirements of Departmental Material Specification DMS-8300.
- Type-C Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
- The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
- When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.

END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3120
Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start at website - www.dot.state.tx.us
Click on "About TxDOT".
Click on "Functional Organization Chart".
Click on Traffic Operations Box.
Click on "Compliant Work Zone Traffic Control Devices".
again click on "Compliant Work Zone Traffic Control Devices".
This site is printable.

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION
ARROW & MESSAGE SIGNS,
REFLECTORS & WARNING LIGHT
STANDARD
6 of 12 BC(6)-03

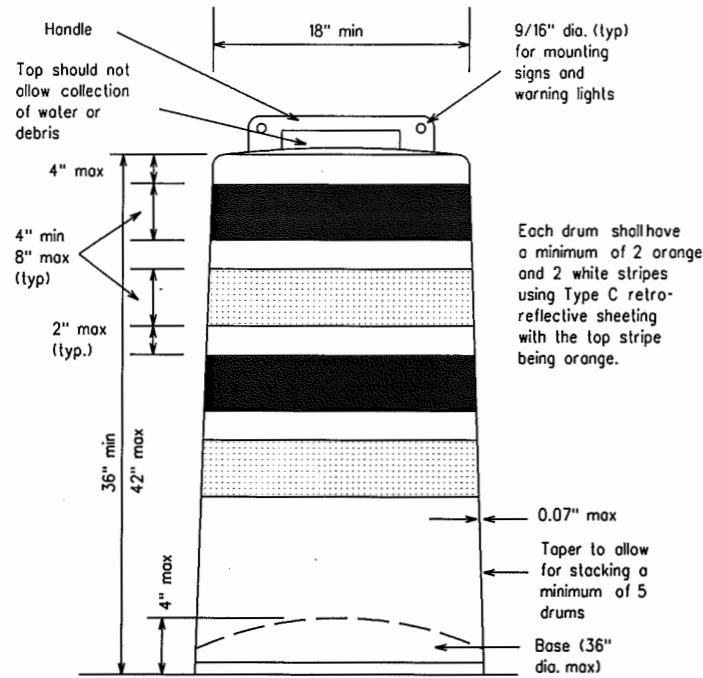
TxDOT 11-4-02	09- BAS	00- GRB	00- FDN	00- CAL
STATE DISTRICT	FEDERAL REGION	FEDERAL PROJECT	SHEET	
21		ENG05.12J	19	
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
Hidalgo	2C	1080	767	

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LS DISPLAYED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DISCLAIMER
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LS DISPLAYED
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
 ACC: 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



GENERAL NOTES

- Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
- The Engineer/Inspector shall provide written notice to the Contractor regarding the replacement of drums or other traffic control devices. The Contractor shall have a maximum of 24 hours to replace any plastic drums or other traffic control devices identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

Prequalified plastic drums shall meet the following requirements:

GENERAL DESIGN REQUIREMENTS

- Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
- The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
- Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
- Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
- The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, delineator reflector unit or non-plywood sign.
- The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectORIZED space between any two adjacent stripes shall not exceed 2 inches in width.
- Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
- Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
- Drum body shall have a minimum unballasted weight of 7.7 lbs. and maximum unballasted weight of 11 lbs. The wall of the drum

body shall be a minimum of 0.07 inch in thickness. Weight of any drum supplied shall not vary more than 0.5 lb. from that of the prequalified sample.

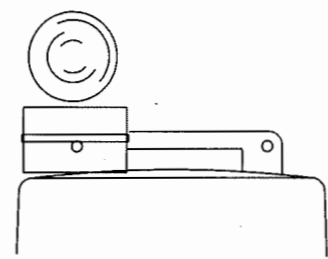
10. Drum and base shall be marked with manufacturer's name and model number.

RETROREFLECTIVE SHEETING

- The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Flat Surface Reflective Sheeting." High Specific Intensity (Type C) retroreflective sheeting shall be supplied unless otherwise specified in the plans.
- The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, checking, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

- Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
- Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
- The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
- When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
- Ballast shall not be placed on top of drums.
- Adhesives may be used to secure base of drums to pavement.

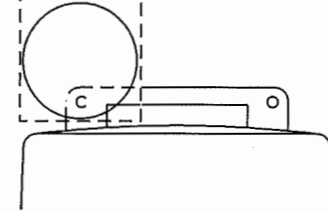


Type C Warning Light or approved substitute mounted adjacent to the travel way.

WARNING LIGHTS AND DELINEATORS MOUNTED ON PLASTIC DRUMS

- Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
- Type A flashing warning lights are not intended for delineation and shall not be used in a series.
- Type C steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
- Type A and Type C warning lights shall be installed at locations as detailed on other sheets in the plans.
- Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
- Type A Class 1, Type A Class 2, or Type B Reflector Units (D & DM Standard) may be attached to drums to delineate the intended vehicular path. The color of the reflector unit shall correspond to the pavement marking it is supplementing or for which it is substituting (left edgeline-yellow or right edgeline-white). The reflective unit shall be attached to the handle of the drum using the mounting hole nearest the travel lane and shall be aligned perpendicular to approaching traffic.
- Delineators may be used as directed by the Engineer. Delineators may not be used as a substitute for warning lights.

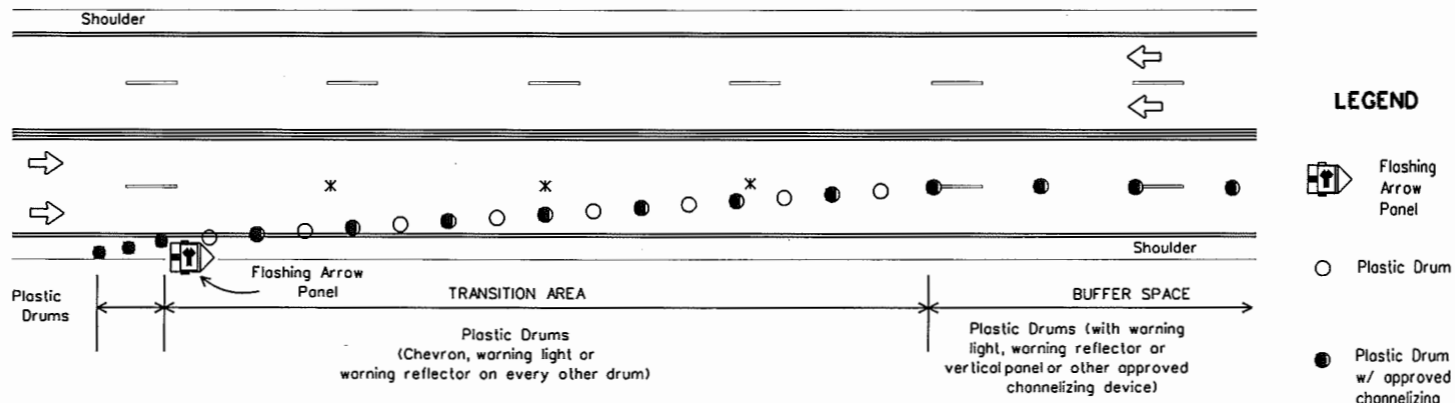
WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C WARNING LIGHTS



Warning reflector may be round or square. Must have a reflective surface area of at least 30 square inches

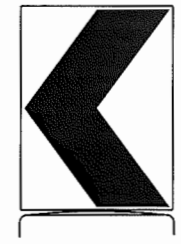
- A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
- The warning reflector shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
- The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
- Round reflectors shall be fully reflectORIZED, including the area where attached to the drum.
- Square substrates must have a minimum of 30 square inches of reflectORIZED sheeting. They do not have to be reflectORIZED where it attaches to the drum.
- The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type D (Non-fluorescent Prismatic).
- When used near two-way traffic, both sides of the warning reflector shall be reflectORIZED.
- The warning reflector should be mounted on the side of the handle nearest approaching traffic.

TYPICAL DETAIL OF LANE CLOSURE USING PLASTIC DRUMS AS CHANNELIZING DEVICES

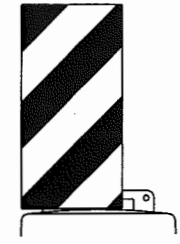


Provide adequate sight distance when placing lane closures. Do not place lane closures in vertical or horizontal curves. See BC(8) for table showing the spacing of channelizing devices in the taper and tangent section.

*** NOTE: Lane lines shall be removed when the lane closure occupies a location for longer than 2 weeks.**



18" x 24" Sign (Maximum Sign Dimension) Chevron CW1-8, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24" Vertical Panel mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

- Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
- Chevrons and other work zone signs with an orange background shall be manufactured with Type E (Fluorescent Prismatic) sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Flat Surface Reflective Sheeting," unless otherwise specified in the plans.
- Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type C (High Specific Intensity). Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
- Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height.
- Signs shall be installed using a 1/2 inch (nominal) nut, two washers, and one locking washer for each connection.
- Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
 Traffic Operations Division - TE
 Texas Department of Transportation
 125 East 11th Street
 Austin, Texas 78701-2483
 Phone (512) 416-3120
 Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start at website - www.dot.state.tx.us
 Click on "About TxDOT",
 Click on "Functional Organizational Chart",
 Click on Traffic Operations Box,
 Click on "Compliant Work Zone Traffic Control Devices",
 again click on "Compliant Work Zone Traffic Control Devices".
 This site is printable.



BARRICADE AND CONSTRUCTION PLASTIC DRUM STANDARD

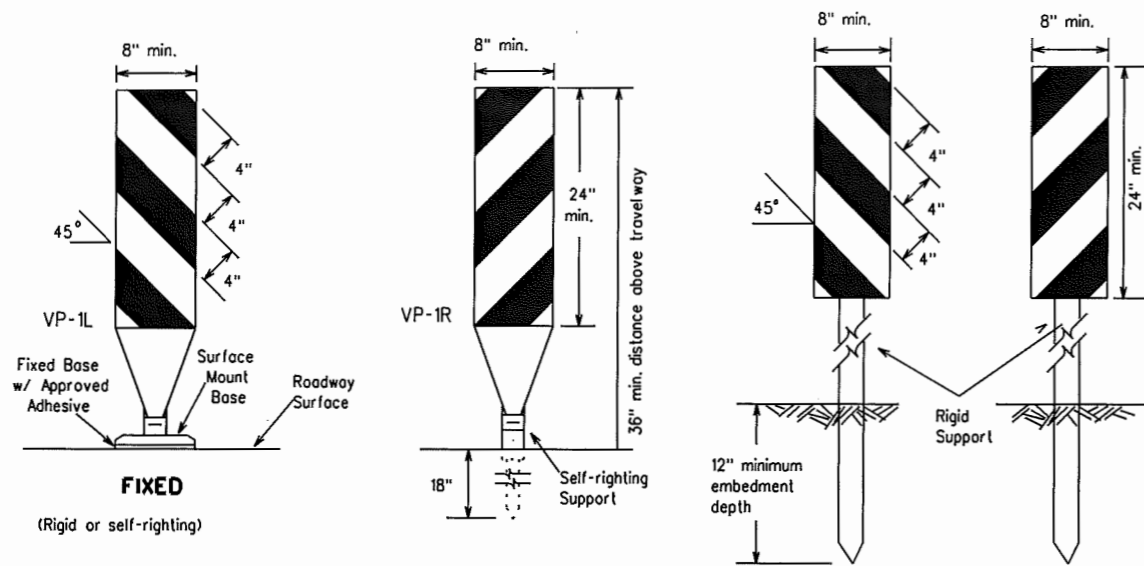
7 of 12

BC(7)-03

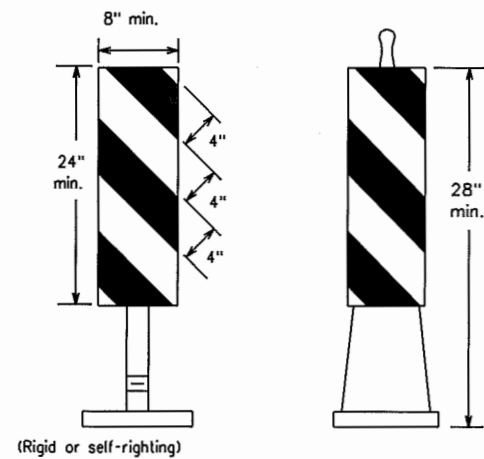
© TxDOT 11-4-02		DR: BAS	DC: GRB	DF: FDN	CS: CAL
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
	21		ENG05.12J		20
	COUNTY	CONTROL	SECTION	JOB	HIGHWAY
	HIDALGO	2C	1080	767	

CHANNELIZING DEVICES

VERTICAL PANELS



DRIVEABLE

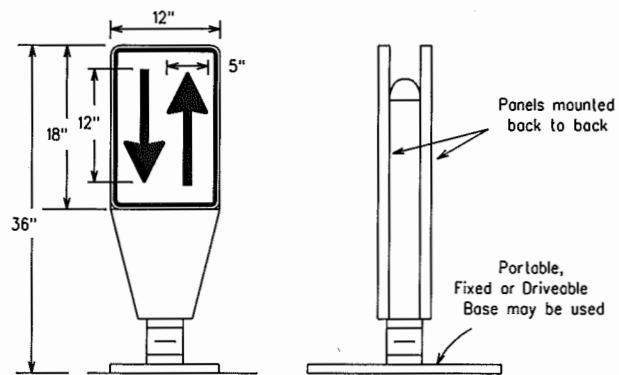


- Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
- VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
- VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
- VP's used on expressways, freeways, and on high speed roadways shall have a minimum of 2 square feet of retroreflective area facing traffic.
- Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Sheeting for the VP's shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless noted otherwise.

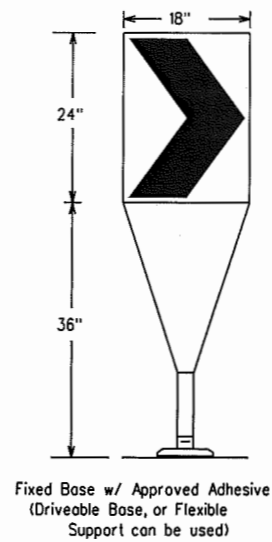
PORTABLE

- Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust. The OTLD is placed on a flexible self-righting support that returns to an upright position when impacted by a vehicle.
- The OTLD may be used in combination with simple tubular markers or vertical panels (vp's).
- Spacing between the OTLD shall not exceed 500 feet. Tubular markers or vp's placed between the OTLD's should not exceed 100 foot spacing.
- The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type E (Fluorescent Prismatic) conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall be black vinyl non-reflective decal sheeting meeting the requirements of DMS-8320.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



CHEVRONS



- The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
- Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
- To be effective, the chevron should be visible for at least 500 feet.
- Chevrons shall be orange with a black non-reflective legend. Sheeting for the chevron shall be retroreflective Type E (Fluorescent Prismatic) conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall be black vinyl non-reflective decal sheeting meeting the requirements of DMS-8320.

Posted Speed	Formula	Minimum Desirable Taper Lengths x x			Suggested Maximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	L = WS ² /60	150'	165'	180'	30'	60'-75'
35		205'	225'	245'	35'	70'-90'
40		265'	295'	320'	40'	80'-100'
45	L = WS	450'	495'	540'	45'	90'-110'
50		500'	550'	600'	50'	100'-125'
55		550'	605'	660'	55'	110'-140'
60		600'	660'	720'	60'	120'-150'
65		650'	715'	780'	65'	130'-165'
70		700'	770'	840'	70'	140'-175'
75		750'	825'	900'	75'	150'-185'

x x Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.) S=Posted Speed (MPH)

GENERAL NOTES:

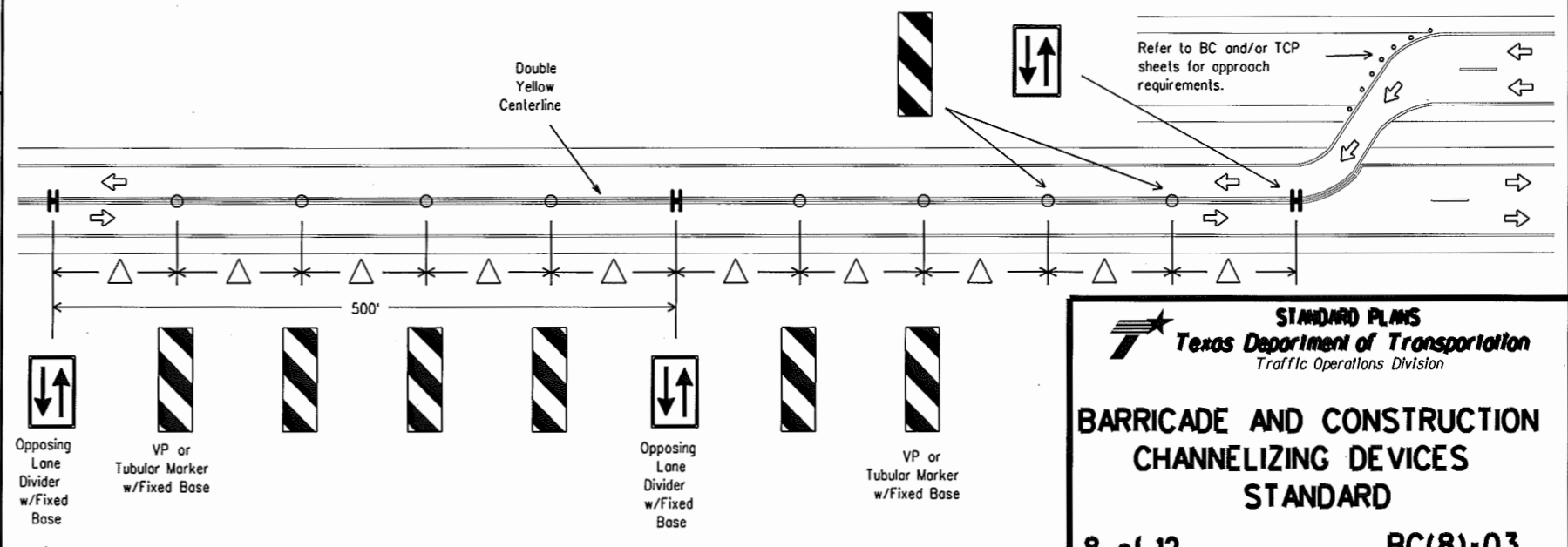
- Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
- Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- The contractor shall maintain devices in a clean condition and replace damaged, non-reflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
- Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh approximately 35 lbs.
- Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
- The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.
- Examples on this sheet are the most commonly used channelizing devices in work zones. For other devices, refer to the CWZTCD.

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3120
Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start at website - www.dot.state.tx.us
Click on "About TxDOT",
Click on "Functional Organizational Chart",
Click on Traffic Operations Box,
Click on "Compliant Work Zone Traffic Control Devices",
again click on "Compliant Work Zone Traffic Control Devices".
This site is printable.



Spacing between the VP's or tubular markers shall not exceed 100 feet. On roadways with speeds less than 45 MPH, spacing between the tubular markers or VP's shall be as shown on the channelizing spacing table shown on this page. If the table shows spacing greater than 100 feet based on the roadway speed, then use a maximum of 100 feet spacing between the tubular markers or VP's. Every fifth channelizing device shall be an OTLD. Spacing between the OTLD shall not exceed 500 feet. When using this type of traffic control set-up, the OTLD, VP's or tubular markers shall have the fixed base with approved adhesive per the manufacturer's recommendations.

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

8 of 12 BC(8)-03

REVISED	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
21			ENG05.12J	21
	COUNTY	CONTROL SECTION	JOB	HIGHWAY
	HIDALGO	2C 1080	767	

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 ACC:
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DISCLAIMER
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

ACC:
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

TYPE III BARRICADES

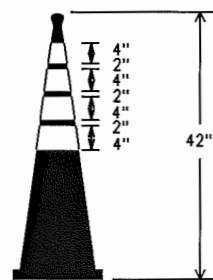
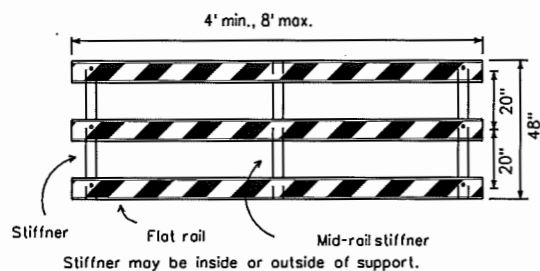
1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type III Barricades and a list of all materials used in the construction of Type III Barricades.
2. Type III Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.

Barricades shall NOT be used as a sign support.

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

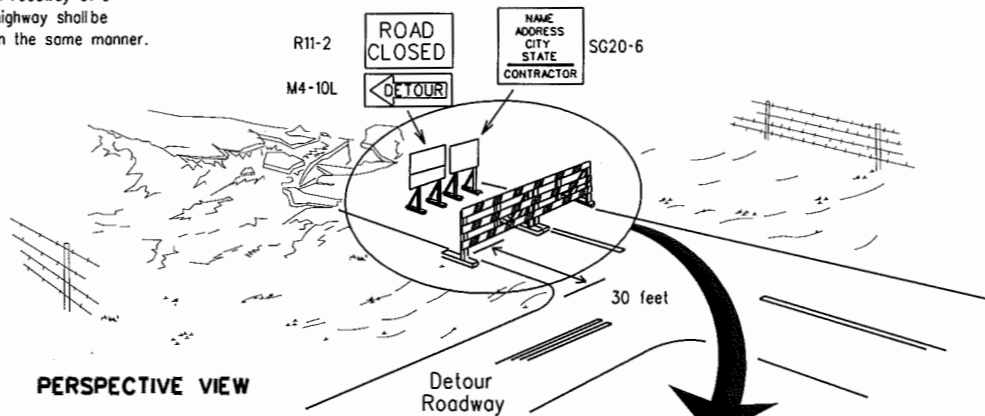


EDGE LINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

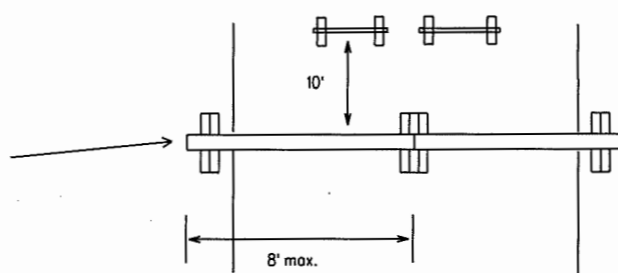
TYPE III BARRICADE (POST AND SKID) TYPICAL APPLICATION

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

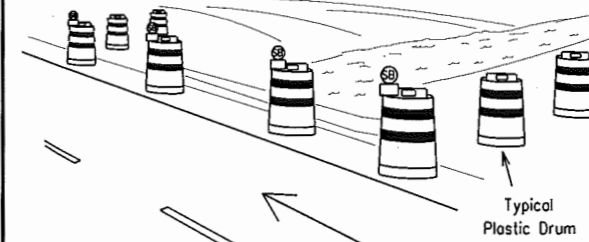
The three rails on Type III barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic. Barricade striping should slant downward in the direction of detour.



PLAN VIEW

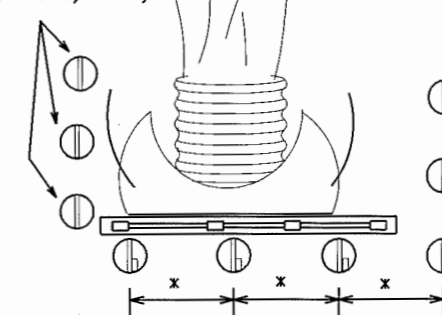
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type III Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



PERSPECTIVE VIEW

These drums are not required on one-way roadway



PLAN VIEW

1. Where positive redirection capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.

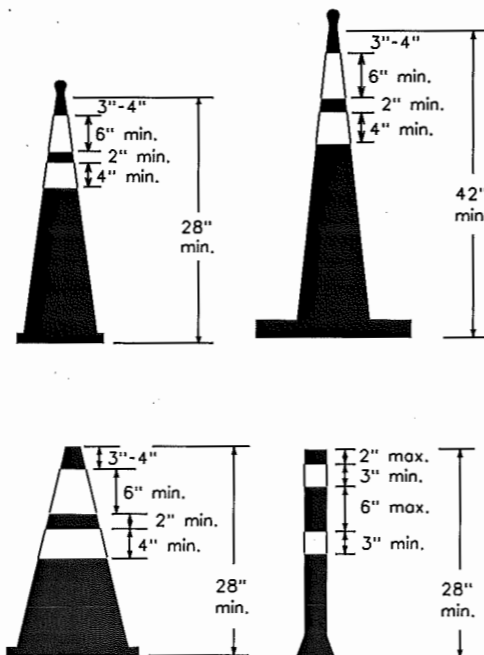
Increase number of plastic drums on the side of approaching traffic if the crown width makes it necessary. (minimum of 2 and maximum of 4 drums)

x Maximum spacing between drums shall be 10 feet. A minimum of two drums shall be used across the work area.

Legend

- Plastic drum
- Plastic drum with steady burn light

CONES



28" Cones shall have a minimum weight of 9 1/2 lbs.
42" 2-piece cones shall have a minimum weight of 30 lbs.

1. Traffic cones and tubular markers shall be a minimum of 28 inches in height when used either on freeways or at nighttime.
2. Cones or tubular markers shall be predominantly orange, fluorescent red-orange, or fluorescent yellow-orange. They should be kept clean and bright for maximum visibility.
3. Cones used only for daytime operations do not require the reflectorized bands.
4. Cones used for nighttime operations shall be reflectorized. Reflectorized material shall have a smooth, sealed outer surface that displays the same approximate color during the day and night. The reflectorized bands shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
5. When used at night, appropriate personnel shall ensure that cones and tubular markers remain in their proper location and in an upright position.
6. Reflectorization of cones shall consist of a minimum 6 inch band placed at least 3 inches but not more than 4 inches from the top, supplemented by a minimum 4 inch band spaced a minimum of 2 inches below the 6 inch band.
7. Reflectorization of tubular markers shall be a minimum of two 3 inch bands placed a maximum of 2 inches from the top with a maximum of 6 inches between bands. The reflectorized bands shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
8. One-piece cones or tubular markers are generally suitable for temporary usage (up to 8 hours) with other channelization devices such as vertical panels, drums or two-piece cones for long term usage. Care should be taken to ensure they remain in their proper location and in an upright position.
9. Cones or tubular markers used on each project shall be of the same size and shape.
10. The handle may be designed as a hook or other shape, fabricated from non-rigid materials similar to the cone material, and may extend up to a maximum of 8 inches above the top of cone. Length of the handle shall not be considered with regard to the overall height of the cone.

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
 Traffic Operations Division - TE
 Texas Department of Transportation
 125 East 11th Street
 Austin, Texas 78701-2483
 Phone (512) 416-3120
 Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start of website - www.dot.state.tx.us
 Click on "About TxDOT",
 Click on "Functional Organizational Chart",
 Click on Traffic Operations Box,
 Click on "Compliant Work Zone Traffic Control Devices",
 again click on "Compliant Work Zone Traffic Control Devices".
 This site is printable.

STANDARD PLANS
Texas Department of Transportation
 Traffic Operations Division

BARRICADE AND CONSTRUCTION TYPE III BARRICADE & CONES STANDARD

9 of 12

BC(9)-03

© TxDOT 11-4-02		DES: BAS	CHK: GRB	DRW: FDN	EXP: CAL
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
	21		ENG05.12J		22
	COUNTY	CONTROL	SECTION	JOB	HIGHWAY
	Hidalgo	2C	1080	767	

WORK ZONE PAVEMENT MARKINGS

GENERAL

- The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
- Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- Additional supplemental pavement marking details may be found in the plans or specifications.
- Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
- When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
- When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and the sections where passing is permitted.
- All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

- Raised pavement markers are to be placed according to the patterns on BC(11).
- All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.
- A list of prequalified reflective raised pavement markers can be found at the following web site:
<http://ftp.dot.state.tx.us/pub/txdot-info/gsd/pdf/dms4200preq.pdf>
- A list of prequalified non-reflective traffic buttons can be found at the following web site:
<http://ftp.dot.state.tx.us/pub/txdot-info/gsd/pdf/4300preq.pdf>

PREFABRICATED PAVEMENT MARKINGS

- Removable prefabricated pavement markings shall meet the requirements of DMS-8241. A list of prequalified products can be found at the following web site:
<http://ftp.dot.state.tx.us/pub/txdot-info/gsd/pdf/pavemark.pdf>
- Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240 or the TXDOT Purchase Specification No. 550-74-89. A list of prequalified products and a copy of the TXDOT Purchase Specifications can be found at web sites:
<http://ftp.dot.state.tx.us/pub/txdot-info/gsd/pdf/pavement.pdf>
<http://ftp.dot.state.tx.us/pub/txdot-info/gsd/pdf/tss/tss377.pdf>

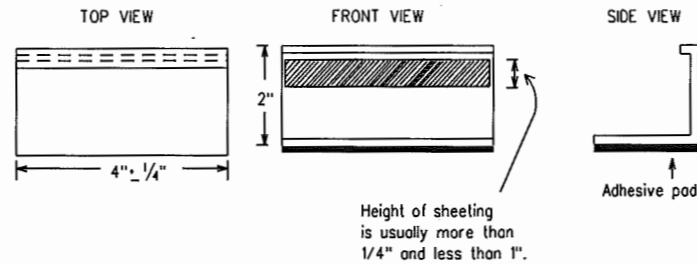
MAINTAINING WORK ZONE PAVEMENT MARKINGS

- The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
- Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
- The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 150 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
- Markings failing to meet this criteria shall be replaced as required by the Engineer at the expense of the Contractor.

REMOVAL OF PAVEMENT MARKINGS

- Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway, shall be removed or obliterated before the roadway is opened to traffic.
- The above shall not apply to detours in place for less than two weeks, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
- Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernible marking, by any method that does not materially damage the surface or texture of the pavement.
- The removal of pavement markings may require resurfacing or seal coating portions of the roadway.
- Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
- Blast cleaning may be used but will not be required unless specifically shown in the plans.
- Over-pointing of the markings SHALL NOT BE permitted.
- Removal of raised pavement markers shall be as directed by the Engineer.
- Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

- Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
- Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
 - Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
 - Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
- Small design variances may be noted between tab manufacturers.

Raised Pavement Markers used as Guidemarks

- Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
- All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
- Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS

PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PREFABRICATED PAVEMENT MARKINGS-PERMANENT	DMS-8240
PREFABRICATED PAVEMENT MARKINGS-REMOVABLE	DMS-8241
TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS	DMS-8242

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3120
Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start at website - www.dot.state.tx.us
Click on "About TxDOT",
Click on "Functional Organizational Chart",
Click on Traffic Operations Box,
Click on "Compliant Work Zone Traffic Control Devices",
again click on "Compliant Work Zone Traffic Control Devices".
This site is printable.

DISCLAIMER

The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

ACC:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

LS DISPLAYED

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS STANDARD

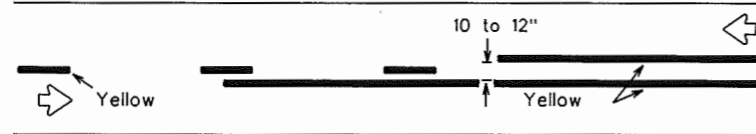
10 of 12

BC(10)-03

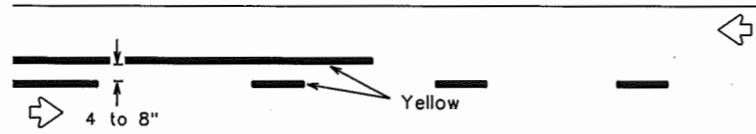
© TxDOT February 1998	DR- LR	CD- DTN	DR- FDN	CR- CAL
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
1-97	21	ENG05.12J		23
2-98				
1-02	COUNTY	CONTROL SECTION	JOB	HIGHWAY
11-02	HIDALGO	2C	1080	767

PAVEMENT MARKING PATTERNS

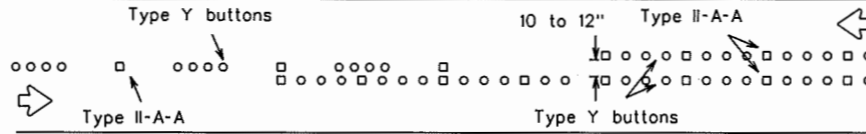
CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



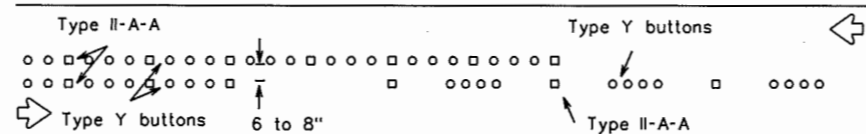
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



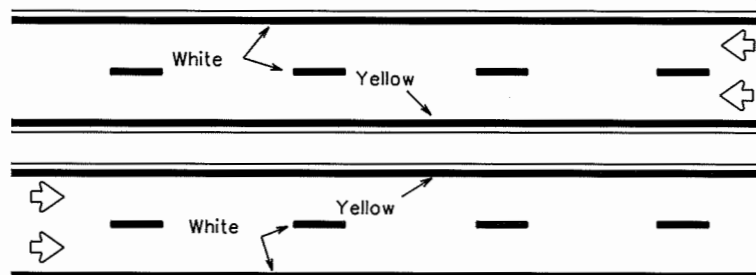
RAISED PAVEMENT MARKERS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN B

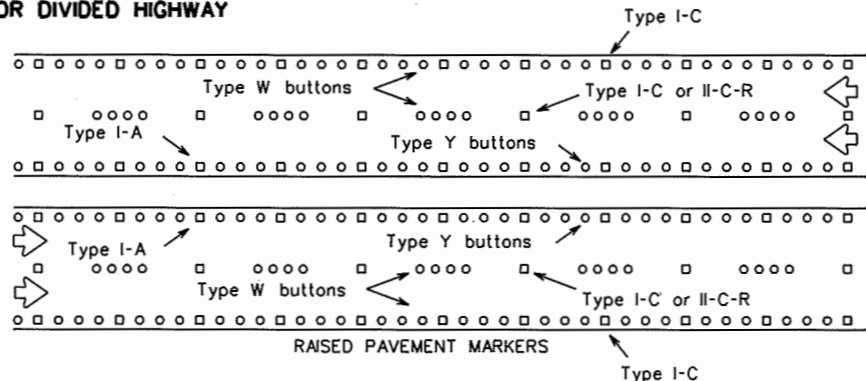
Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer. Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



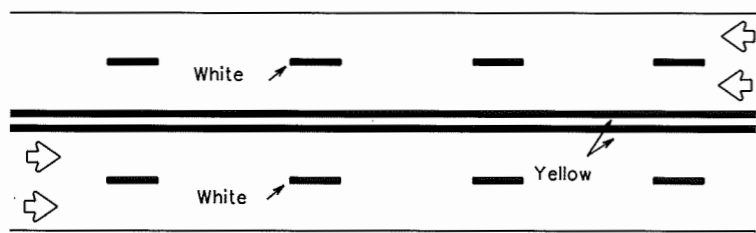
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectorized pavement markings.



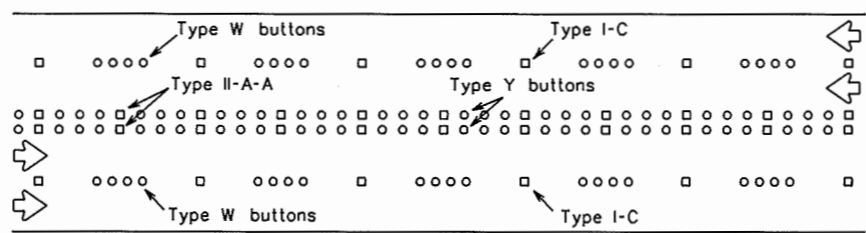
RAISED PAVEMENT MARKERS

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



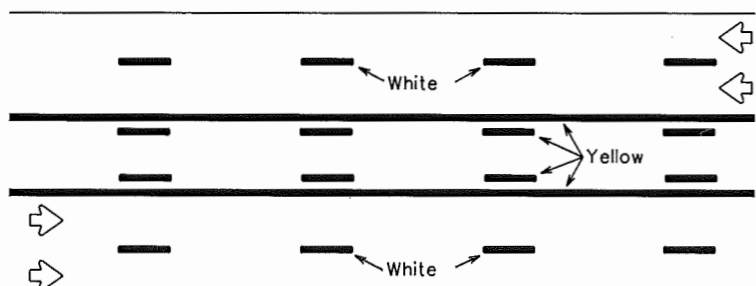
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectorized pavement markings.



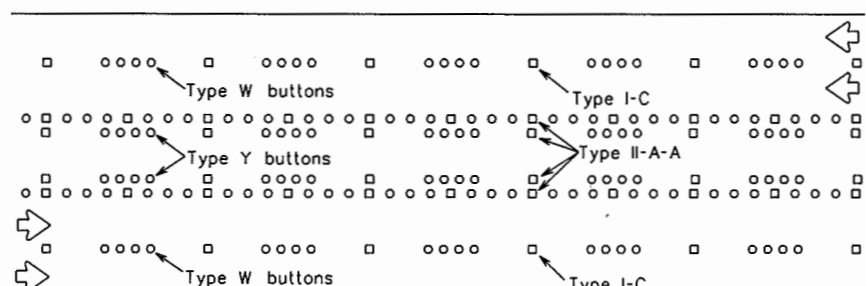
RAISED PAVEMENT MARKERS

TWO-WAY LEFT TURN LANE



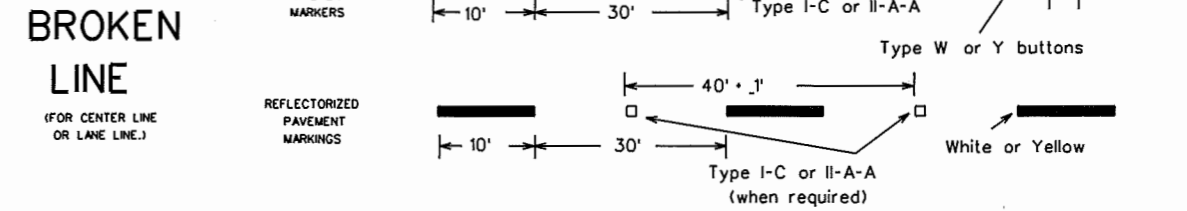
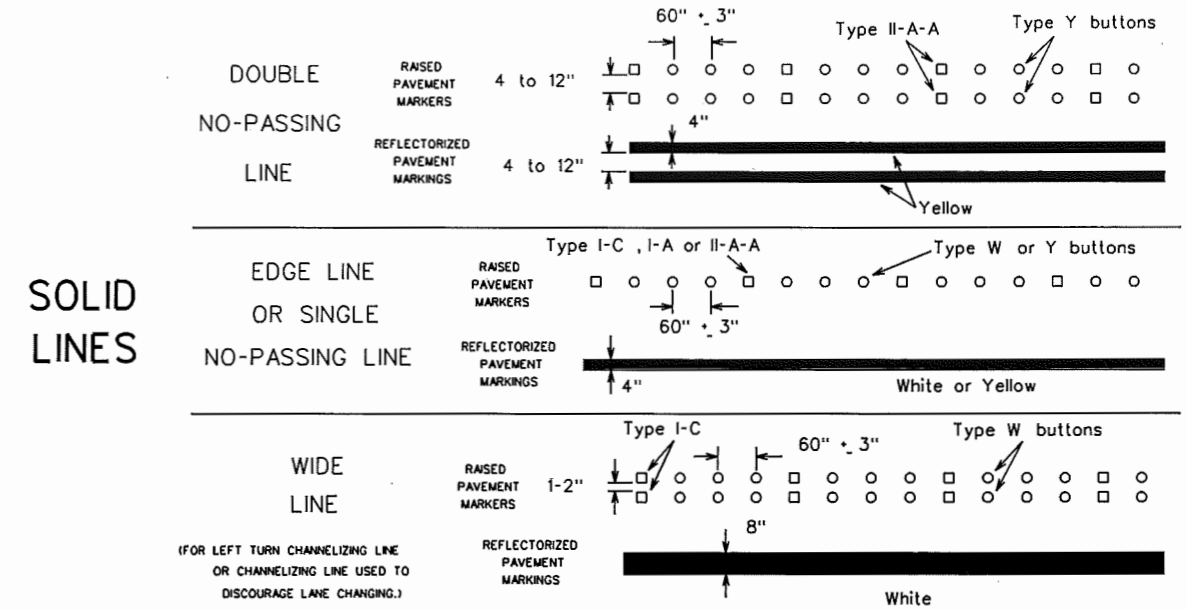
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectorized pavement markings.



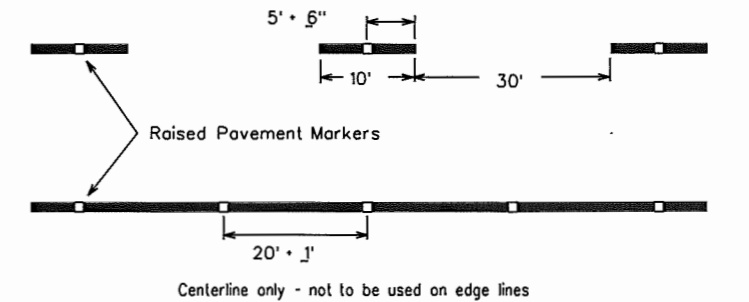
RAISED PAVEMENT MARKERS

STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3120
Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start of website - www.dot.state.tx.us
Click on "About TxDOT",
Click on "Functional Organizational Chart",
Click on Traffic Operations Box,
Click on "Compliant Work Zone Traffic Control Devices",
again click on "Compliant Work Zone Traffic Control Devices".
This site is printable.

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item "RAISED PAVEMENT MARKERS."

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS STANDARD

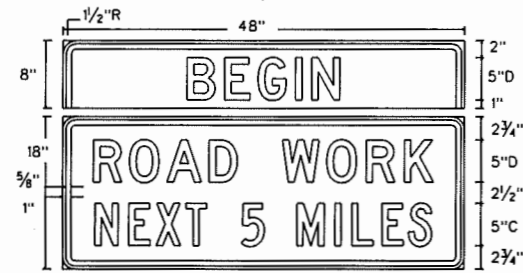
11 of 12 BC(11)-03

REVISED	February 1998	EP- LR	CD- DTN	DF- FDN	CD- CAL
STATE DISTRICT	21	FEDERAL REGION	FEDERAL AID PROJECT		
2-94			ENG05.12J		
1-97			COUNTY	SECTION	JOB
2-98			Hidalgo	2C	1080 767
11-02					

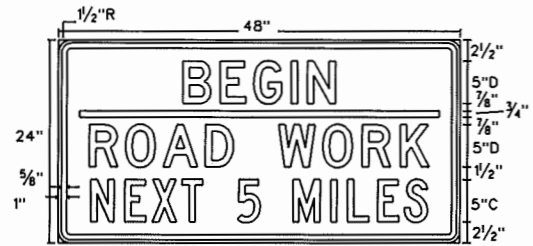
DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

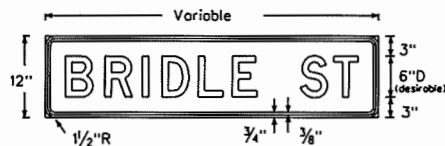
DISCLAIMER
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



SG20-1 w/plaque
48" X 26"
 Letters - Black
 Numbers - Black
 Border - Black
 Background - Orange Refl.



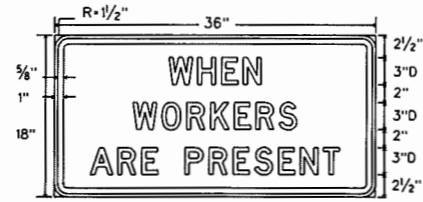
SG20-5T
48" X 24"
 Letters - Black
 Numbers - Black
 Border - Black
 Background - Orange Refl.



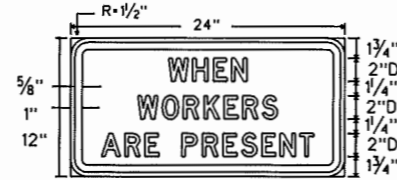
M4-9N
Variable X 12"
 Letters - Black
 Border - Black
 Background - Orange Refl.

The M4-9R,L or S sign is to be used to detour local streets or roads that are not a State or Federal numbered highway; however, it should not be used in lieu of the M4-10 sign at the beginning of the de-

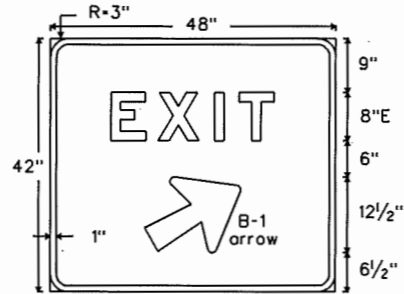
tour or to detour State or Federal numbered routes. Also, when the M4-9R,L or S sign is used, a sign (M4-9N) with the name of the street being detoured may be mounted above it.



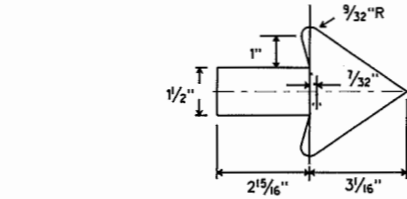
ER20-5 Plaque
36" X 18"
 Letters - Black
 Border - Black
 Background - White Refl.



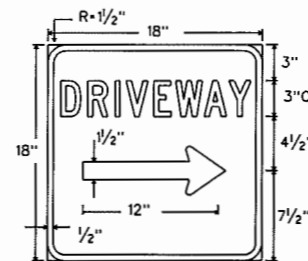
R20-5 Plaque
24" X 12"
 Letters - Black
 Border - Black
 Background - White Refl.



E5-1a
48" X 42"
 Letters - White Refl.
 Arrow - White Refl.
 Border - White Refl.
 Background - Green Refl.



B-1 Arrow Detail



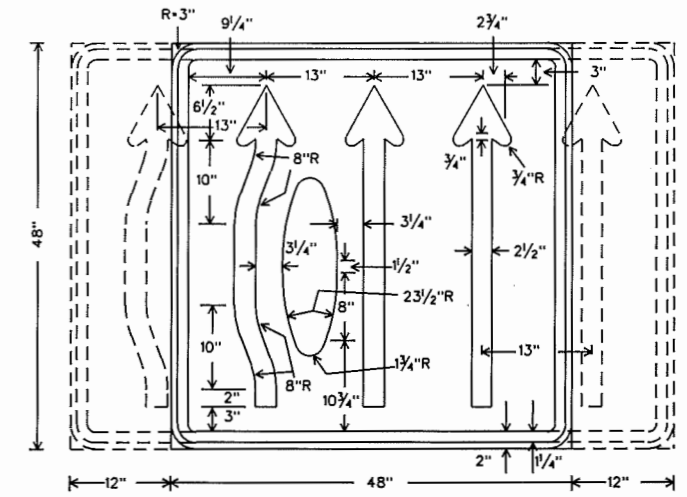
D-70a
18" X 18"
 Letters - White Refl.
 Symbol - White Refl.
 Border - White Refl.
 Background - Blue Refl.



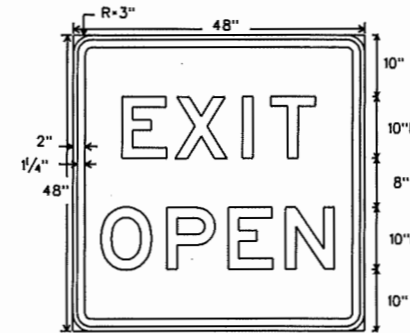
D-70S
42" X 14"
 Letters - White Refl.
 Symbol - White Refl.
 Border - White Refl.
 Background - Blue Refl.

* Alternate first line legend for D-70S

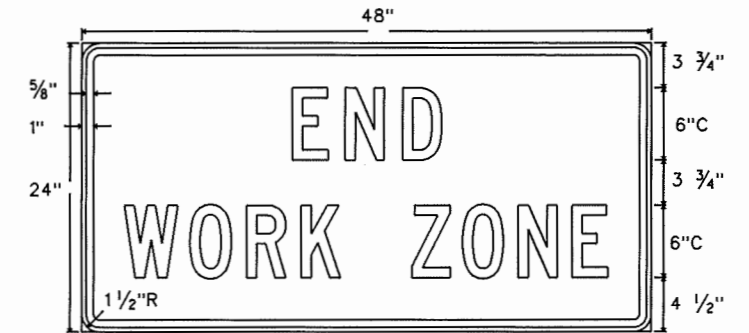
- RESTAURANT | **D70R** 4°C
- BUSINESS | **D70B** 4°C
- MOTEL | **D70M** 4°C
- GAS | **D70C** 4°C



CW24-2
Var. X 48"
 A mirror image may be used to show proper lane alignment.



E5-2
48" X 48"
 Letters - Black
 Border - Black
 Background - Orange Refl.



G20-2b
48" X 24"
 Letters - Black
 Border - Black
 Background - Orange Refl.

DEPARTMENT MATERIAL SPECIFICATIONS	
PLYWOOD SIGN BLANKS	DMS-7100
ALUMINUM SIGN BLANKS	DMS-7110
FLAT SURFACE REFLECTIVE SHEETING	DMS-8300
VINYL NON-REFLECTIVE DECAL SHEETING	DMS-8320

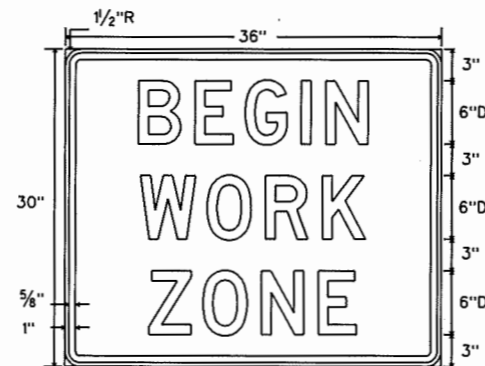
COLOR	USAGE	REFLECTIVE SHEETING OR OTHER MATERIAL
BLUE	BACKGROUND	TYPE C (HIGH SPECIFIC INTENSITY)
RED	BACKGROUND	TYPE C (HIGH SPECIFIC INTENSITY)
GREEN	BACKGROUND	TYPE C (HIGH SPECIFIC INTENSITY)
ORANGE	BACKGROUND	TYPE E (FLUORESCENT PRISMATIC)
WHITE	BACKGROUND	TYPE C (HIGH SPECIFIC INTENSITY)
YELLOW	BACKGROUND	TYPE C (HIGH SPECIFIC INTENSITY)
BLACK	LEGEND & BORDERS	VINYL NON-REFLECTIVE DECAL SHEETING
WHITE	LEGEND & BORDERS	TYPE C (HIGH SPECIFIC INTENSITY)

Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be obtained by contacting:

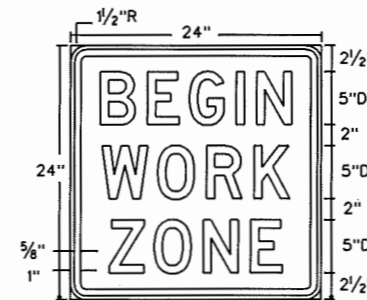
Standards Engineer
 Traffic Operations Division - TE
 Texas Department of Transportation
 125 East 11th Street
 Austin, Texas 78701-2483
 Phone (512) 416-3120
 Fax (512) 416-3299

Instructions to locate the "CWZTCD" on TxDOT website are:

Start at website - www.dot.state.tx.us
 Click on "About TxDOT",
 Click on "Functional Organizational Chart",
 Click on Traffic Operations Box,
 Click on "Compliant Work Zone Traffic Control Devices",
 again click on "Compliant Work Zone Traffic Control Devices".
 This site is printable.



EG20-9T
36" X 30"
 Letters - Black
 Border - Black
 Background - Orange Refl.



G20-9T
24" X 24"
 Letters - Black
 Border - Black
 Background - Orange Refl.

STANDARD PLANS
 Texas Department of Transportation
 Traffic Operations Division

BARRICADE AND CONSTRUCTION REGULATORY & GUIDE SIGNS STANDARDS

12 of 12 **BC(12)-03**

© TxDOT February 1998	DR- GRB	CR- BAS	DR- FDN	CR- CAL
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
10-99	21	ENG05.12J		25
11-02				
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
HIDALGO	2C	1080	767	

ACC: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

BEGIN PROJECT
STA. 0+11.62
MATCH EXIST. PAV'T

CESAR CHAVEZ ROAD

PROP. 18" X 68"
CL III RCP
FL(N) = 101.24
FL(S) = 100.97

PROP. S.E.T. (6:1)

PROP. 30.0' RADIUS

PROP. CONC. SIDEWALK (4 SY)

PROP. CONC. C&G

PROP. CONC. SIDEWALK (3 SY)

PROP. CONC. SIDEWALK (3 SY)

TOC = 103.66'

VAL-BAR DRIVE

PROP. C & PGL

S 81° 24' 15.51"

867.00'

PROP. 30.0' RADIUS

PROP. S.E.T. (6:1)

EXIST. FENCE

PROP. CONC. C&G

SHEET TOTALS

ITEM	EST.	FINAL	UNIT	DESCRIPTION
464	68		LF	RCP SEWER (CL III)(18")
467	2		EA	S.E.T. (6:1)
496	49		LF	REMOV. OLD STR. PIPE
529	816		LF	CONC. C&G
531	10		SY	CONC. SIDEWALK (4")
560	16		EA	MAILBOX INSTALLATION (SINGLE)

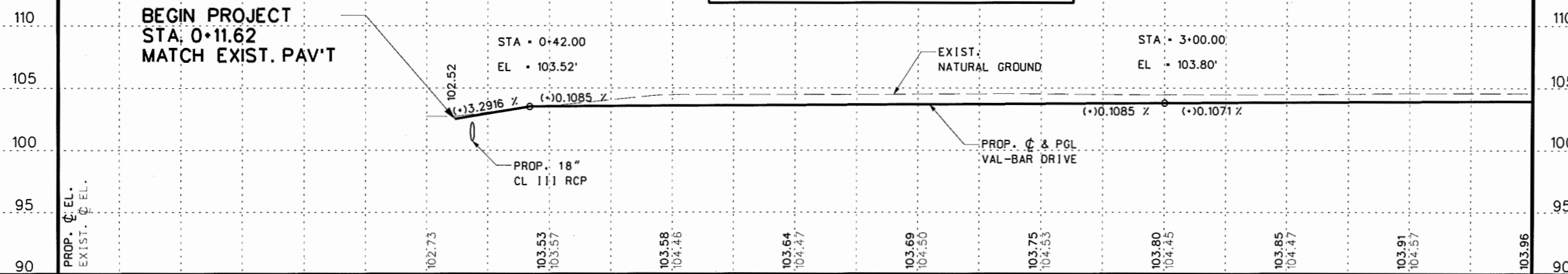
NOTES:
1) EXIST. SIGN TO BE REPLACED & RELOCATED.
2) SEE DRIVEWAY TABLES FOR DIMENSIONS.

- LEGEND**
- PROP. CONCRETE DRIVEWAY
 - PROP. ASPHALT DRIVEWAY
 - TRAFFIC DIRECTION
 - MAIL BOX
 - NUMBER OF MAILBOXES
 - DRIVEWAY ID NUMBER (SEE DRIVEWAY TABLE)
 - EXIST. 18" PIPE
 - EXIST. FENCE
 - EXIST. POWER LINE
 - EXIST. SAN. SEWER LINE
 - GRATED INLET
 - WATER METER
 - GAS METER
 - SANITARY SEWER MANHOLE
 - CLEAN OUT
 - SIGN
 - FIRE HYDRANT
 - DOWN GUY
 - VALVE MARKER
 - PALM TREE
 - TREE-2
 - TREE-3
 - BENCH MARK
 - IRON ROD
 - POWER POLE
 - PROP. STORM PIPE
 - TURNOUT ID (SEE DRIVEWAY TABLE)

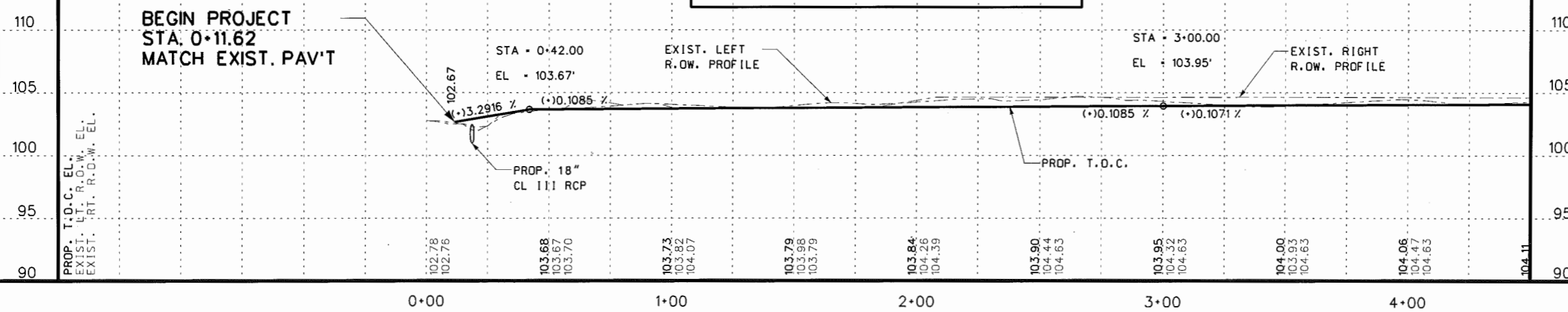
SCALE:
HORZ: 1" = 50'
VERT: 1" = 5'

MATCHLINE STA. 4+50.00

EXIST. & PROPOSED CENTERLINE



TOP OF CURB/LEFT & RIGHT R.O.W.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
DATE: 2-9-11
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

SHEET 1 OF 2

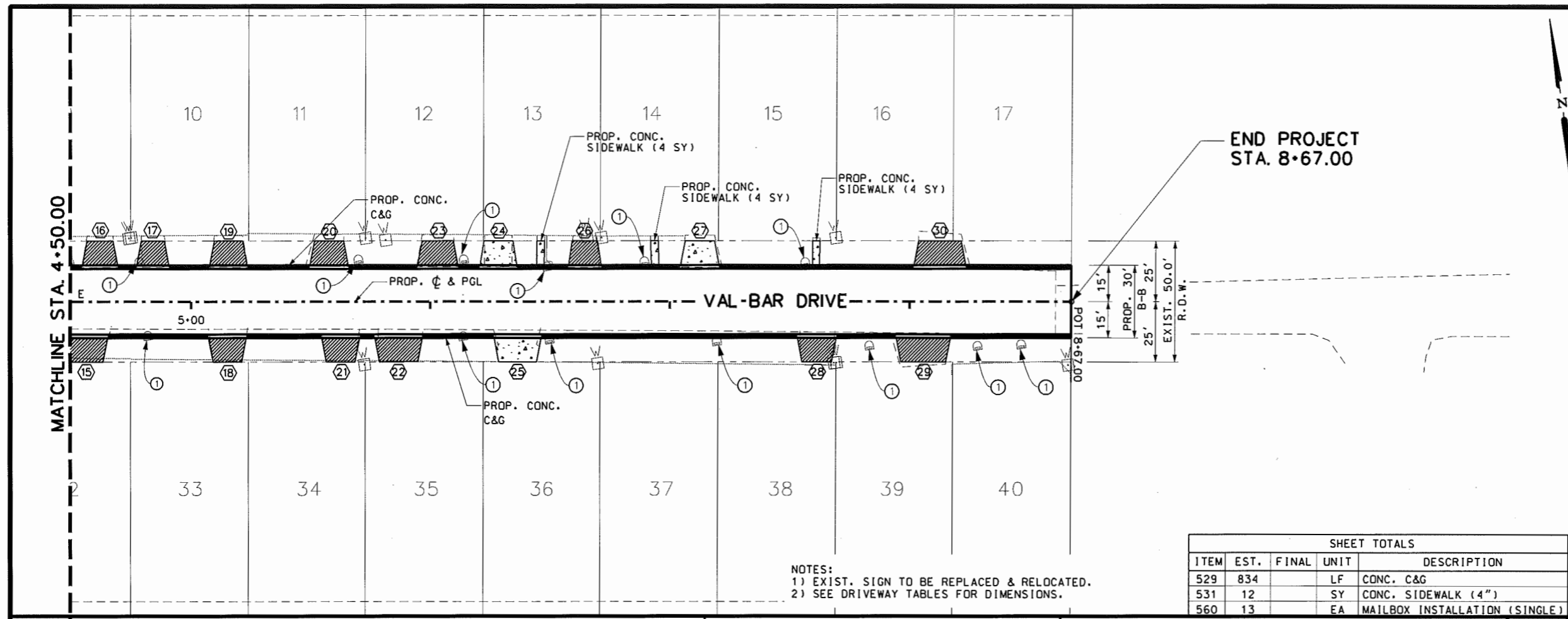
HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
PLAN & PROFILE



R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78877
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

FED. RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	26

F:\2005\Eng\012J VAL-BAR\PP\PP1.dgn



LEGEND

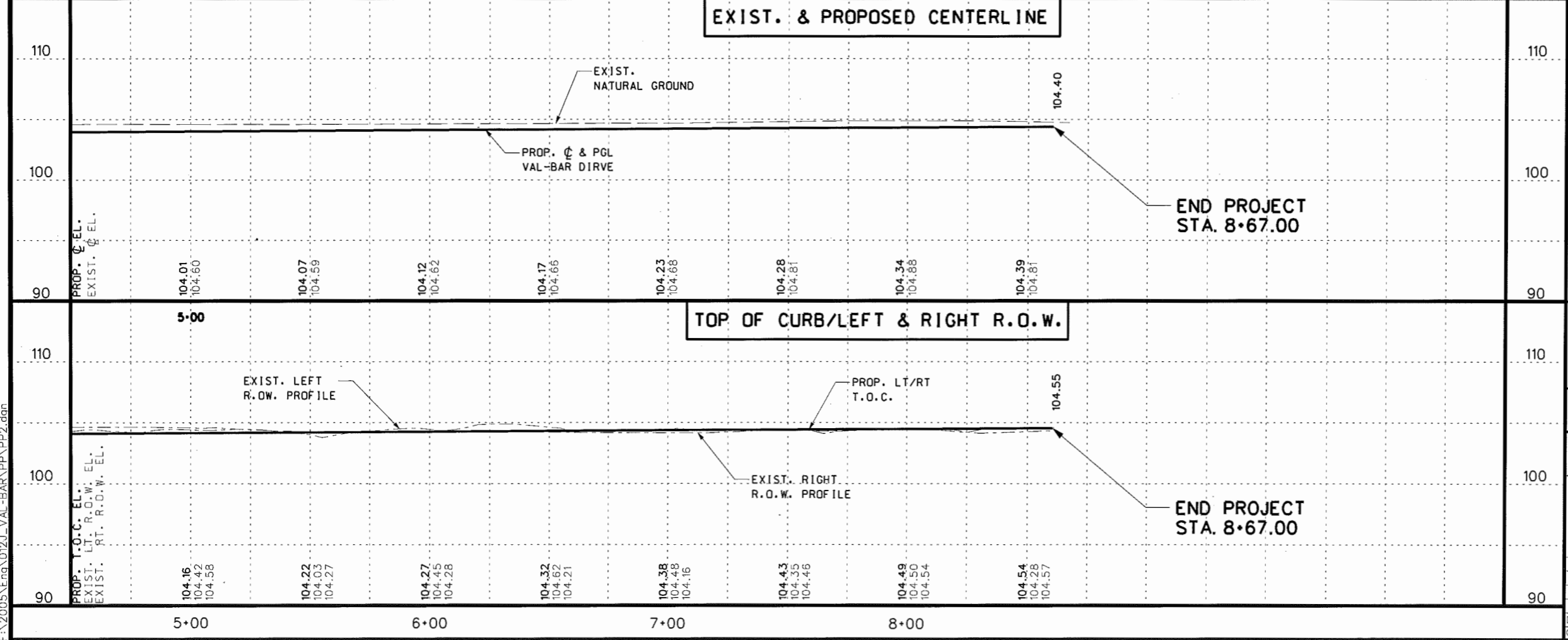
- PROP. CONCRETE DRIVEWAY
- PROP. ASPHALT DRIVEWAY
- TRAFFIC DIRECTION
- MAIL BOX
- NUMBER OF MAILBOXES
- DRIVEWAY ID NUMBER (SEE DRIVEWAY TABLE)
- EXIST. 18' PIPE
- EXIST. FENCE
- EXIST. POWER LINE
- EXIST. SAN. SEWER LINE
- GRATED INLET
- WATER METER
- GAS METER
- SANITARY SEWER MANHOLE
- CLEAN OUT
- SIGN
- FIRE HYDRANT
- DOWN GUY
- VALVE MARKER
- PALM TREE
- TREE-2
- TREE-3
- BENCH MARK
- IRON ROD
- POWER POLE
- PROP. STORM PIPE
- TURNOUT ID (SEE DRIVEWAY TABLE)

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

SHEET TOTALS

ITEM	EST.	FINAL	UNIT	DESCRIPTION
529	834		LF	CONC. C&G
531	12		SY	CONC. SIDEWALK (4")
560	13		EA	MAILBOX INSTALLATION (SINGLE)

NOTES:
 1) EXIST. SIGN TO BE REPLACED & RELOCATED.
 2) SEE DRIVEWAY TABLES FOR DIMENSIONS.



R. Gutierrez, P.E.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

SHEET 2 OF 2

HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 PLAN & PROFILE

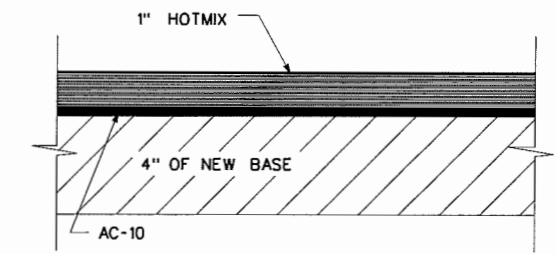
Texas Department of Transportation
 © TxDOT 2010

R. Gutierrez Professional Engineers & Land Surveyors
 Engineering Corporation
 130 E. PARK AVENUE • PHARR, TEXAS 78677
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 486

FED. RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	27

F:\2005\Eng\0121\VAL-BAR\PP\PP2.dgn

VAL-BAR DRIVE - DRIVEWAYS (CSJ: 2C-1080-767)												
ID #	STATION	EXIST. DRVWY WIDTH	PROP. WIDTH @ CURB & GUTTER	PROP. WIDTH @ R.O.W. LINE	EXIST. DRVWY MATERIAL	ASPHALT DRIVES						ITEM 530 DRIVEWAYS (CONC) (SY)
						ACP DRWY AREA (SY)			ITEM 247 FLEX BASE 4" (CY)	ITEM 310 ASPH MAT'L (AC-10) (0.2 GAL/SY) (GAL)	ITEM 340 ASPH. MAT'L ACP (SURF) (TONS)	
						P-1	PRB-1	PB-1				
1	0+59.82, RT.	17.3	17.9	14.1	DIRT	-	18	-	1.998	3.6	1.026	-
2	0+90.26, LT.	15.2	12.9	9.2	CONC.	-	-	-	-	-	-	13
3	1+16.03, LT.	15.8	15.1	11.1	DIRT	-	15	-	1.665	3.0	0.855	-
4	1+65.75, LT.	12.9	13.3	9.6	CONC.	-	-	-	-	-	-	13
5	2+14.80, RT.	14.9	16.6	12.7	CONC.	-	-	-	-	-	-	17
6	2+23.65, LT.	15.2	17.2	13.4	CONC.	-	-	-	-	-	-	17
7	2+61.29, RT.	15.8	15.2	11.5	CONC.	-	15	-	1.665	3.0	0.855	-
8	2+71.44, LT.	15.2	16.9	13.1	CALICHE	-	-	-	-	-	-	17
9	3+11.47, LT.	15.6	17.2	13.4	CONC.	-	17	-	1.887	3.4	0.969	-
10	3+16.13, RT.	19.9	22.7	18.9	CALICHE	-	-	-	-	-	-	24
11	3+40.27, LT.	13.8	15.9	12.1	CONC.	-	16	-	1.776	3.2	0.912	-
12	3+69.37, RT.	16.9	17.8	14.0	CALICHE	-	18	-	1.998	3.6	1.026	-
13	4+06.86, LT.	13.4	15.6	11.8	DIRT	-	16	-	1.776	3.2	0.912	-
14	4+06.88, RT.	17.6	19.1	15.3	CALICHE	-	20	-	2.220	4.0	1.140	-
15	4+56.20, RT.	18.6	18.6	14.8	CALICHE	-	19	-	2.190	3.8	1.083	-
16	4+62.27, LT.	14.0	14.6	10.8	CALICHE	-	14	-	1.554	2.8	0.798	-
17	4+84.07, LT.	10.7	13.2	9.4	CALICHE	-	13	-	1.443	2.6	0.741	-
18	5+15.17, RT.	15.0	15.8	11.9	CALICHE	-	16	-	1.776	3.2	0.912	-
19	5+15.55, LT.	15.4	15.7	11.9	GRAVEL	-	16	-	1.776	3.2	0.912	-
20	5+57.71, LT.	16.1	16.1	12.3	CALICHE	-	16	-	1.776	3.2	0.912	-
21	5+62.67, RT.	15.1	15.9	12.1	DIRT	-	16	-	1.776	3.2	0.912	-
22	5+86.89, RT.	17.9	19.8	16.0	CALICHE	-	20	-	2.220	4.0	1.140	-
23	6+03.06, LT.	16.4	16.7	12.9	CALICHE	-	17	-	1.887	3.4	0.969	-
24	6+28.22, LT.	11.5	15.3	12.1	CONC.	-	-	-	-	-	-	16
25	6+36.33, RT.	17.5	19.5	15.7	CONC.	-	-	-	-	-	-	20
26	6+64.45, LT.	12.9	13.8	10.6	DIRT	-	14	-	1.554	2.8	0.798	-
27	7+12.33, LT.	16.7	15.9	12.1	CONC.	-	-	-	-	-	-	16
28	7+61.02, RT.	14.3	16.2	12.4	CALICHE	-	16	-	1.776	3.2	0.912	-
29	8+05.66, RT.	24.1	22.6	18.8	CALICHE	-	23	-	2.553	4.6	1.311	-
30	8+12.49, LT.	24.0	21.4	17.6	ASPH.	-	22	-	2.442	4.4	1.254	-
SUB-TOTAL						-	357	-	39.708	71.4	20.349	153



DRIVEWAY TYPICAL DETAIL
N.T.S.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
DATE: 2-9-11
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
DRIVEWAY TABLES

Texas Department of Transportation
© TxDOT 2010

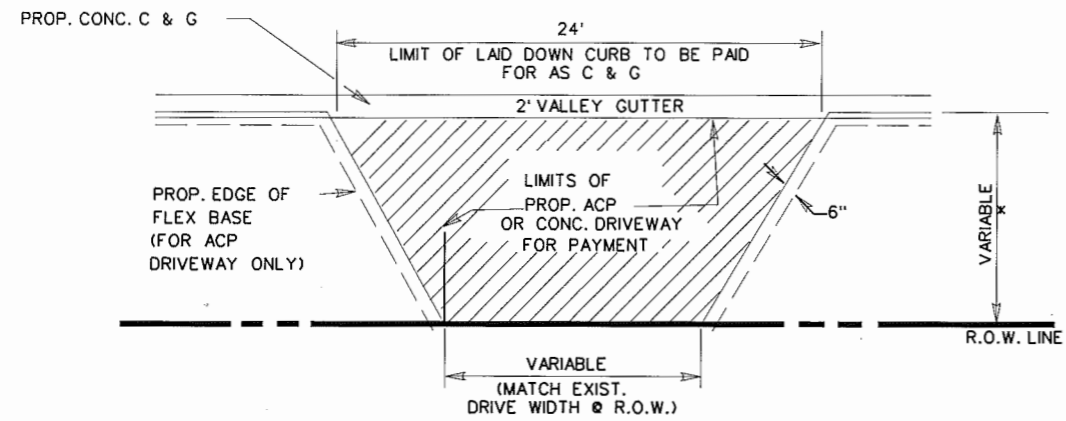
R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78677
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

FED. RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	28

⊗ FOR CONTRACTOR'S INFORMATION ONLY (NON-PAY).

F:\2005\Enc\012J_VAL-BAR\PLANS\DRWY1ABLES.dgn

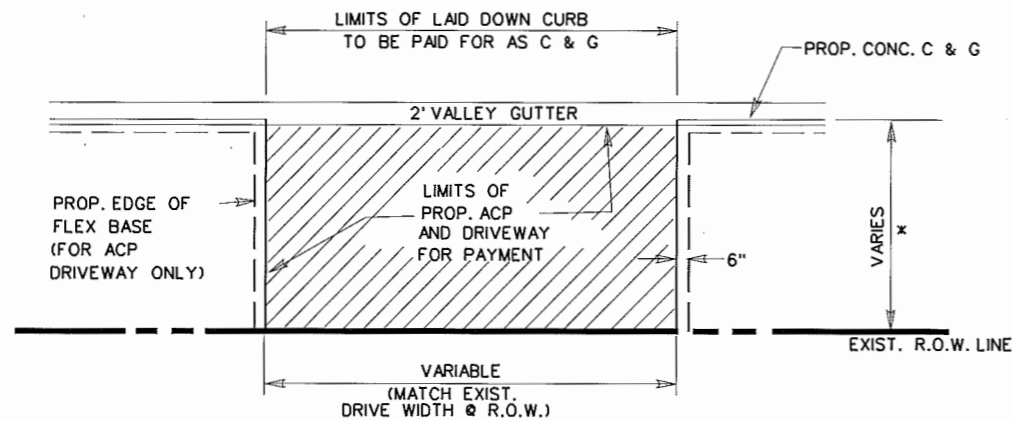
PRIVATE AND COMMERCIAL DRIVES WITH CURB & GUTTER



PLAN OF PRIVATE AND COMMERCIAL DRIVES
(W/DRIVEWAY WIDTH LESS THAN 24')

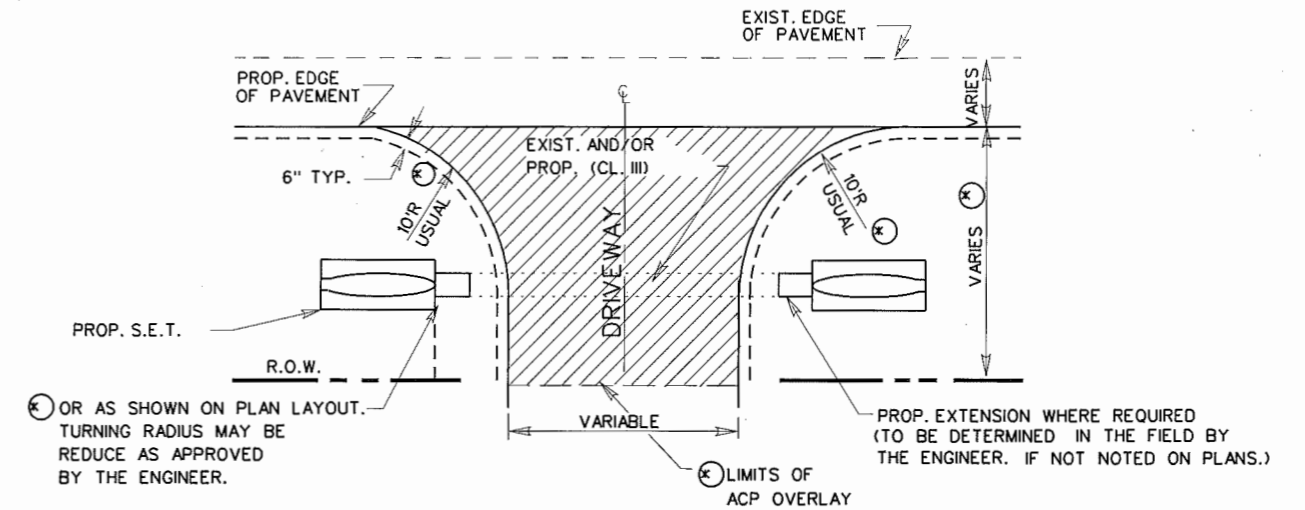
⊕ SEE NOTE BELOW

* SEE P&P SHEETS



PLAN OF PRIVATE AND COMMERCIAL DRIVES
(W/DRIVEWAY WIDTH EQUAL TO OR GREATER THAN 24' @ R.O.W. LINE)

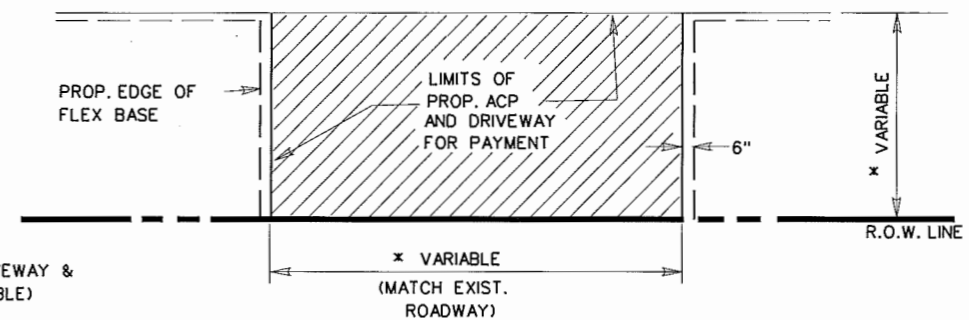
PRIVATE AND COMMERCIAL DRIVES WITHOUT CURB & GUTTER



PLAN OF PRIVATE AND COMMERCIAL DRIVES

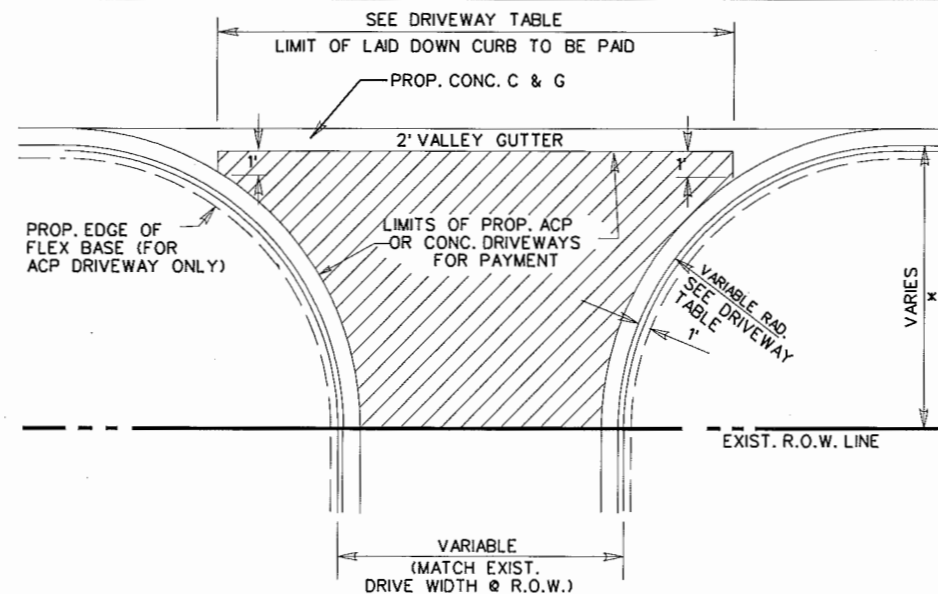
(W/DRIVEWAY WIDTH LESS THAN 24')

* FOR DETAILS SEE DRIVEWAY & TURNOUT DETAILS (TABLE)



PLAN OF PRIVATE AND COMMERCIAL DRIVES
(W/DRIVEWAY WIDTH EQUAL TO OR GREATER THAN 24' @ R.O.W. LINE)

PRIVATE AND COMMERCIAL DRIVES WITH CURB & GUTTER



PLAN OF PRIVATE AND COMMERCIAL DRIVES

SEE P&P SHEETS FOR LOCATIONS OF DRIVES

⊕ NOTE:

DRIVEWAY TYPES

- TY PRB-1**
EXIST. PAVED CALICHE AND /OR GRAVEL DRIVEWAYS TO BE SCARIFIED AND RECONSTRUCTED WITH 3" NEW AND/OR SALVAGE FLEX. BASE TO MATCH THE PROPOSED WIDENED SECTION. THEN PRIMED AND SURFACED WITH 114*/SY ACP (TY "D")
- TY PB-1**
EXIST. UNPAVED PRIVATE OR COMMERCIAL DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 4" NEW AND/OR SALVAGE FLEX. BASE, PRIMED AND SURFACED WITH 114*/SY ACP.
- TY P1**
EXIST. PAVED DRIVEWAYS TO BE PAVED WITH 114*/SY ACP TY "D".

Ⓢ TxDOT 2002

PHARR DISTRICT STANDARD

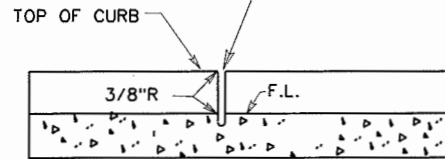


DRIVEWAY DETAILS

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
REV. 4/02	21		ENG05.12J	29
		COUNTY	CONTROL SECTION	JOB HIGHWAY
		HDALGO	2C 1080	767

N.T.S.

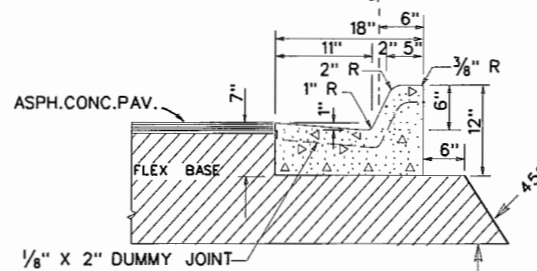
JOINTS MAY BE FORMED WITH 1/8" METAL PLATES NO FILLER REQUIRED. USUAL SPACING 10' O.C., MAX. SPACING 15' O.C.



DETAIL DUMMY JOINT

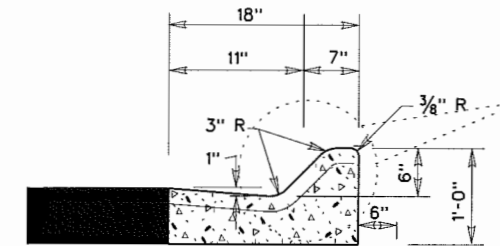
NOTE: DUMMY JOINTS TO BE USED ON CURB & CUTTER, CONC. MEDIAN AND ALL TYPE OF VALLEY GUTTERS JOINTS TO BE LOCATED BY THE ENGINEER.

ALL HORIZONTAL DIMENSIONS AND RADII SHOWN ON PLANS, RELATING TO CURB & GUTTER, ARE TO A POINT 6" IN FROM BACK OF CURB.



CONC. CURB & GUTTER TY "A" (BARRIER)

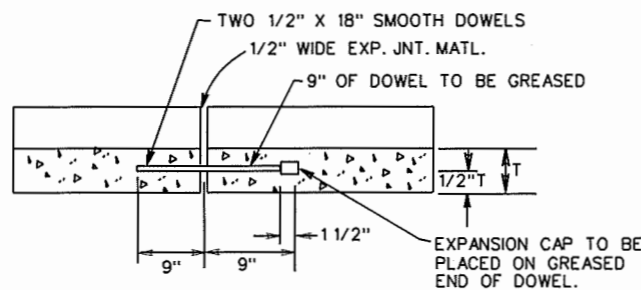
NOTE: EXPANSION JOINTS 1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE INSTALLED WHERE CONC. CURB & GUTTER ABUTS CONC. CURB, OR WHERE CONC. CURB & GUTTER OR CONC. CURB ABUT INLETS, BRIDGE WINGWALLS, BRIDGE ABUTMENTS AND/OR ANY OTHER LOCATIONS SPECIFIED BY THE ENGINEER. MAX. SPACING = 105'



CONC. CURB & GUTTER TY. "B" (MOUNTABLE)

NOTE: WHERE PROPOSED CURB & GUTTER IS TO BE CONNECTED TO EXIST. CURB & GUTTER IT SHOULD BE DONE AT THE EXIST. GUTTER FLOW LINE ELEVATION.

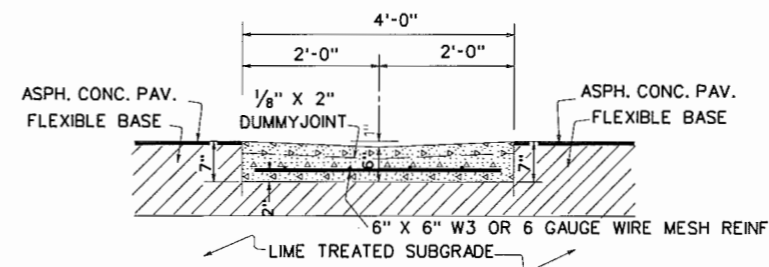
1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE INSTALLED WHERE CONC. CURB & GUTTER ABUTS CONC. CURB, OR WHERE CONC. CURB & GUTTER OR CONC. CURB ABUT INLETS, BRIDGE WINGWALLS, BRIDGE ABUTMENTS AND/OR ANY OTHER LOCATIONS SPECIFIED BY THE ENGINEER. MAX. SPACING = 105'



DETAIL EXPANSION JOINT

LONGITUDINAL SECTION THRU CURB AND/OR C&G. REINFORCING STEEL (WHEN USED) SHALL NOT CROSS EXPANSION JOINTS. STEEL SHALL BE TERMINATED 3" ± FROM FACE OF THE JOINT.

1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE INSTALLED WHERE CONC. CURB & GUTTER ABUTS CONC. CURB, OR WHERE CONC. CURB & GUTTER OR CONC. CURB ABUT INLETS, BRIDGE WINGWALLS, BRIDGE ABUTMENTS AND/OR ANY OTHER LOCATIONS SPECIFIED BY THE ENGINEER. MAX. SPACING = 105'



4' CONC. VALLEY GUTTER (TY "A")

TO BE USED WHERE REQUIRED TO CARRY DRAINAGE WATER ACROSS SIDE STREETS



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948 DATE: 2-9-11 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
CONC. CURB & GUTTER DETAILS

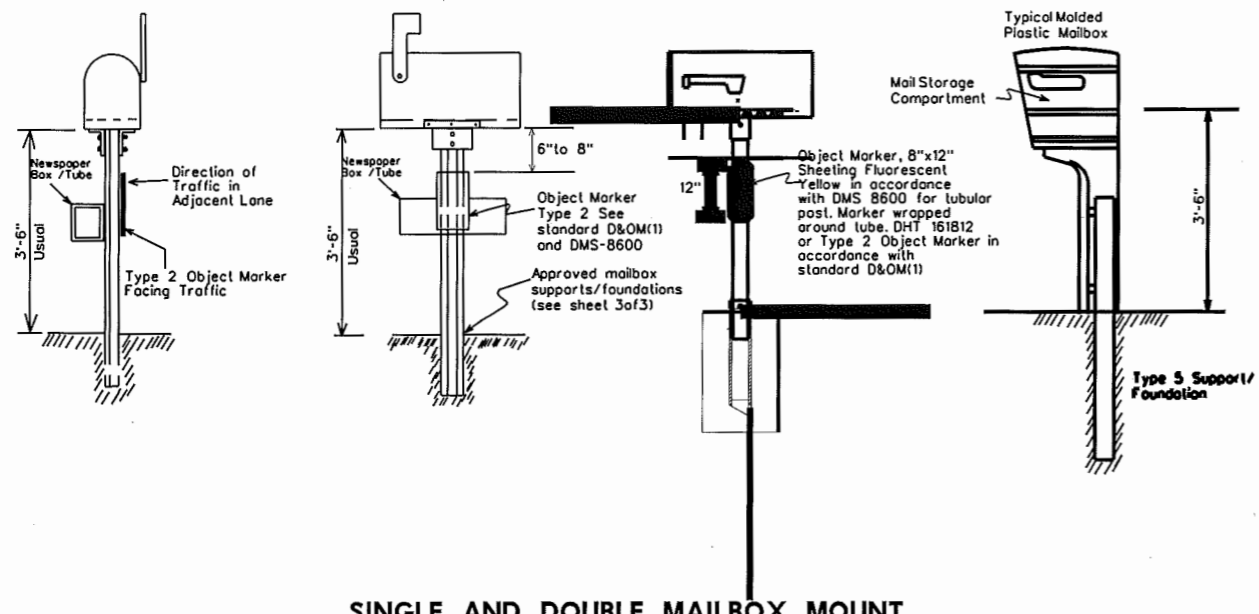


R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78677
(TEL.) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

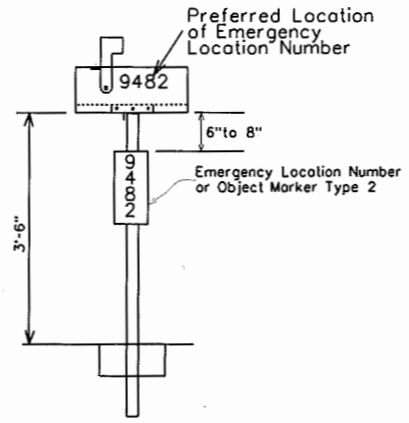
FED. RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	30

DISCLAIMER : The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

FILE: MB-05(1)
 LEVELS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



SINGLE AND DOUBLE MAILBOX MOUNT



Location Number shall be placed on a yellow, type A plate with class 1 flat surface reflective sheeting in accordance with DMS 8600. (Same type plate as used for the type 2 Object Marker) The color of numbers shall be black. (Max. sign size 6" by 15")

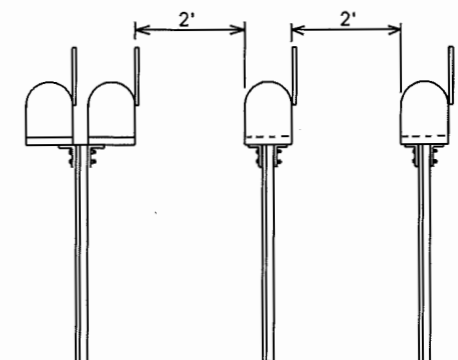
PLACEMENT OF EMERGENCY LOCATION NUMBER

Mailboxes shall be made of light weight sheet metal or light weight plastic. Heavy steel, cast iron or decorative mailboxes shall not be used on the state highway system.
 US Postal mailbox requirements are in Postal Bulletin No. 21907.

TYPICAL MAILBOX SIZE IN INCHES			
SIZE	LENGTH	WIDTH	HEIGHT
SMALL	19 1/2	6	7
MEDIUM	22 1/2	8	11 1/2
LARGE	23 1/2*	11 1/2*	13 1/2*

* Maximum allowed dimensions for mailbox

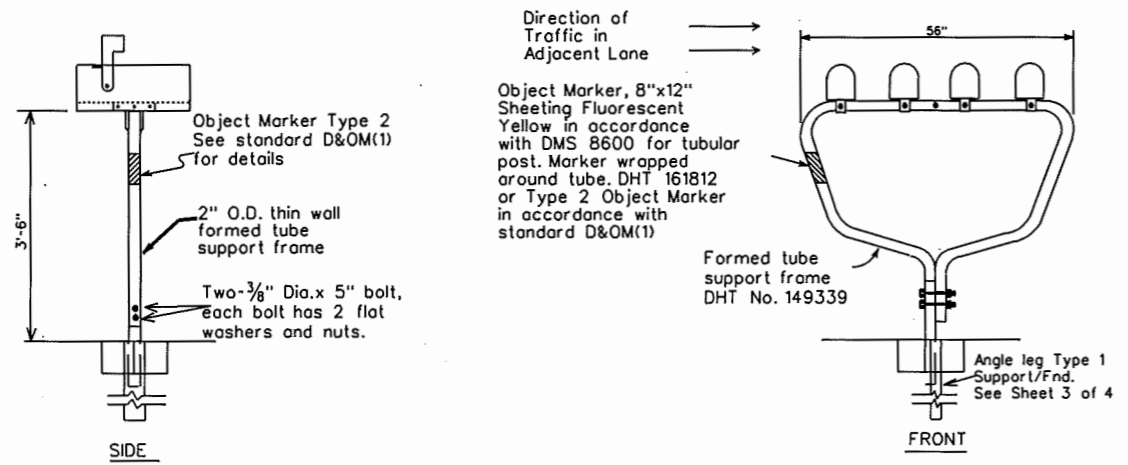
MAILBOX SIZES



2' Clear Distance between single or double mounted installations. (Normally when 4 or more mailboxes are in one location they should be placed on a multiple support.)

SINGLE & DOUBLE MAILBOX PLACEMENT

Permissible Number of Mailboxes on Multiple Support:	
All small & medium size	- 5 Maximum
Combination various sizes with no more than 2 large size.	- 4 Maximum
All large size	- 3 Maximum



MULTIPLE MAILBOX MOUNT

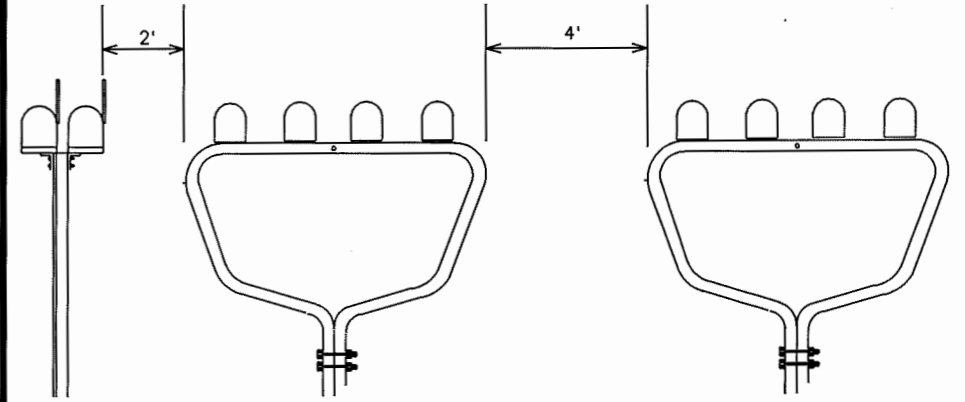
ONE PIECE MOLDED PLASTIC MAILBOXES

Molded Plastic Mailboxes shall be installed on 4"x4" treated timber posts only. Post may be set in concrete. The use of steel pipe or structural tubing in place of timber post is prohibited.

NEWSPAPER RECEPTACLE

A light weight receptacle for newspaper delivery may be attached to the post of single and double mailboxes if the receptacle:

- a. Does not touch the mailbox.
- b. Does not present a hazard to traffic or delivery of the mail.
- c. Does not extend beyond the front of the mailbox.
- c. Does not display advertising, except the publication title.



4' Clear Distance between multiple installations and 2' clearance between double or single installations and the multiple installation.

MULTIPLE MAILBOX PLACEMENT

INDEX OF MAILBOX DETAIL SHEETS

- 1 of 4 MAILBOX MOUNTING AND SPACING
- 2 of 4 MAILBOX BRACKET CONNECTING DETAILS
- 3 of 4 MAILBOX SUPPORT / FOUNDATION
- 4 of 4 MAILBOX SIDE ROAD PLACEMENT AND TURNOUTS

Standard Plans
Texas Department of Transportation
 Maintenance Division

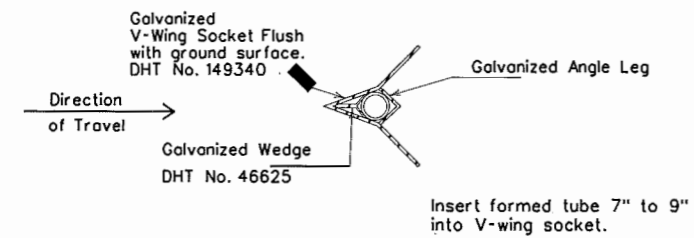
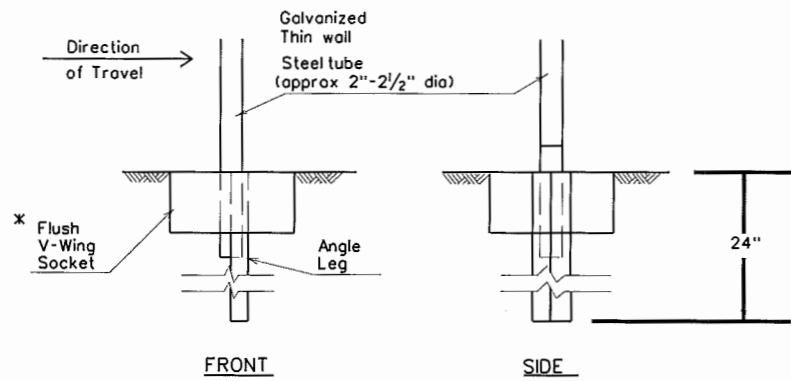
MAILBOX MOUNTING AND SPACING
MB-05(1)

Sheet 1 of 3

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL NO PROJECT	SHEET
02/02/05	21		ENG05.12J	31
06/08/05				
Sheet & file block numbered	COUNTY	CONTROL	SECTION	JOB
	Hidalgo	2C	1080	767

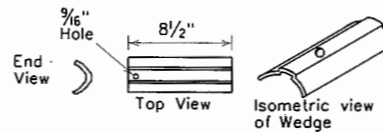
DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. No warranty or any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LEVELS	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA

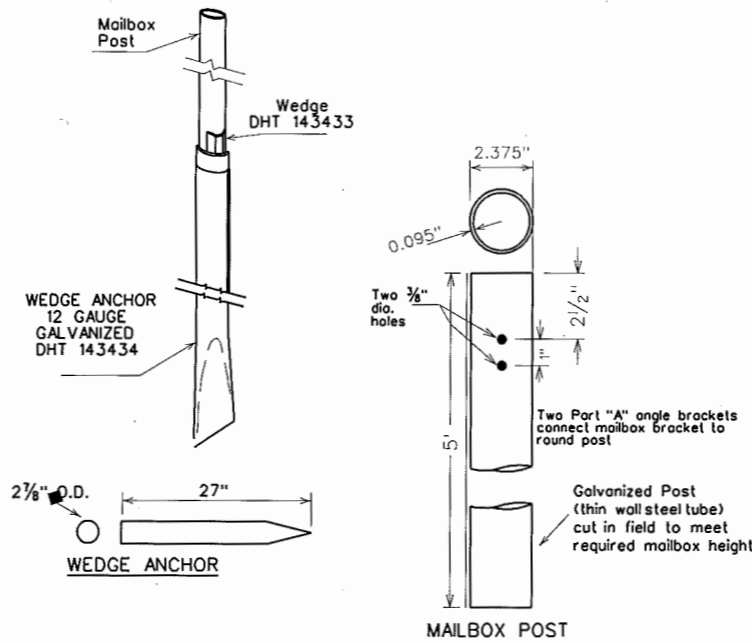


TYPE 1 SUPPORT/FOUNDATION

THIN WALL STEEL TUBE w/ V-LOC ANCHORAGE



WEDGE 11 GAUGE GALVANIZED DHT 143433



TYPE 2 SUPPORT/FOUNDATION

THIN WALL STEEL TUBE w/ WEDGE ANCHOR SYSTEM

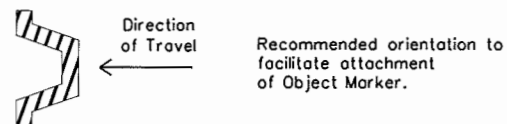
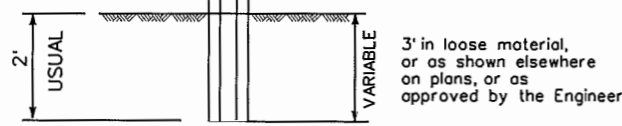
NOTES FOR TYPE 2 SUPPORT/FOUNDATION

- A. Galvanize steel support foundation in accordance with Item 445 Galvanizing.
- B. All dimensions may be varied to fit a 2 inch thin wall steel tube if approved by the Engineer.

GENERAL NOTES

1. Erect post plumb or vertical.
2. When galvanized part is required galvanize in accordance with Item 445.
3. Type 1, 2, 3 or 4 supports or foundation can be used for single or double mailboxes except for the single plastic or rubber mailbox. The Type 5 support/foundation is use for the single molded plastic mailbox.
4. The Type 1 support/foundation can be used for a multiple mailbox mount.
5. Use a concrete footing as shown or when directed. Concrete footing will be required when soils do not hold the support/foundations in a stable condition.
6. Galvanized thin wall posts may be used for Ty 1, 2 & 4.
7. Galvanized thin wall post may be powder coated white DHT-162911.

Winged Channel Post (2 lbs/ft)

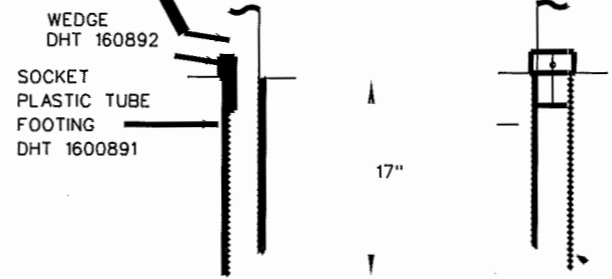


GALVANIZED WINGED CHANNEL POST
ASTM A 1011, SS GRADE 50, STEEL
2 lbs/ft, DHT No. 4289

TYPE 3 SUPPORT/FOUNDATION

WINGED CHANNEL POST

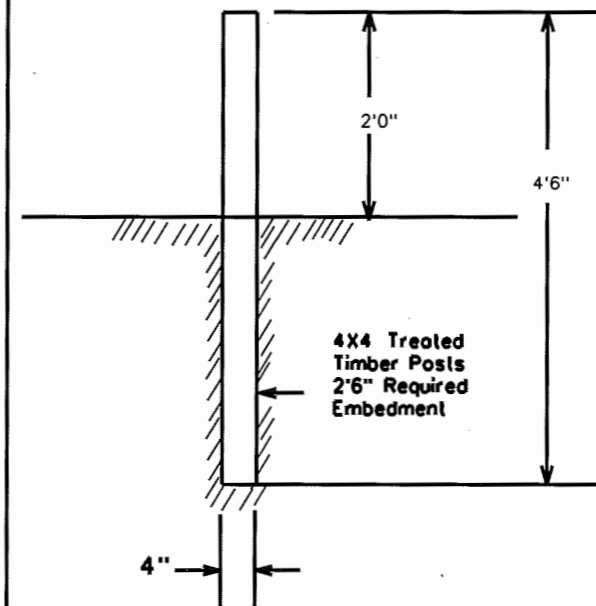
2 3/8" O.D. Flexible Post, wall thickness 0.46" to 0.49" made of recycled HDTP/ Rubber Composite. DHT 161177



Class "B" Concrete Foundation in Accordance with Item 421 Hydraulic Cement Concrete

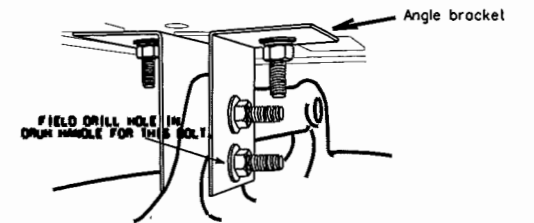
TYPE 4 SUPPORT/FOUNDATION

FOR FLEXIBLE POST



TYPE 5 SUPPORT/FOUNDATION

FOR ONE PIECE MOLDED PLASTIC MAILBOX



Placed on approved plastic drum as shown in the Compliant Work Zone Traffic Control Devices (CWZTCD). Existing attachment hardware shall be used unless damaged. Damaged hardware shall be replaced.

TYPE 6 TEMPORARY MAILBOX SUPPORT

CONNECTION DETAIL

Standard Plans

Texas Department of Transportation
Maintenance Division

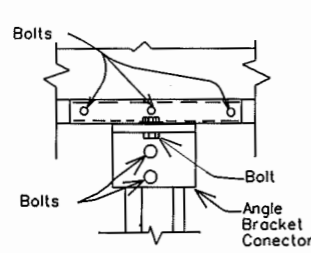
MAILBOX SUPPORT/ FOUNDATION

MB-05(1)

Sheet 3 of 3

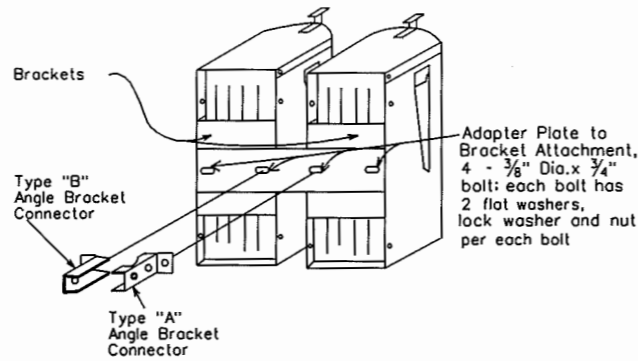
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
02/02/05	21		ENG05.12J	32
06/05/05				
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
HIDALGO	2C	1080	767	

MULTIPLE MAILBOX MOUNT



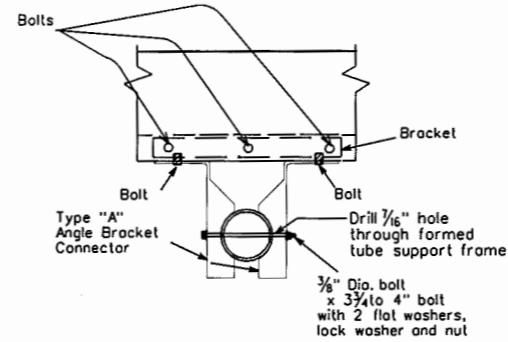
For bolt sizes see details below for "SMALL MAILBOX" and "MEDIUM AND LARGE MAILBOXES"

SINGLE MAILBOX CONNECTION



DOUBLE MAILBOX CONNECTION

(Not permitted for Large Mailboxes)

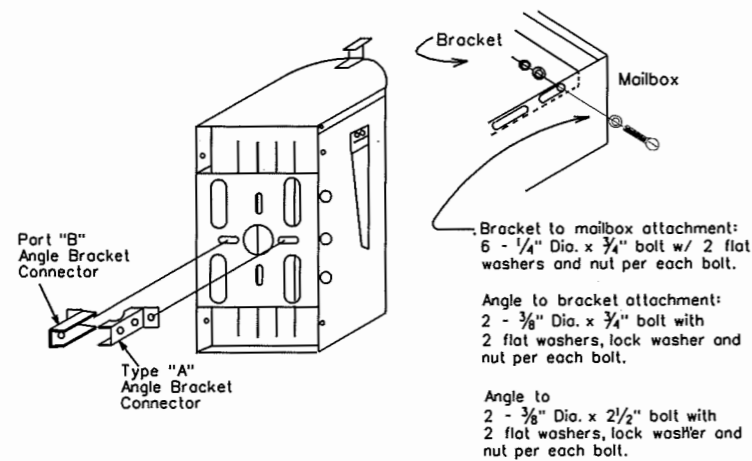


MULTIPLE MAILBOX CONNECTION

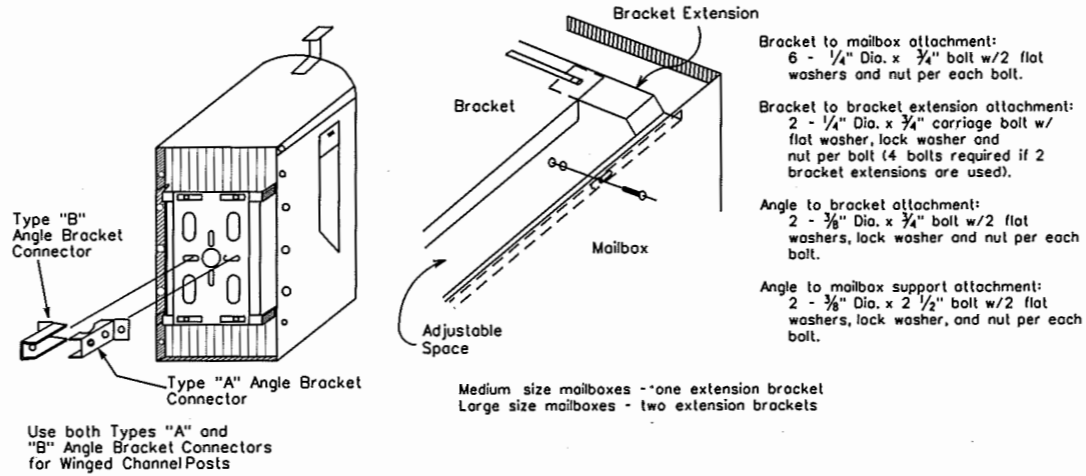
SINGLE MAILBOX BRACKET CONNECTION FOR FLEXIBLE POST

DOUBLE MAILBOX BRACKET CONNECTION WITH ADAPTER PLATE FOR FLEXIBLE POST

00 00
00 00



SMALL MAILBOX



MEDIUM AND LARGE MAILBOXES

GENERAL NOTES

1. Connecting hardware detailed on this sheet is for the hardware that the Department stocks at the Regional Warehouses. This hardware is available to the contractor only when so stated elsewhere in the plans or specification.
2. Hardware for mounting mailboxes to the support/foundation furnished by industry may be used when shown on the Maintenance Divisions "Approved Products List." Only mailbox hardware that have been crash tested in accordance with NCHRP Report 350, will be on the approved list.
3. Hardware furnish by industry shall be erected in accordance with the manufacture's recommendation.
4. Bracket and bracket extension shall be constructed of 14 gauge galvanized steel sheet metal.
5. The angles brackets and adapter plates shall be constructed of 12 gauge galvanized steel sheet metal.
6. Items with evidence of damage to the galvanized coating or wet storage stains (white rust) will not be accepted.

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TXDOT for any purpose whatsoever. TXDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

ADAPTER PLATE CONNECTOR TO FLEXIBLE POST DHT 162323

BRACKET FOR FLEXIBLE POST DHT 161443

ADAPTER PLATE DHT #3789

Used for mounting two Mailboxes on the same post.

BRACKET DHT 148939

BRACKET EXTENSION DHT 148938

Used for extending 6" wide bracket to attach larger mailboxes.

TYPE "A" ANGLE BRACKET DHT 159489

TYPE "B" ANGLE BRACKET DHT 159490

ANGLE BRACKET FOR TEMPORARY MAILBOX DHT 2917

HARDWARE AT TXDOT REGIONAL WAREHOUSES

Brackets and adapter plate shown in this section may be available to the Contractor when stated elsewhere in plans or specifications.

FILE: MB-05-(1)
LEVELS: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
REVISED: 02/02/05 06/08/05
7 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

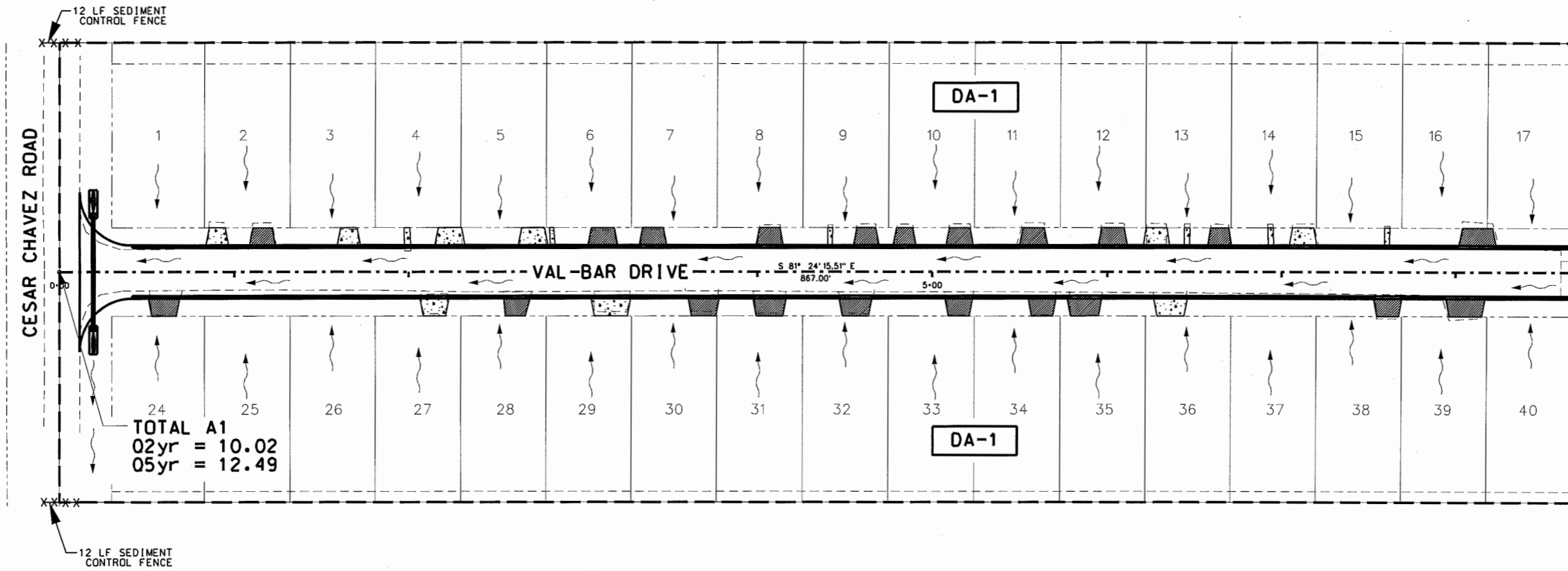
Standard Plans
Texas Department of Transportation
Maintenance Division

MAILBOX BRACKET CONNECTING DETAILS
MB-05(1)

Sheet 2 of 3

REVISIONS	STATE DISTRICT	FEDERAL PROJECT	FEDERAL NO PROJECT	SHEET
02/02/05	21		ENG05.12J	33
Sheet & Title block numbered:	COUNTY	CONTROL	SECTION	JOB
	Hidalgo	2C	1080	767

N.T.S.



TOTAL A1
02yr = 10.02
05yr = 12.49

LEGEND

- LIMIT OF DRAINAGE AREA
- R.O.W. LINE
- DIRECTION OF RUNOFF FLOW
- DRAINAGE AREA I.D.
- SEDIMENT CONTROL FENCE (36 LF PER INLET)



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
DATE: 2-9-11
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

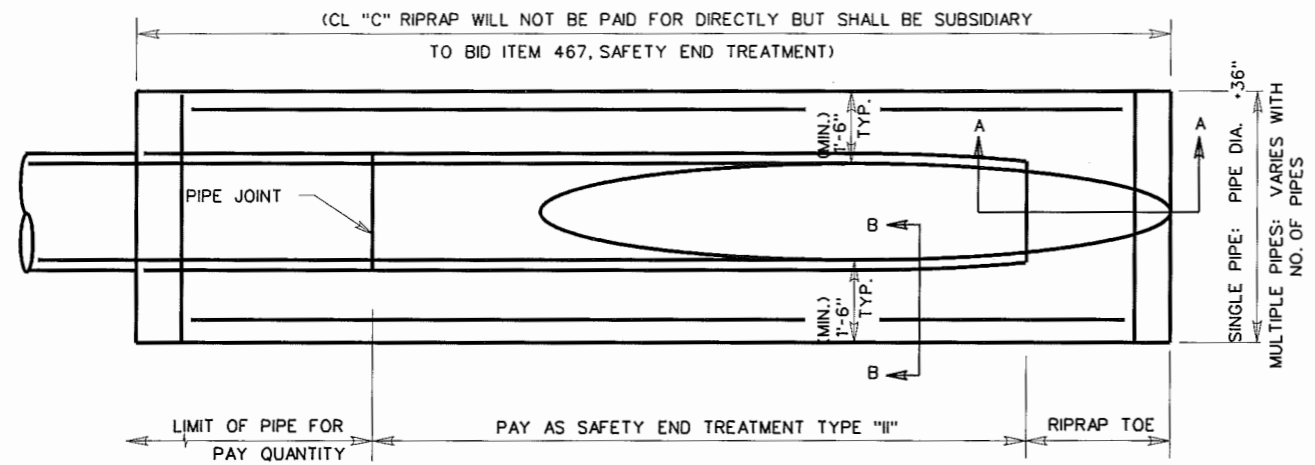
HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
DRAINAGE AREA MAP

Texas Department of Transportation
© TxDOT 2010

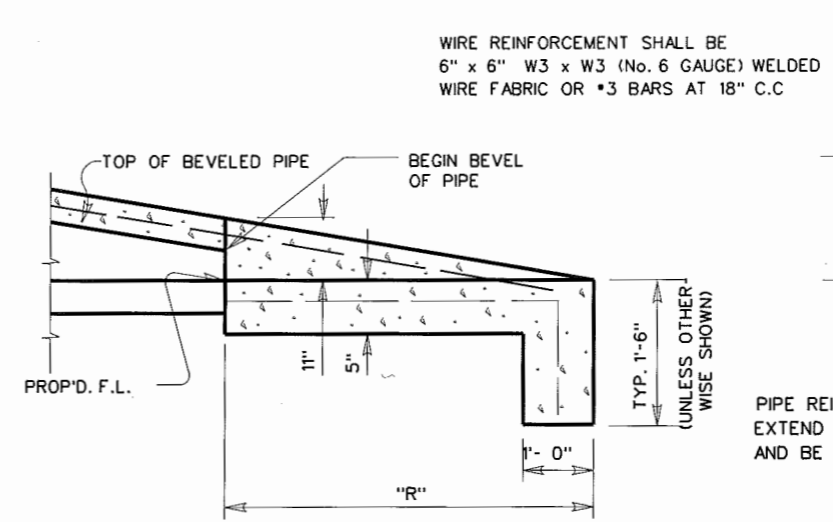
R. Gutierrez Engineering Corporation
Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

FED. RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS,	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	34

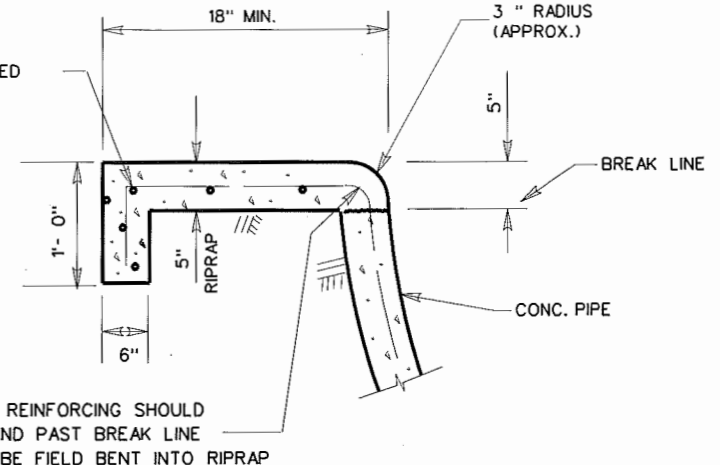
F:\2005\Enc\012J_VAL-BAR\DRAINAGE\DA.M.dgn



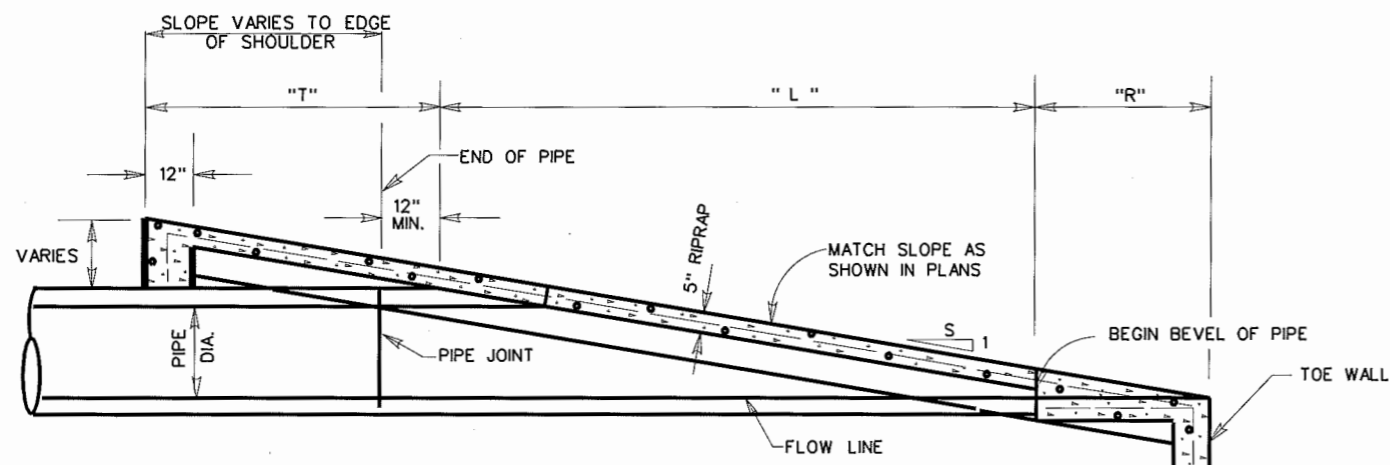
PLAN VIEW



SEC. A-A



SEC. B-B



ELEVATION SAFETY END TREATMENT

SAFETY END TREATMENT PIPE LENGTHS

PIPE DIA. (IN.)	"L"			
	3:1	4:1	5:1	6:1
12	2'-0"	2'-8"	3'-4"	4'-0"
15	2'-9"	3'-8"	4'-7"	5'-6"
18	3'-6"	4'-8"	5'-10"	7'-0"
24	5'-1/2"	6'-10"	8'-6 1/2"	10'-3"
30	6'-9"	9'-0"	11'-3"	13'-6"
36	8'-6"	11'-4"	14'-2"	17'-0"
42	10'-1/2"	13'-6"	16'-10 1/2"	20'-3"
48	11'-9"	15'-8"	19'-7"	23'-6"

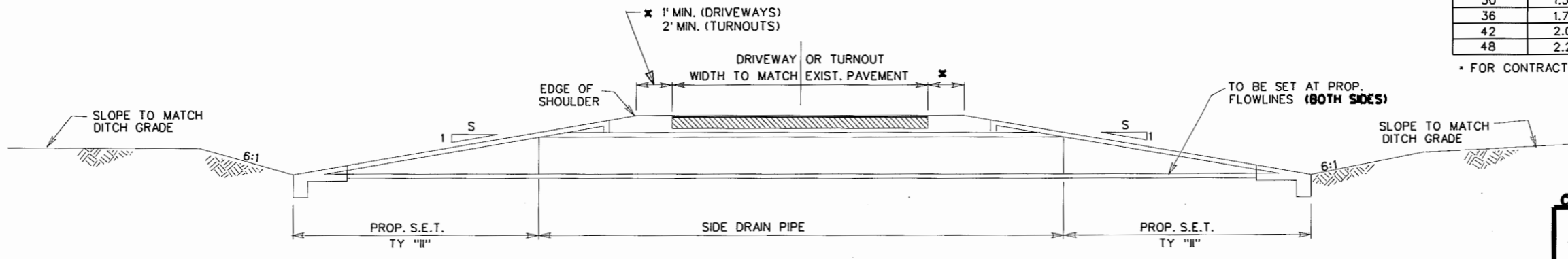
RIPRAP TOE LENGTHS

SLOPE	"R"		"T"	
	"R"	"T"	"R"	"T"
3:1	2'-9"	1'-9"	2'-9"	1'-9"
4:1	3'-8"	2'-4"	3'-8"	2'-4"
5:1	4'-7"	2'-11"	4'-7"	2'-11"
6:1	5'-6"	3'-6"	5'-6"	3'-6"

ESTIMATED RIPRAP CL "C" VOLUME (CY)

PIPE DIA. (IN.)	"L"			
	3:1	4:1	5:1	6:1
12	.9	1.1	1.3	1.6
15	1.0	1.2	1.5	1.8
18	1.1	1.4	1.6	1.9
24	1.3	1.6	2.0	2.3
30	1.5	1.9	2.3	2.7
36	1.7	2.2	2.7	3.2
42	2.0	2.5	3.1	3.6
48	2.2	2.8	3.4	4.1

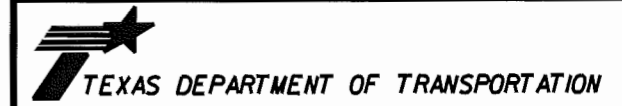
* FOR CONTRACTORS INFORMATION ONLY (SINGLE PIPE)



TYPICAL SIDEDRAIN SECTION

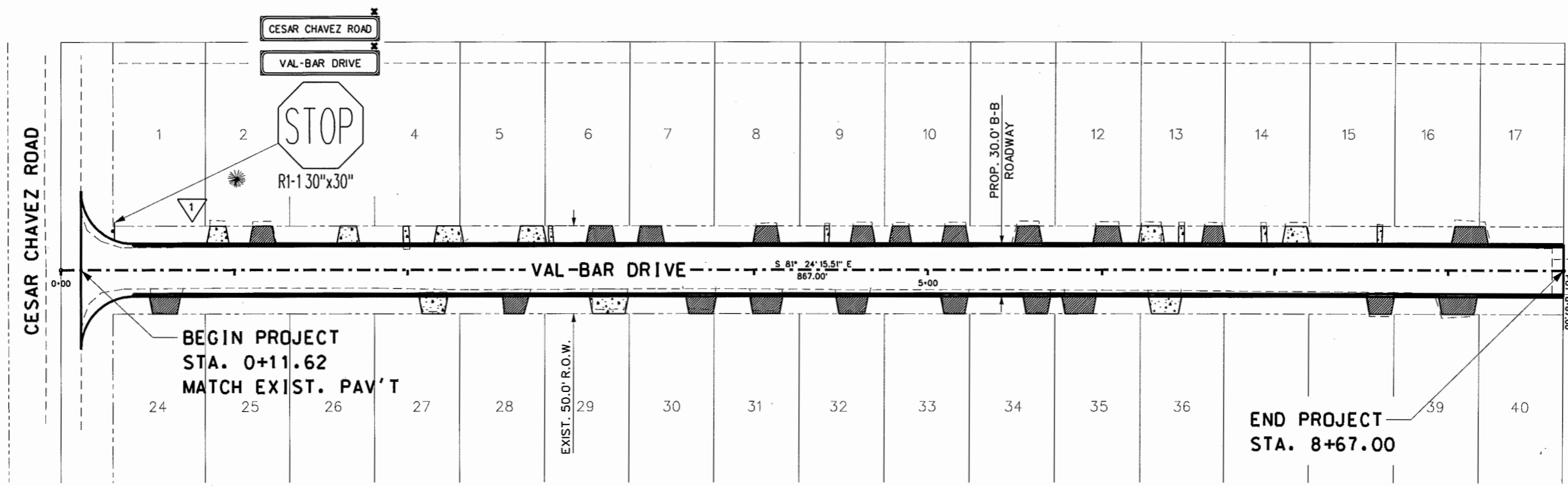
NOTE:

ALL EXCAVATION AND BACKFILL REQUIRED AT ALL PIPE SIDE DRAIN CONNECTIONS, ADJUSTMENTS AND/OR EXTENSIONS WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE SUBSIDIARY TO THE BID ITEMS INVOLVED AND IN ACCORDANCE WITH ITEM 400 "STRUCTURAL EXCAVATION".



SAFETY END TREATMENT DETAILS

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
REV. 4/02	21		ENG05.12J			35
			COUNTY	CONTROL	SECTION	JOB
			HIDALGO	2C	1080	767



NOTE:

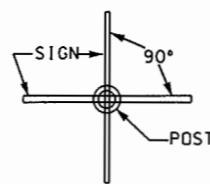
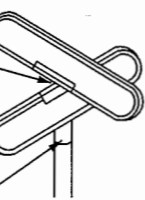
- 1.) EXISTING SIGNS TO BE REMOVED & REPLACED.
- 2.) STOP SIGN WITH TOP MOUNTED STREET NAME SIGN TO BE PAID FOR AS ONE SIGN ASSEMBLY.

LEGEND

- SIGN TO BE INSTALLED (ITEM 644)
- EXISTING / PROPOSED SIGN
- SIGN TO BE REMOVED
- STREET NAME SIGN TO BE IN ACCORDANCE WITH CITY OF SAN JUAN REQUIREMENTS.
- TO BE DONE BY CONTRACTOR

90° CROSS PIECE
W/5 1/4" SLOT

POLE-MOUNTED
CAP W/5 1/4" SLOT



POST TOP MOUNTING DETAILS



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
DATE: 2-9-11
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
SIGNING LAYOUT

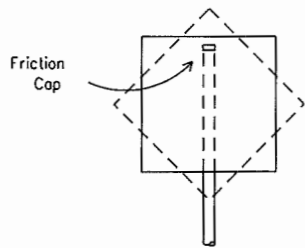


R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

FED.RD. DIV. No.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	36

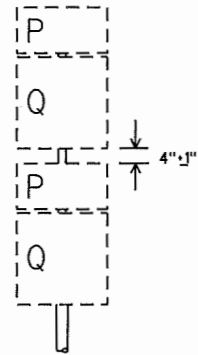
DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DN:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	DATE:
CK:																	
DW:																	
CK:																	



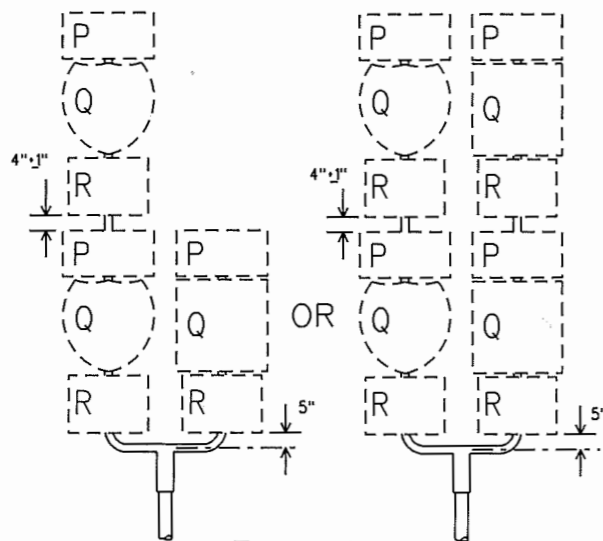
Type A

This type of mount which uses thin wall tubing or fiberglass reinforced plastic (FRP) pipe may be used to support any sign or combination of signs with a total area less than the maximum areas given for that support on SMD(1-4) with the exception of the following signs: FR6-1, W1-6 and W1-7. These signs should be mounted on a Type D-1 support.



Type A-1

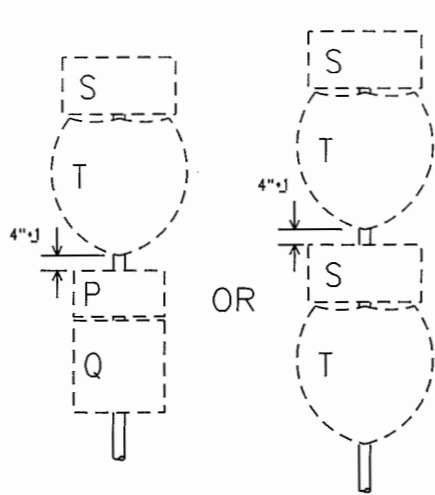
This type of mount may be used for up to two route markers (along with the appropriate cardinal direction markers). A 36" or 45" Interstate route marker may not be used on this support. May be used as a specified optional substitute for Type B. Post shall be 2 1/2" Sch. 10.



Type C

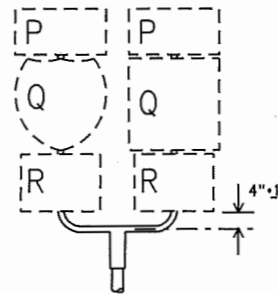
This type of mount is to be used when 3 or 4 route markers are required. If a 36" or 45" Interstate route marker is required, it should be mounted independently using a Type A mount or in conjunction with another 36" or 45" Interstate route marker using a Type A-2 mount. Post shall be 2 1/2" Sch. 80.

- P = 24"x12" Cardinal Direction Marker
- Q₁ = 24"x24" Interstate, US or State Route Marker
- Q₂ = 30"x24" Interstate or US Route Marker
- R = 21"x15" Direction Arrow
- S = 30"x15" Cardinal Direction Marker
- T₁ = 36"x36" (2) digit Interstate Route Marker
- T₂ = 45"x36" (3) digit Interstate Route Marker



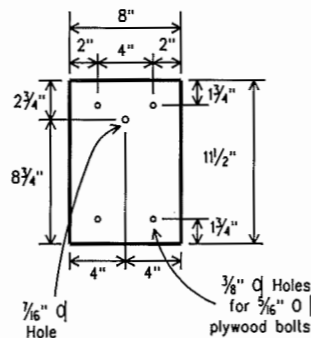
Type A-2

This type of mount may be used for up to two route markers (along with the appropriate cardinal direction markers). 36" or 45" Interstate route markers are allowable on this support. May be used as a specified optional substitute for Type B. Post shall be 2 1/2" Sch. 80.



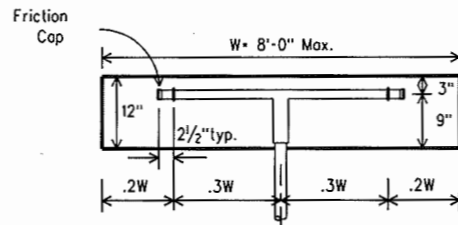
Type B

This type of mount may be used with two route markers (along with the appropriate cardinal direction markers). A 36" or 45" Interstate route marker may not be used on this support. Post shall be 2 1/2" Sch. 10.



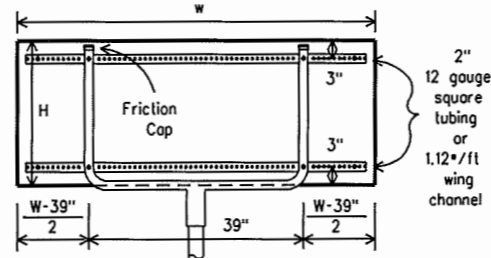
Splice Plate

Splice plates shall be 1/8" steel plate (ASTM A36) or 1/8" aluminum plate (ASTM B209 ALLOY 6061-T6 or 5052-H38). Steel shall be galvanized in accordance with ASTM A123.



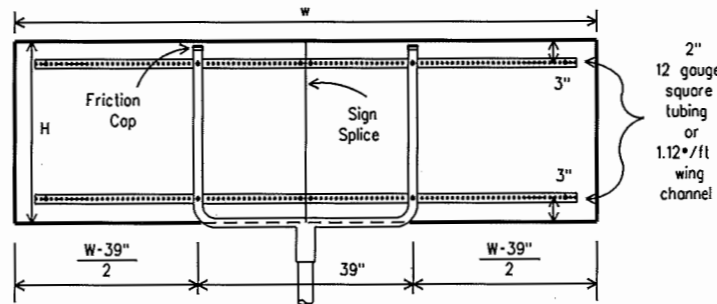
Type D-1

1. Mounting clamps are spaced 28" apart for "ONE WAY" signs (FR6-1, 48"x16"). Top of sign is 8" above centerline of "T" bar.
2. For "LARGE ARROW" signs (W1-6, 48"x24"), mounting clamps are spaced 30" apart.
3. Prefabricated 2" thin wall "T" mounted on a 2 1/2" Sch. 10 post.



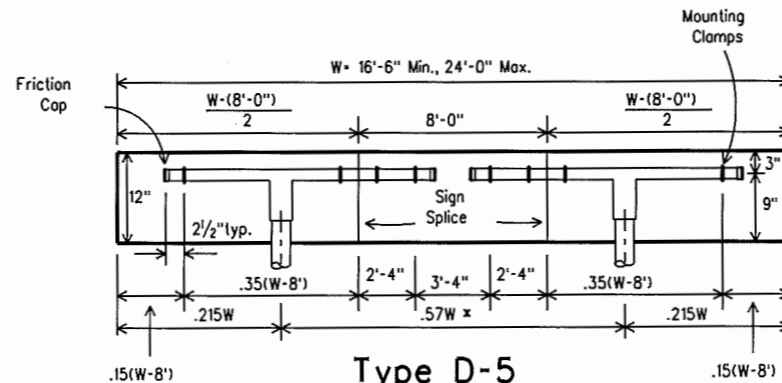
Type D-2

Prefabricated 2" thin wall "U" mounted on a 2 1/2" Sch. 10 post.



Type D-4

Prefabricated 2" thin wall "U" mounted on a 2 1/2" Sch. 80 post.

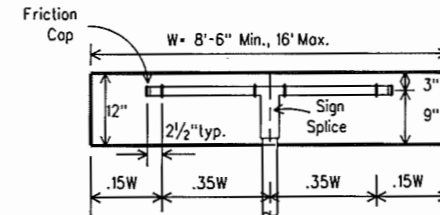


Type D-5

1. Post spacing may vary +/- 5% of total sign width to fit field conditions.
2. Prefabricated 2" thin wall "T" mounted on a 2 1/2" Sch 10 post.

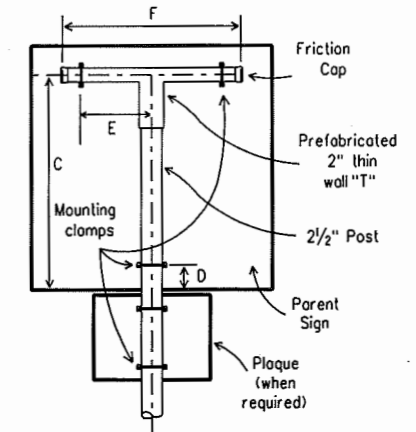
NOTES: (FOR TYPES D-1 THROUGH D-5)

1. Splice plate required on D-3 and D-5 mounts.
2. Sign blanks shall be 5/8" thick plywood conforming with Departmental Material Specification D-9-7100, unless otherwise noted elsewhere in the plans.



Type D-3

Prefabricated 2" thin wall "T" mounted on a 2 1/2" Sch. 10 post.



Type F

Type of Sign	2 1/2" Post	C	D	E	F	
Regulatory Signs	SR1-1	SCH 10	39"	9"	15"	35"
	FR1-2	SCH 10	43"	21"	11"	27"
	36"X48"	SCH 10	42"	6"	9"	23"
	48"X36"	SCH 10	30"	6"	15"	35"
	48"X48"	SCH 10	42"	6"	15"	35"
Warning Signs	48"X60"	SCH 80	54"	6"	12"	29"
	48"X48"	SCH 10	49"	19"	15"	35"
School Signs	48"X60"	SCH 80	54"	6"	12"	29"
	SS1-1	SCH 10	30"	6"	12"	29"
SS2-1	SCH 10	30"	6"	12"	29"	

1. Includes parent signs of this size which have supplementary plaque. Example: when "DO NOT ENTER" sign (SR5-1, 48" X 48") is mounted in combination with the "RAMP" plaque (R5-1T, 48" X 18"), the "DO NOT ENTER" sign is mounted as a 48" X 48" regulatory sign and the "RAMP" sign is mounted as a plaque.
2. "SPEED LIMIT" signs FR2-2, FR2-3 AND FR2-4 are mounted only in combination with "SPEED LIMIT" sign FR2-1 on Type G mount. "TRUCK SPEED LIMIT" sign (FR2-2A, 48" X 72") is to be mounted independently on Type G mount, see standard SMD (TY G) for details. When "WRONG WAY" sign (SR5-1A, 48" X 36") is mounted in combination with "DO NOT ENTER" sign (SR5-1, 48" X 48"), Type G mount is used.
3. "SCHOOL ADVANCE" (SS1-1, 48" X 48") and "SCHOOL CROSSING" (SS2-1, 48" X 48") symbol signs shall be mounted on a Type F mount.

SIGN SUPPORTS SHALL NOT BE SPliced EXCEPT AS SHOWN ELSEWHERE ON SMD STANDARDS

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS

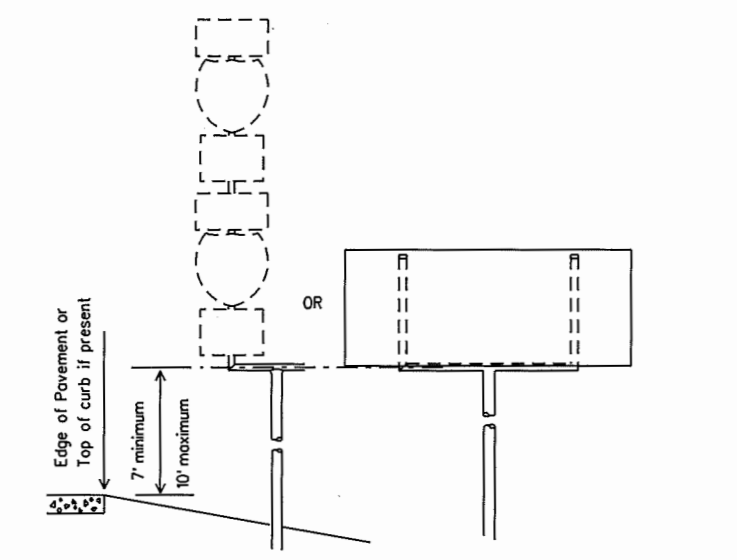
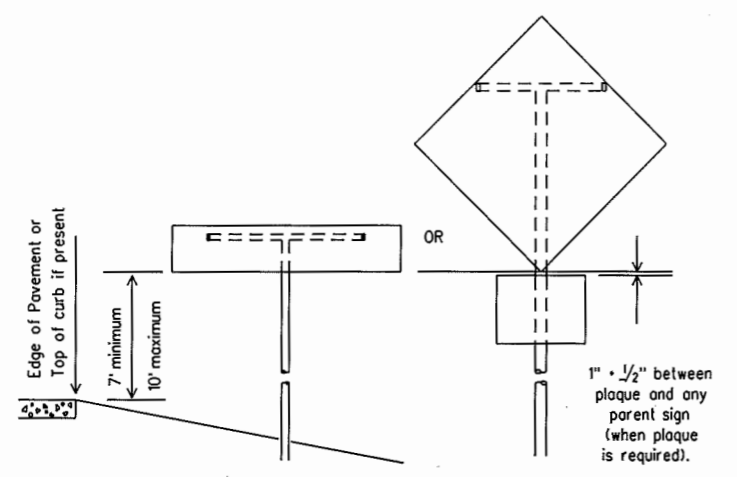
SMD(1-1)-98

© TxDOT August 1995

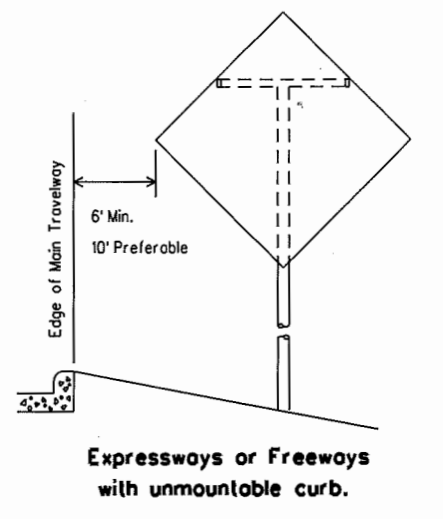
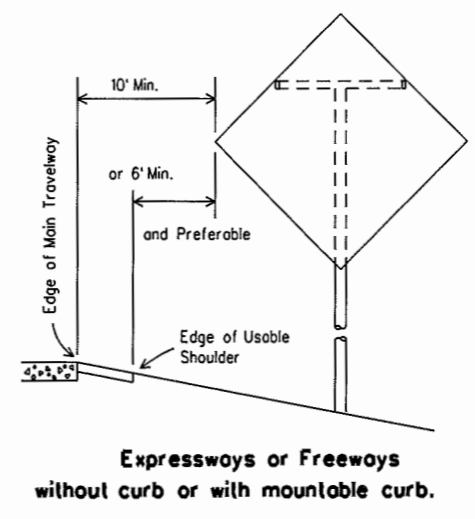
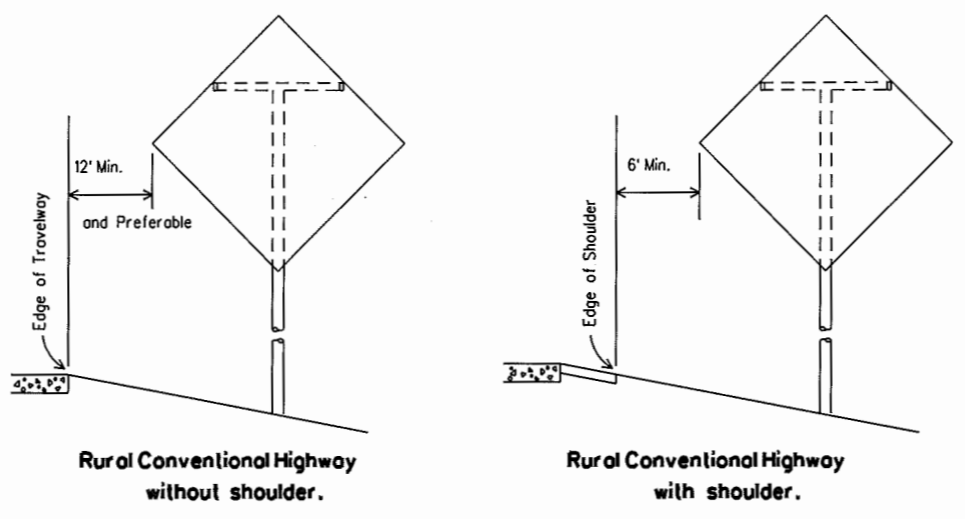
REVISED	STATE	FEDERAL	FEDERAL AID PROJECT	SHEET
1-97	21		ENG05.12J	37
12-98				
1-99				

COUNTY: HIDALGO CONTROL: 2C SECTION: 1080 JOB: 767 HIGHWAY:

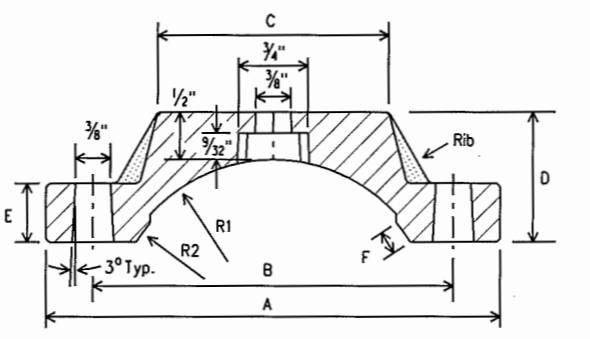
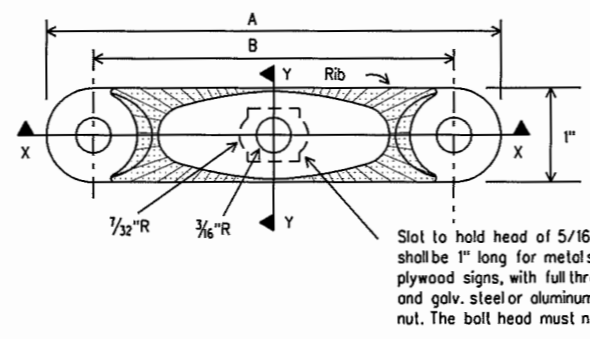
DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



**VERTICAL CLEARANCE OF SMALL SIGNS
ALL TYPES OF ROADWAYS**



**LATERAL CLEARANCE OF SMALL SIGNS
TO THE RIGHT OR LEFT SIDE OF ROADWAY**



Pipe Clamp Casting

Pipe clamp casting shall be ASTM B26 or B108 aluminum alloy A444.0-T4 or 356.0-F.

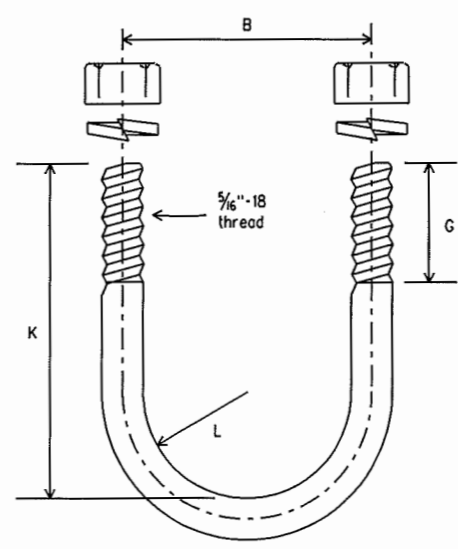
All sign mounting clamp parts not made from aluminum shall be galvanized steel in conformance with ASTM A153 Class A or stainless steel.

Dimensions for Mounting Clamp

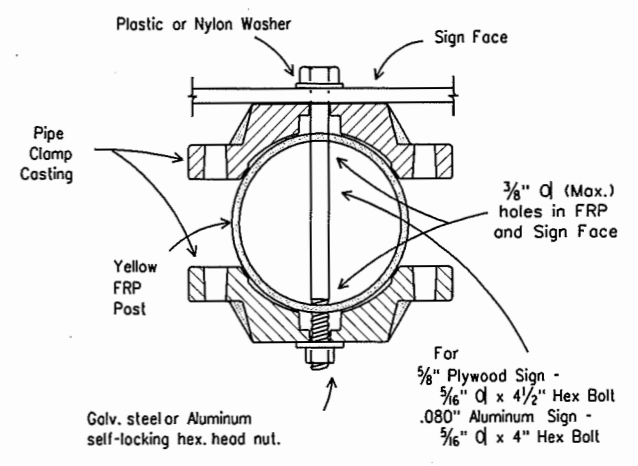
Standard Pipe Size	A	B	C	D	E	F	G	K	L	R1	R2
1/4	3 5/64	2 5/64	3/4	1 5/16	7/16	3/16	5/8	2 9/64	27/32	5 7/64	5 3/64
1/2	3 9/32	2 9/32	1	1 1/16	7/16	3/16	5/8	2 7/16	6 3/64	3 1/32	1 5/16
2	3 3/4	2 3/4	1 1/2	1 1/8	1/2	3/16	1	2 11/16	1 7/32	1 1/4	1 3/16
2 1/2	4 1/4	3 1/4	2	1 1/4	1/2	1/4	1	3 3/16	1 15/32	1 1/2	1 7/16
3	4 7/8	3 3/8	2 1/2	1 3/8	5/8	1/4	1	3 13/16	1 25/32	1 13/16	1 3/4

All dimensions shown are in inches.

MOUNTING CLAMP DETAILS



U-Bolt to be made in accordance with standard manufacturing procedure. 9/32" dia. stock is permissible. American standard regular semi-finished hex. nuts and spring lockwashers.

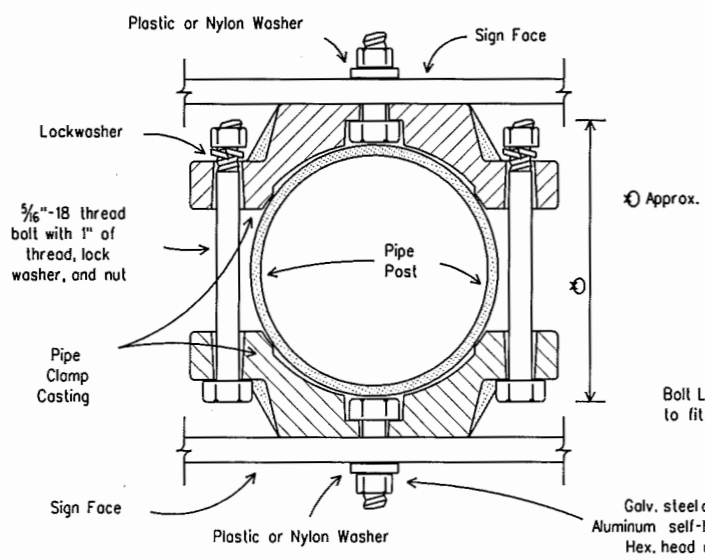


NOTE: Type A support shall be pipe or Yellow FRP. FRP mounts shall meet Departmental Material Specification D-9-4410.

**Typical Detail
Yellow Fiberglass Reinforced Plastic (FRP) Mounting**

GENERAL NOTES:

- All clearances apply to both rural and urban locations, except as noted.
- Where physical features of the roadway will permit, maximum lateral clearances are desirable. For frontage roads, ramps and other connecting roadways, lesser clearances may be used, but generally no less than six feet is recommended between the edge of the travelway and the edge of the sign. At intersections, signs should be positioned in the optimum location for viewing by traffic.
- Where necessary, the minimum allowable clearance of two feet may be used in urban locations on conventional highways.
- Where a sign is to be located behind guardrail, the allowable minimum clearance may be used, measured from the face of the guardrail to the rear edge of the sign.
- Lateral clearances of signs mounted on left side of roadway are the same as shown above where space will permit.



**Typical Detail
Back to Back Mounting of Signs**

Approx. Bolt Length

Pipe Size	Approx. Bolt Length
1/4" O	2 1/8"
1/2" O	2 5/8"
2" O	2 1/2"
2 1/2" O	3 1/8"
3" O	3 3/8"

Bolt Length to be adjusted to fit field conditions.

LEVEL: YES
DATE: J 11 12 13 14 15 16
DW: ACC
CK: FILE
1 12 3 4 5 16 17
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

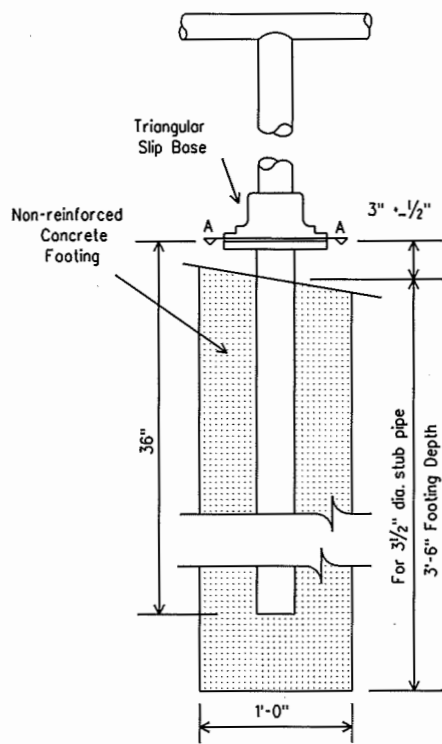
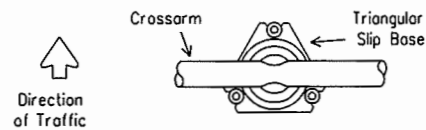
**SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS**

SMD(1-2)-98

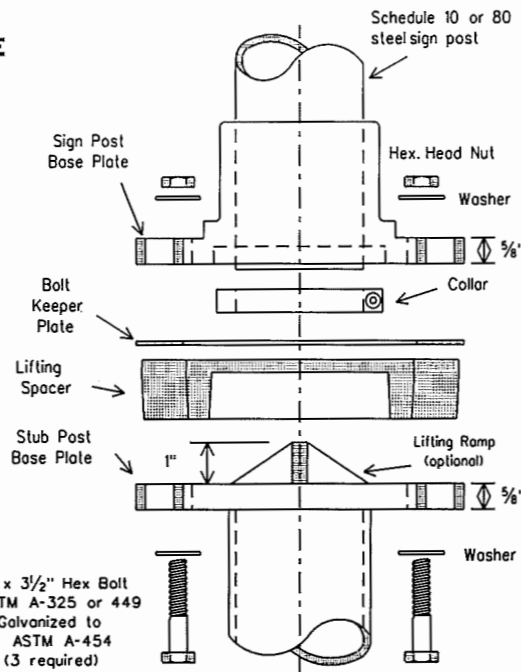
© TxDOT August 1995

REVISED	STATE DISTRICT	FEDERAL PROJECT	DATE	BY	CHKD	MT	REG. NO.
1-97	21	ENG05.12J					38
4-98							
	COUNTY	CONTROL SECTION	JOB	HIGHWAY			
	HIDALGO	2C	1080	767			

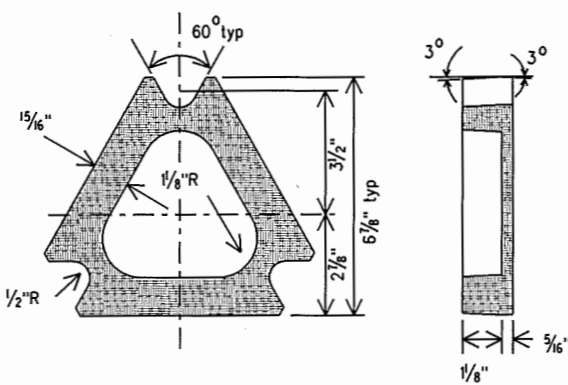
TEXAS UNIVERSAL TRIANGULAR SLIP BASE



Texas Universal Triangular Slip Base shall be used for signs supported on 2 1/2" diameter pipe posts.

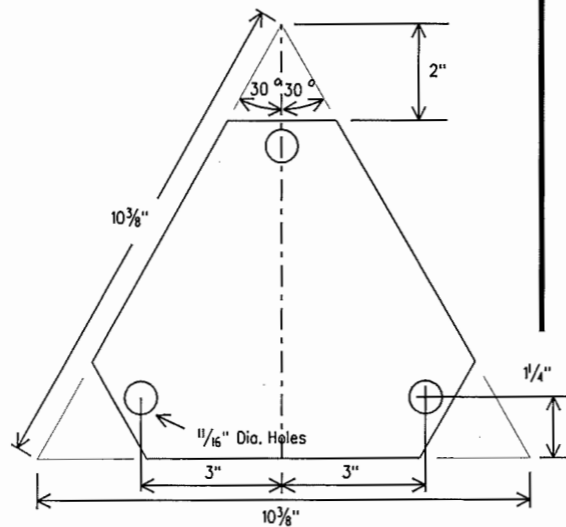


NOTE: If stub post base plate does not have lifting ramp, lifting spacer should be deleted from assembly, unless plumbing shims are required.



LIFTING SPACER

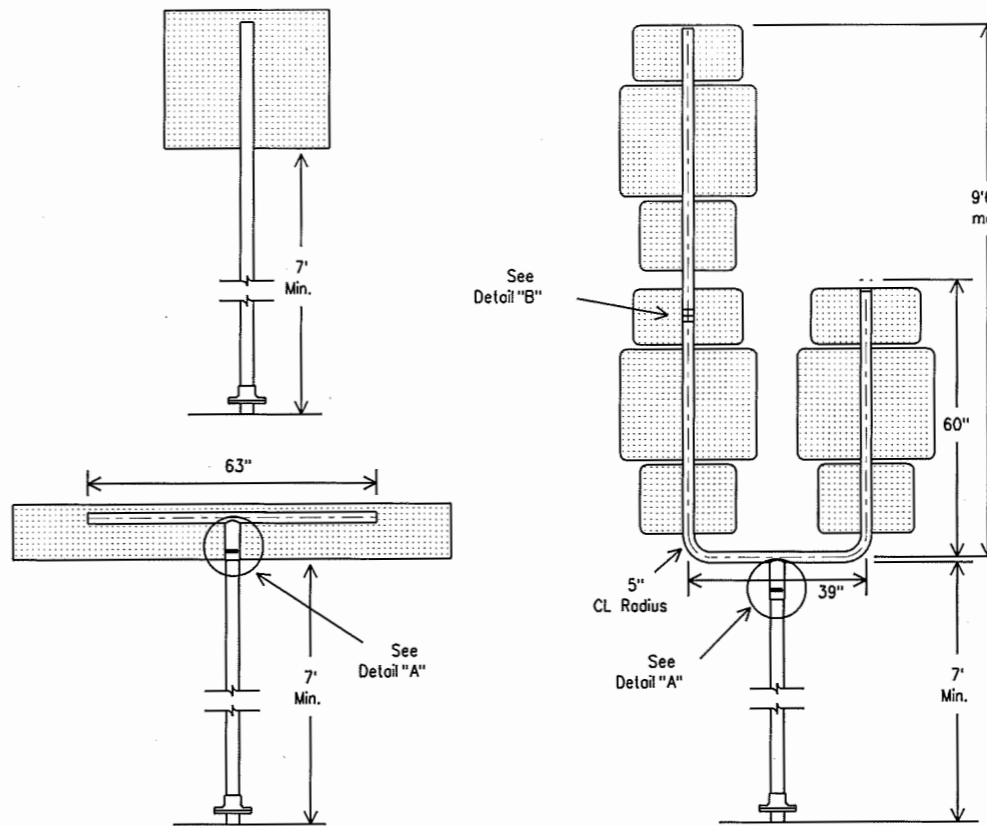
100% Recycled ABS or Polycarbonate



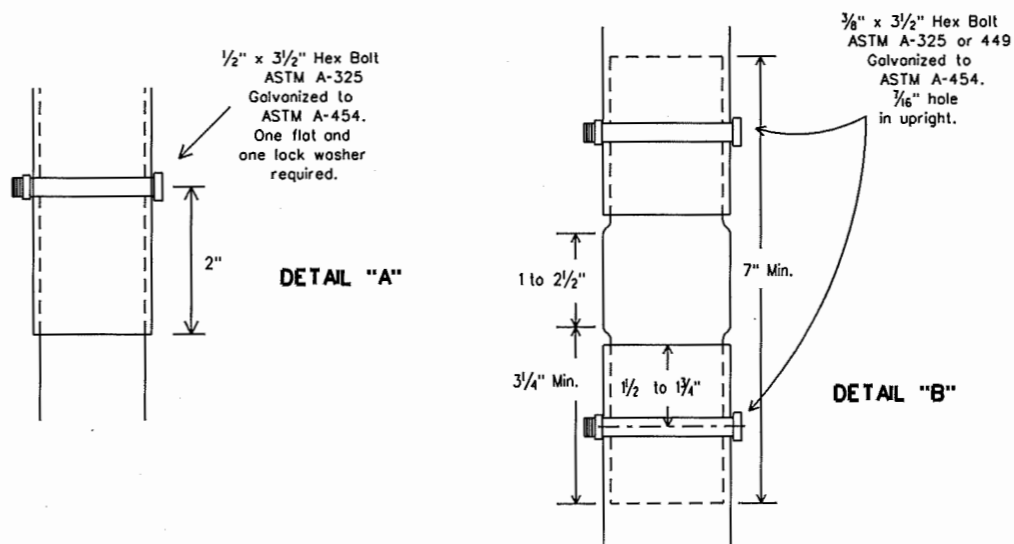
BOLT KEEPER PLATE

Bolt Keeper Plate shall be 30 gauge galvanized steel.

PREFABRICATED T'S AND U'S



Refer to SMD(1-1) for "T" and "U" pipe lengths and marker combinations.



NOTE:
1. 2 3/8" OD x .080" wall tubing swaged to 2 1/8" OD.
2. Splices will only be allowed behind the sign substrate.

GENERAL NOTES:

Support and design shall conform with AASHTO Standard Specifications for structural supports of Highway signs, luminaires and traffic signals with a design wind speed of 60 mph.
Steel pipe shall be galvanized in accordance to ASTM Designation A123.
Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18 inches. When solid rock is encountered below ground level, the foundation shall extend into the solid rock a minimum depth of 18 inches or provide a minimum foundation depth of 30 inches. Only concrete foundations shall be used in rock.

TRIANGULAR SLIP BASE NOTES:

- The Sign Post Base Plate of the Triangular Slip Base shall have the same exterior dimensions as the bottom plate.
- The Base Plates shall conform with the requirements of ASTM-A36, A441 or A572 Grade 50.
- All structural steel shall be galvanized in accordance with ASTM A153. The entire support shall be galvanized from the top down to a minimum depth of 6 inches into the foundation. All nuts, bolts and washers shall be galvanized in accordance with the zinc specification of ASTM B454.
- All high strength bolts shall conform to ASTM-A325 (ASTM A449 may be substituted for ASTM-A325 provided proper bolt head, nut and/or washer clearances are maintained). All high strength nuts shall be of such capacity as to develop the bolt strength.

BOLTING PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

- Assemble Sign Post, Bolt Keeper Plate and Stub Post with bolts and flat washers as shown.
- Shim as required to plumb post. If shims are needed lifting spacer must be used. Shims shall be placed between stub post base plate and lifting spacer.
- Tighten all bolts the maximum possible with a 12 to 15 inch wrench to clean bolt threads and to bed washers and shims.
- Loosen each bolt in sequence and retighten bolts in a systematic order to the prescribed torque of 480 inch pounds or 40 foot pounds. DO NOT OVERTIGHTEN.
- To prevent nut loosening, burr threads of bolt at junction with nut using a center punch.

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DN:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	DATE:
CK:	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	AOC:
DW:	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	FILE:
CK:	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS

SMD(1-3)-98

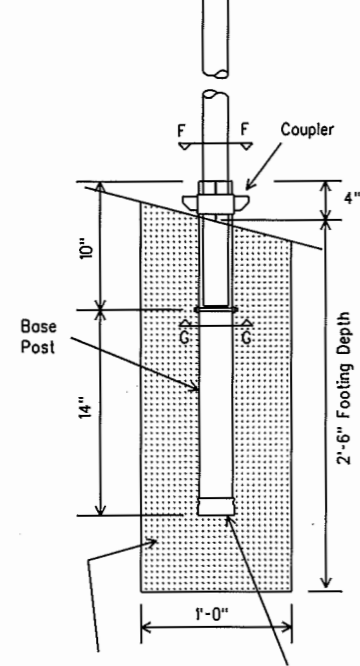
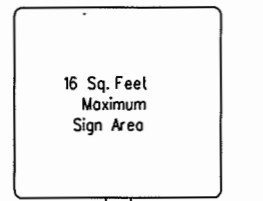
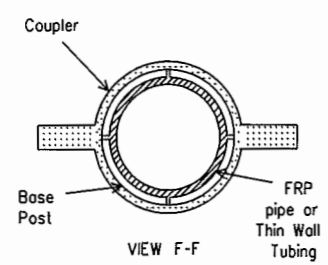
REVISIONS	STATE DISTRICT	FEDERAL PROJECT	DATE	BY	CHK
1-96	21	ENG05.12J			39
1-97					
12-98	COUNTY	CONTROL	SECTION	JOB	HIGHWAY
1-99	HDAUGO	2C	1080	767	

DISCLAIMER
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

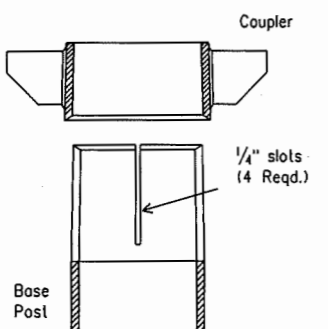
DN:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CK:	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
DW:	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
CK:	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64

UNIVERSAL ANCHOR SYSTEM TYPE A

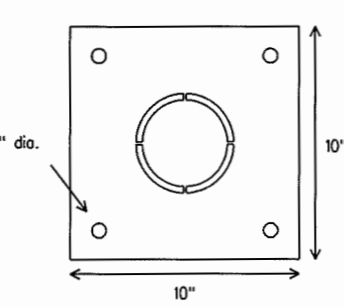
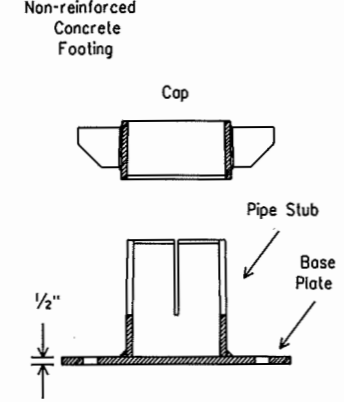
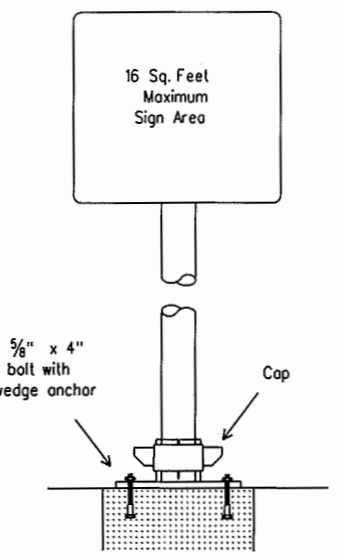
For FRP or Thin Wall Tubing



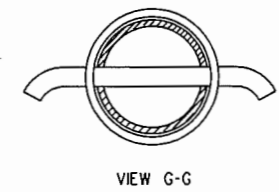
Non-reinforced concrete footing, approved foam backfill or cement stabilized soil.



BOLT DOWN SIGN SUPPORT TYPE A

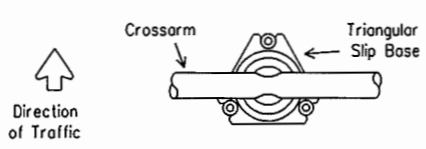


NOTE: When Thin Wall Tubing is used, rubber insert must be placed in base post.

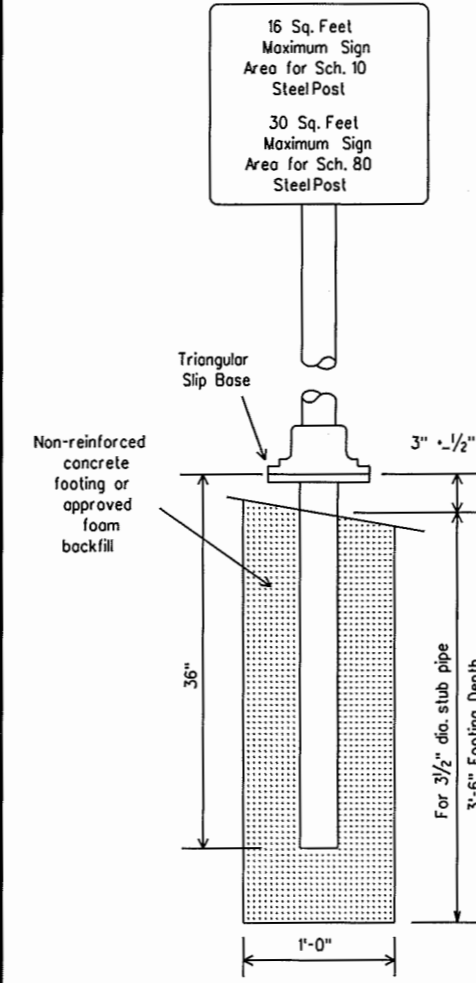


TEXAS UNIVERSAL TRIANGULAR SLIP BASE

Types A, A-1, A-2, B, C, D-1, D-2, D-3, D-4, D-5 and F. For additional information on types, refer to SMD(1-1).



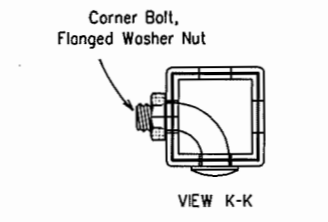
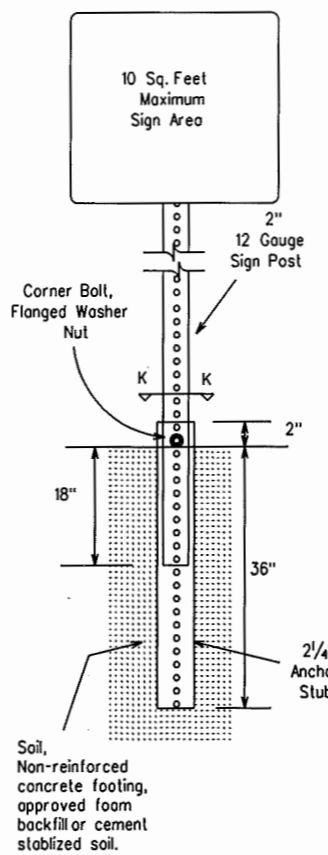
The crossarm should be parallel to one side of the triangular slip base.



Triangular Slip Base shall be used for signs supported on 2 1/2" diameter pipe posts.

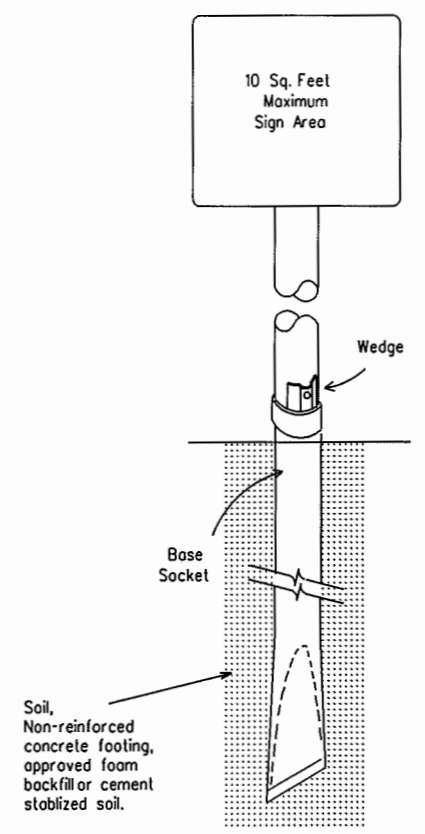
SIGN POST SELECTION	
MOUNT TYPE	2 1/2" POST
A, A-1	Sch. 10
A-2	Sch. 80
B	Sch. 10
C	Sch. 80
D-1, D-2, D-3, D-5	Sch. 10
D-4	Sch. 80

PERFORATED SQUARE METAL TUBING (DRIVEABLE) TYPE U



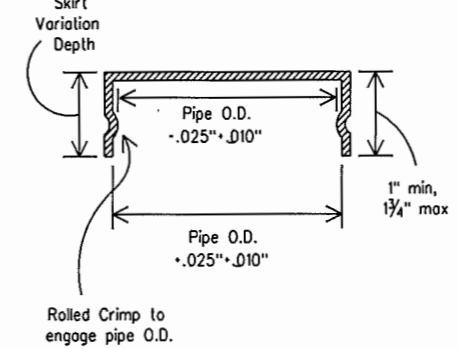
Perforated square metal tubing or other sign support system shall be installed ONLY if required in the project General Notes.

WEDGE ANCHOR THIN WALL (DRIVEABLE) TYPE A

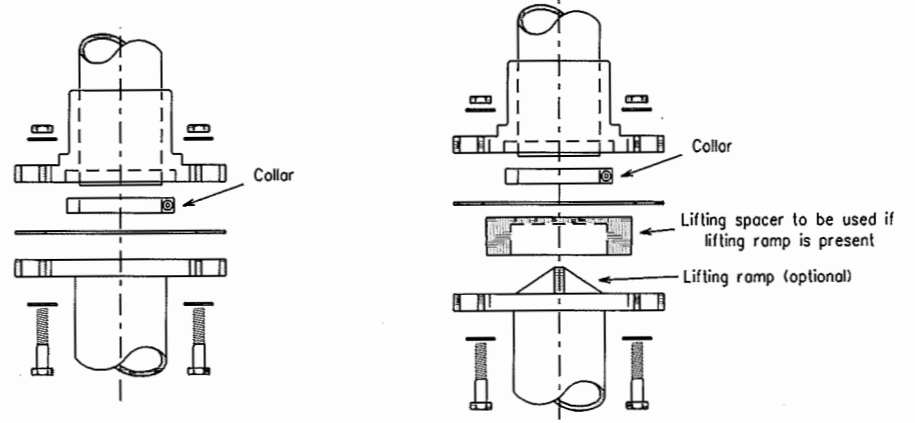


For additional information refer to SMD(1-5)

FRICION CAP DETAIL



Friction caps may be manufactured from hot rolled or cold rolled steelsheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes. The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture. Caps shall have an electrodeposited coating of zinc in accordance with the requirement of ASTM B633 Class FE/ZN 8.



For additional information refer to SMD(1-3)

RETROFIT FOR EXISTING STUB BASES

GENERAL NOTES:

The project General Notes may specify a particular sign support.

Support and design shall conform with AASHTO Standard Specifications for structural supports of Highway signs, luminaires and traffic signals with a design wind speed of 70 mph.

Steel pipe shall be galvanized in accordance to ASTM Designation A123.

Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18 inches. When solid rock is encountered below ground level, the foundation shall extend into the solid rock a minimum depth of 18 inches or provide a minimum foundation depth of 30 inches. Only concrete foundations shall be used in rock.

FRP SUPPORTS

Materials and fabrication shall conform to the requirements of Department Material Specification D-9-4410 and will be furnished in a yellow or gray color as specified elsewhere in the plans.

Thickness of FRP sign support is 0.125 inch ± 0.031 inch, ± 0.0 inch.

For FRP sign supports, all bolts, nuts, screws, washers and other miscellaneous hardware, shall be type 304 stainless steel or galvanized in accordance to ASTM Designation: A-153, Class C or D, B-695 Class 50 or B633 Class FE/ZN 8 unless otherwise specified.

FRP sign supports for a single type sign support may be used for signs up to and including 16 square feet. Dual post installation may be used for signs up to and including 32 square feet.

FRP sign supports are prequalified by the Traffic Operations Division. Prequalification procedures are obtained by writing:

TxDOT
Traffic Operations Division
125 E. 11th Street
Austin, Tx 78701-2483.

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS

SMD(1-4)-98

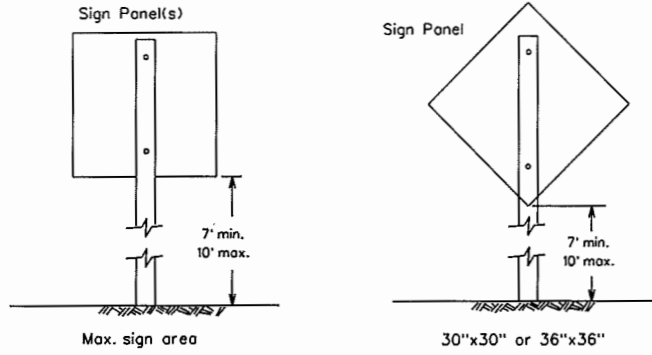
© TxDOT August 1995		DR: GRB	CD: JDM	DR: FDN	CR: DTN
REVISIONS	STATE SOURCE	FEDERAL PROJECT	FEDERAL AID PROJECT		SHEET
1-97	21	ENG05.12J		40	
12-98	COUNTY	CONTROL	SECTION	JOB	HIGHWAY
1-99	HIDALGO	2C	1080	767	

DISCLAIMER
 This standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

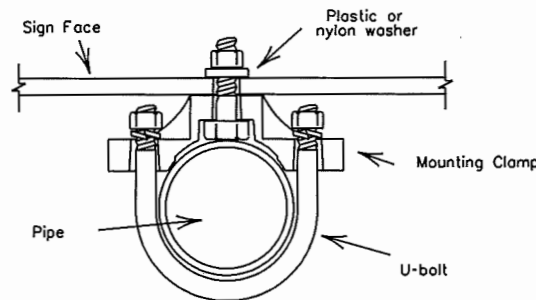
LEVELS: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
 DN: _____ DATE: _____
 CK: _____ DW: _____
 ACC: _____ FILE: _____
 49505112354556677889900112233

SINGLE POST INSTALLATION

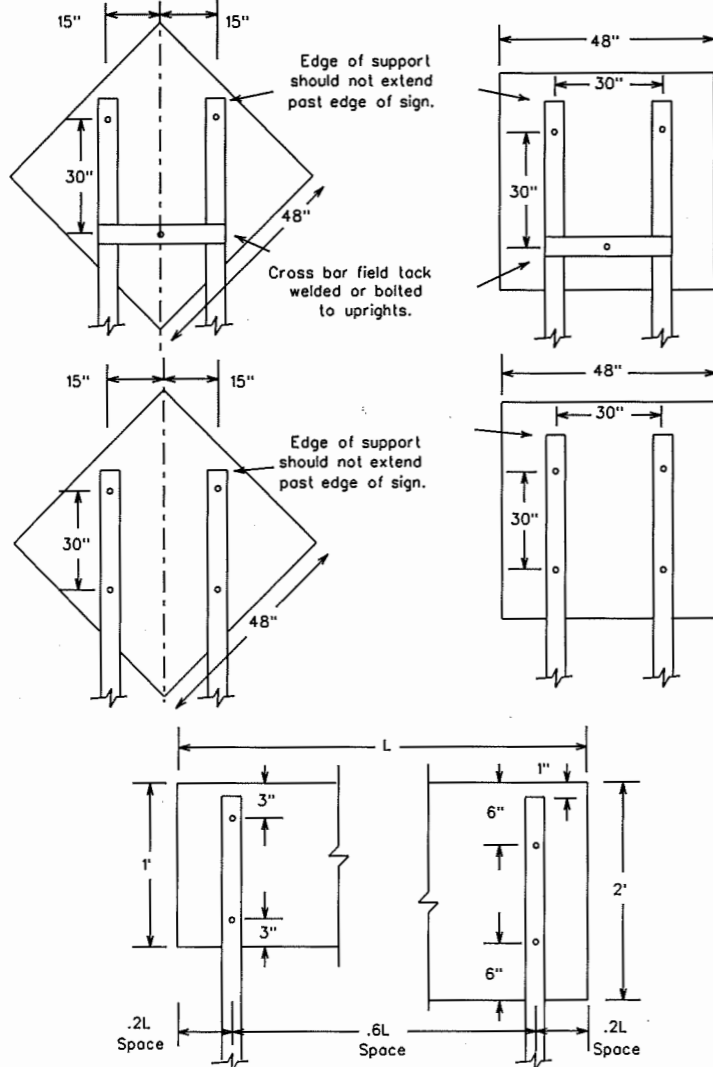
TYPE I



TYPICAL CLAMP DETAIL

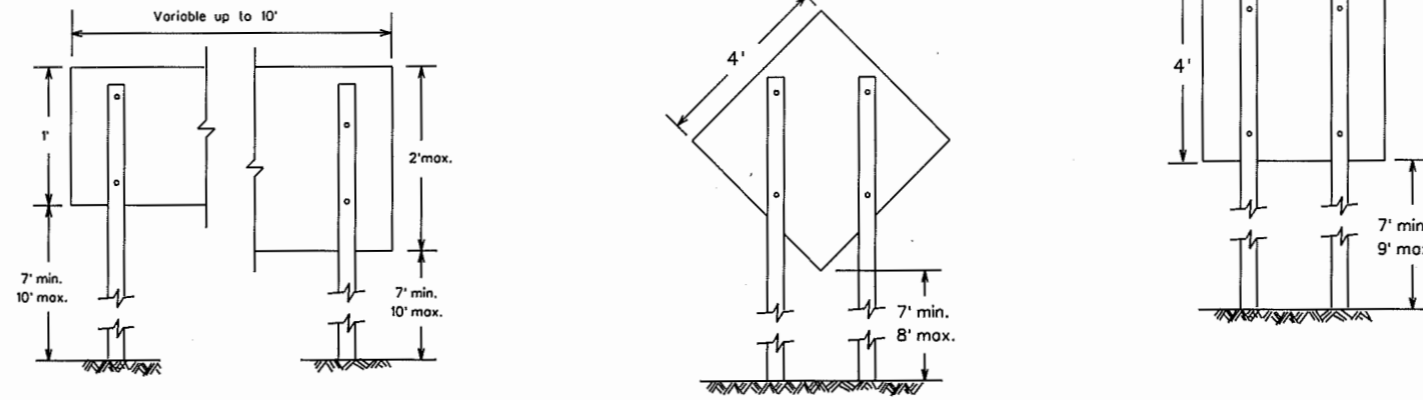


SIGN ATTACHMENT DETAILS



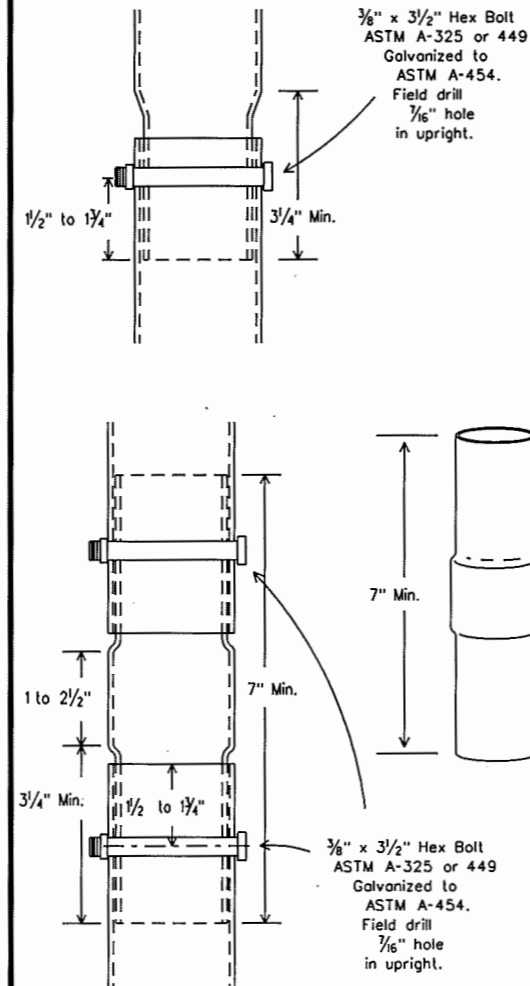
DOUBLE POST INSTALLATION

TYPE II



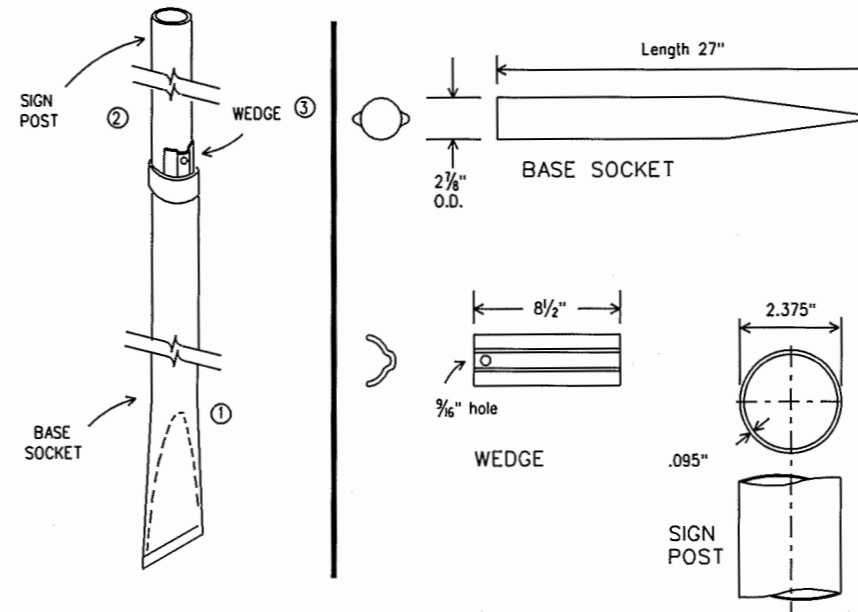
1. This sheet should be used with SMD(1-2) and SMD(1-4).
2. See standard sheet SMD(1-2) and TMUTCD for horizontal and vertical clearances.
3. Type I or Type II supports may be used for various sign combinations and or shapes not to exceed the specified maximum sign area.
4. A cross bar between supports and/or behind sign may be used to prevent supports from leaning in areas of soft soils.
5. Cross bars may be made of winged channel post 1.12"/ft., 2.0"/ft., 2" perforated square metal tubing (12 ga) or other similar material.
6. Educational plaques may be installed below parent signs or single supports for sign areas up to 9 square feet.

SPLICE TECHNIQUES THIN WALL TUBE



- NOTE:
1. 2 3/8" OD x .080" wall tubing swaged to 2 1/8" OD.
 2. Splices will only be allowed behind the sign substrate.

TYPICAL ASSEMBLY



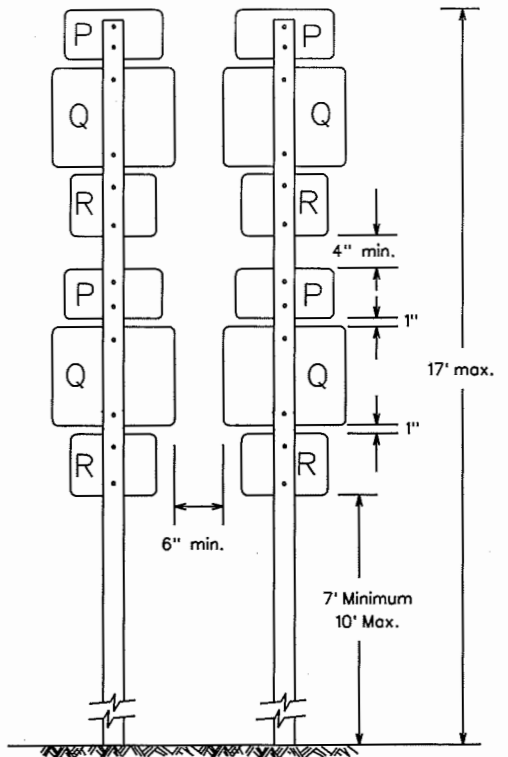
GENERAL NOTES FOR WEDGE ANCHOR THIN WALL TUBE SIGN SUPPORT:

1. The BASE SOCKET is formed from 2 3/8" O.D. x 12 gauge galvanized pipe.
2. The WEDGE is formed from 11 gauge steel galvanized per ASTM A525.
3. The SIGN POST is 2.375" O.D. x .095" thin wall steel tubing.
4. Steel Supports shall be made from new material and shall be corrosion resistant. Steel supports shall be galvanized in accordance with ASTM Designations A123 or A525 (G-90 or better).
5. Supports shall be straight within 1/4 inch per 5 feet of length and shall have a smooth, uniform finish free from defects affecting strength or appearance. Any bolt holes and sheared ends shall be free from burrs. Bases of multisection supports shall not extend more than 5 inches above ground when installed.
6. Bolts, nuts, screws, washers and other miscellaneous hardware shall be galvanized in accordance to ASTM Designation: A153 Class C or D, or B695 Class 50.

RECOMMENDED ASSEMBLY PROCEDURE

- ① Drive the BASE SOCKET into the ground until the top of BASE SOCKET is approximately flush with ground level. A flanged tool placed on top of the BASE SOCKET may be helpful. BASE SOCKET MUST be driven plumb.
- ② Insert SIGN POST into BASE SOCKET and align the sign face with the roadway.
- ③ Drive the WEDGE between the BASE SOCKET and SIGN POST, thereby locking the SIGN POST inside the BASE SOCKET.

ROUTE MARKER ASSEMBLY FOR TWO POST SUPPORT



- P1 - 24"x12" Cardinal Direction Marker
- Q1 - 24"x24" Interstate, U.S. or State Route Marker
- Q2 - 30"x24" Interstate or U.S. Route Marker
- R - 21"x15" Direction Arrow
- P2 - 30"x15" Cardinal Direction Marker
- Q3 - 36"x36" (2) digit Interstate Route Marker
- Q4 - 45"x36" (3) digit Interstate Route Marker

EQUIV. SIGN AREA SQ.FT.	EQUIV. SIGN AREA SQ.FT.
P1 - 1	P2 - 3
Q1 - 3	Q3 - 6
Q2 - 4	Q4 - 7
R - 1	

TYPICAL MARKER COMBINATIONS FOR EACH SUPPORT

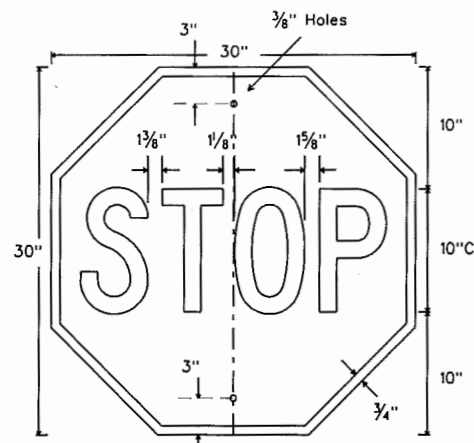
MARKER COMBINATIONS FOR EACH SUPPORT	EQUIV. AREA
2P1 • 2Q1 • 2R	10 sq.ft.
P1 • 2Q1 • 2R	9 sq.ft.
2Q1 • 2P1	8 sq.ft.
Q1 • R	4 sq.ft.
P2 • Q3	9 sq.ft.
P1 • Q1 • R	5 sq.ft.
P2 • Q4	10 sq.ft.

STANDARD PLANS
 TEXAS DEPARTMENT OF TRANSPORTATION
 Traffic Operations Division

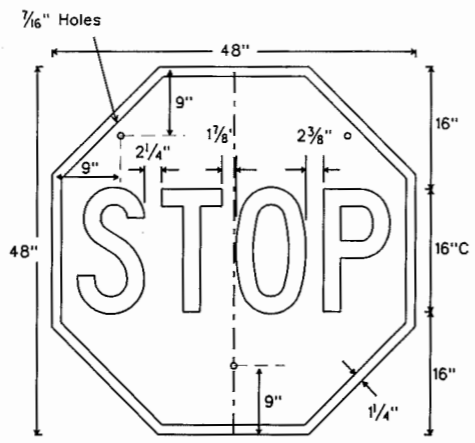
SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS

SMD(1-5)-98

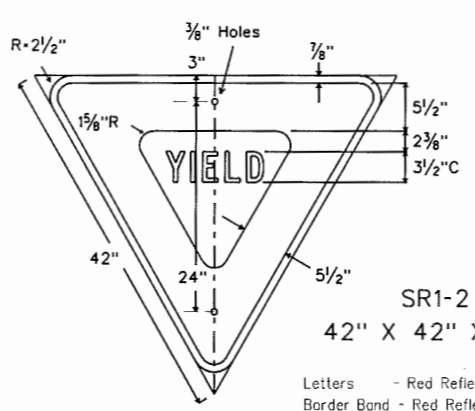
REVISIONS	STATE DISTRICT	FEDERAL REGION	CR- LR	CR- JDM	CR- FDN	CR- DTN
1-97	21			ENG05.12J		41
12-98						
1-99						
	COUNTY	CONTROL	SECTION	JOB	HIGHWAY	
	Hidalgo	2C	1080	767		



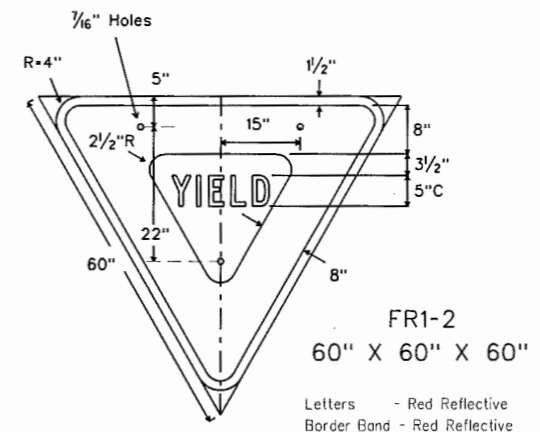
R1-1
30" X 30"
Letters - White Reflective
Border - White Reflective
Background - Red Reflective



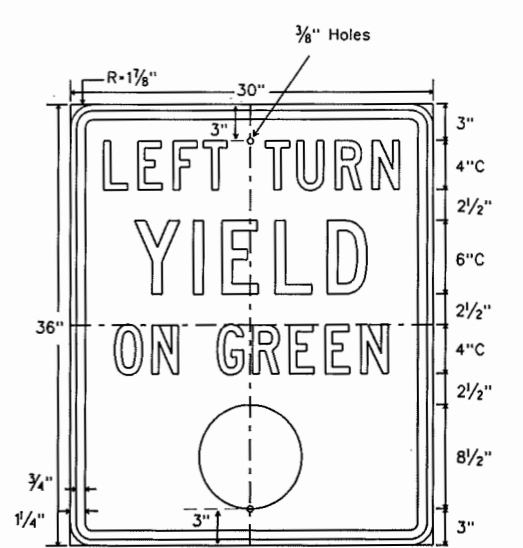
SR1-1
48" X 48"
Letters - White Reflective
Border - White Reflective
Background - Red Reflective



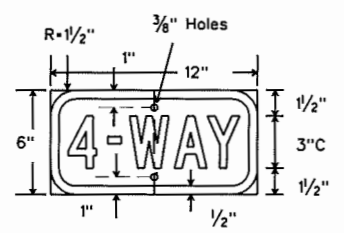
SR1-2
42" X 42" X 42"
Letters - Red Reflective
Border Band - Red Reflective
Background - White Reflective



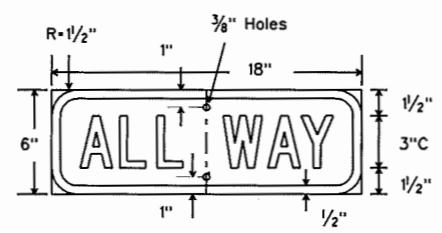
FR1-2
60" X 60" X 60"
Letters - Red Reflective
Border Band - Red Reflective
Background - White Reflective



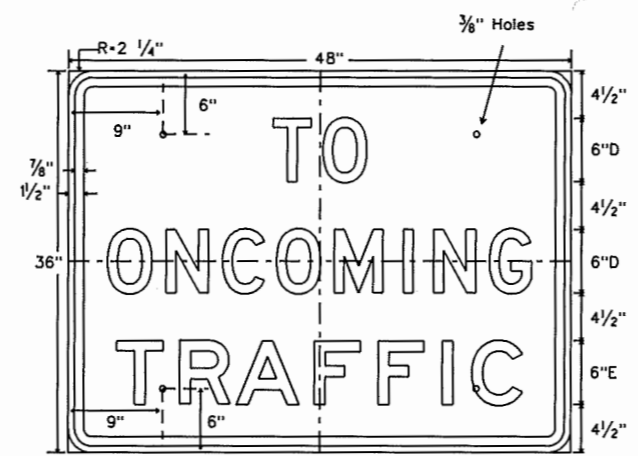
R10-12
30" X 36"
Letters - Black
Border - Black
Circle - Green Refl.
Background - White Refl.



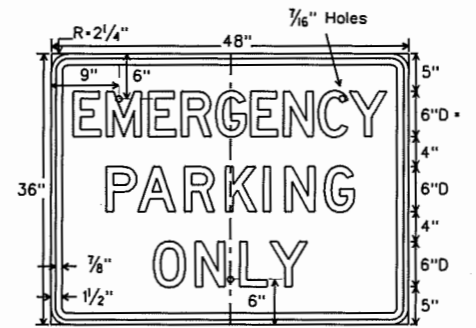
R1-3
12" X 6"
Letters - White Reflective
Border - White Reflective
Background - Red Reflective



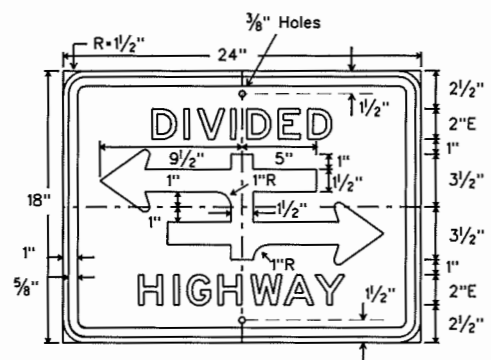
R1-4
18" X 6"
Letters - White Reflective
Border - White Reflective
Background - Red Reflective



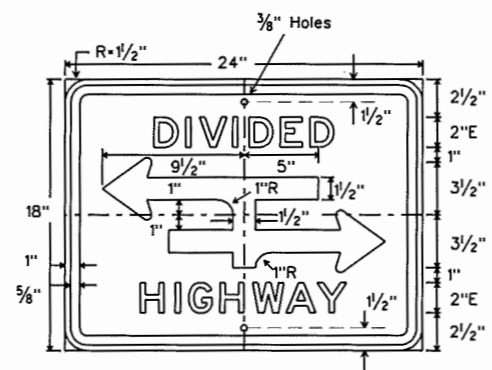
SR1-2b
48" X 36"
Legend - Black
Background - White Refl.



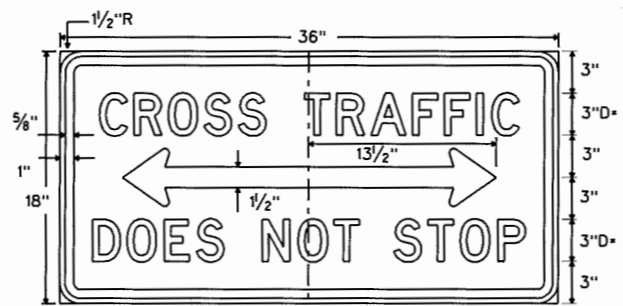
FR8-4
48" X 36"
Legend - Black
Background - White Refl.
* reduce spacing 50%



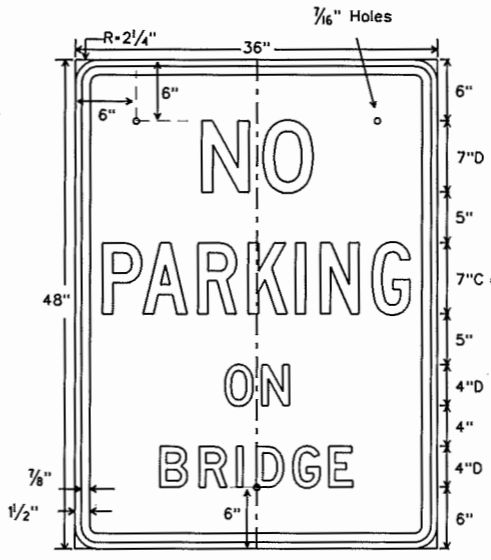
R6-3
24" X 18"
Legend - Black
Background - White Refl.



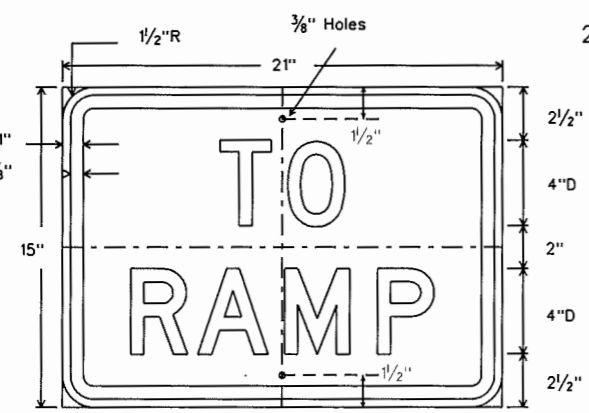
R6-3a
24" X 18"
Legend - Black
Background - White Refl.



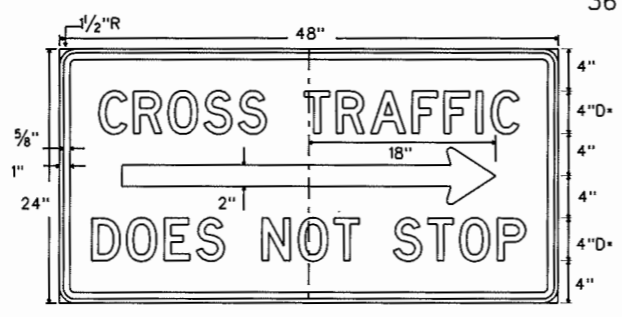
R1-5b
36" X 18"
Legend - Black
Background - White Refl.
* reduce spacing 15%



ER8-1T
36" X 48"
Letters - Red Reflective
Border - Red Reflective
Background - White Reflective
* reduce spacing 50%



R1-2a
21" X 15"
Legend - Black
Background - White Refl.



SR1-5R
48" X 24"
Legend - Black
Background - White Refl.
* reduce spacing 15%

DEPARTMENT MATERIAL SPECIFICATIONS

PLYWOOD SIGN BLANKS	DMS 7100
ALUMINUM SIGN BLANKS	DMS 7110
FLAT SURFACE REFLECTIVE SHEETING	DMS 8300
VINYL NON-REFLECTIVE SHEETING	DMS 8320

SIGN SHEETING

COLOR	USAGE	MATERIAL TYPE
GREEN	LEGEND	TYPE C (HIGH SPECIFIC INTENSITY)
RED	LEGEND/BACKGROUND	TYPE C (HIGH SPECIFIC INTENSITY)
WHITE	BACKGROUND	TYPE C (HIGH SPECIFIC INTENSITY)
WHITE	LEGEND & BORDERS	TYPE C (HIGH SPECIFIC INTENSITY)
BLACK	LEGEND & BORDERS	VINYL NON-REFLECTIVE SHEETING

GENERAL NOTES:

The alphabets and lateral spacing between letters and numerals shall conform with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Colored legends shall be applied by screening process with transparent colored ink, transparent colored overlay film, cut-out white reflective sheeting applied to colored background, colored sheeting or combination thereof. Black legends shall be applied by screening process, cut-out vinyl non-reflective decal sheeting or combination thereof. Check table for sheeting type if used.

Sign blanks shall be any material that meets the DMS requirements for permanent sign substrates.

2/01 Revision

All ground mounted signs to use High Specific Intensity sheeting

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

REGULATORY SIGNS

R(1)-01

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	DATE	SHEET
7-90	21		ENG05.12J		42
8-95					
4-98					
2-01					

REVISED BY	DATE	REASON

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
Hidalgo	2C	1080	767	

EROSION AND SEDIMENT CONTROLS

SITE DESCRIPTION

PROJECT LIMITS: STREET: _____
VAL BAR DRIVE

PROJECT DESCRIPTION: Construction of a non-freeway facility consisting of: Grading, structures, subgrade, flexible base, asphalt concrete, curb & gutter, & concrete rip rap.

MAJOR SOIL DISTURBING ACTIVITIES: preparing the right-of-way
Embankment
Excavation
Grading road
erosion & sediment controls

TOTAL PROJECT AREA: 0.99 ACRES

TOTAL AREA TO BE DISTURBED: 0.99 ACRES

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.46

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: Existing soil condition is Hidalgo sandy clay loam. Nearly level soil is on convex uplands. The areas are broad and irregular in shape with a surface layer of dark grayish brown sandy clay loam about 17 inches thick. This soil is well drained. Surface runoff is slow, permeability moderate, and available water capacity is high.

NAME OF RECEIVING WATERS: A county drain ditches will receive all 0.99 acres. Ultimately the runoff will flow into the Laguna Madre, approximately 8.05 km south of Port Mansfield. The Laguna Madre is located within Stream Segment NO. 249L.

SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- PERMANENT PLANTING, SODDING, OR SEEDING
- MULCHING
- SOIL RETENTION BLANKET
- BUFFER ZONES
- PRESERVATION OF NATURAL RESOURCES

OTHER: Disturbed areas on which construction activity has ceased (temporarily or permanently) shall be stabilized within 14 days unless activities are scheduled to resume within 21 days.

STRUCTURAL PRACTICES:

- SILT FENCES
- HAY BALES
- ROCK BERMS
- DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- DIVERSION DIKE AND SWALE COMBINATIONS
- PIPE SLOPE DRAINS
- PAVED FLUMES
- ROCK BEDDING AT CONSTRUCTION EXIT
- TIMBER MATTING AT CONSTRUCTION EXIT
- CHANNEL LINERS
- SEDIMENT TRAPS
- SEDIMENT BASINS
- STORM INLET SEDIMENT TRAP
- STONE OUTLET STRUCTURES
- CURBS AND GUTTERS
- STORM SEWERS
- VELOCITY CONTROL DEVICES

OTHER: _____

NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

- The order of activities will be as follows:
1. Install controls for Ingress and egress into the project site.
 2. Install sediment control fences around culverts and other locations as shown on the plans or as directed by the engineer.
 3. Seed entire disturbed area from back of curb to the right of way.
 4. When all construction activity is complete and the site is stabilized and approved by the Project Engineer, remove all temporary erosion controls and stabilize any areas disturbed by their removal.

STORM WATER MANAGEMENT: Storm water drainage will be provided by conc. curb & gutter, curbs, curb openings and a storm ditch system.

OTHER EROSION AND SEDIMENT CONTROLS:

MAINTENANCE: All erosion and sediment controls will be maintained in good working order. If a repair is necessary, it will be done at the earliest date possible, but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from heavy equipment.

INSPECTION: An inspection will be performed by a TxDOT Inspector every week as well as after every half inch or more of rain (as recorded on a non-freezing rain gauge to be located at the Project Site). An inspection and Maintenance Report will be made per each inspection. Based on the inspection results, the controls shall be revised per the inspection report.

WASTE MATERIALS: All waste materials will be collected and stored in a securely lidded dumpster meeting all state and local city solid waste management regulations. All trash and construction debris from the site will be deposited as necessary, or as required by local regulations, at a local dump. No construction waste material will be buried on site.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING): At a minimum, any products in the following categories to be hazardous: Paints, Acids for cleaning masonry surfaces, Cleaning Solvents, Asphalt products, Chemical additives for soil stabilization or concrete curing compounds and additives. In the event of a spill which may be hazardous, the spill coordinator should be contacted immediately. Wash water and concrete will not be allowed to enter any storm drain or waterway. Likewise, washout of concrete trucks shall not be performed onsite without a system of containment. These discharges are considered non-allowable non-storm water discharges. Concrete trucks shall not dump into storm drains or sanitary sewers.

SANITARY WASTE: All sanitary waste will be collected from the portable units as necessary or as required by local regulation by a licensed sanitary waste management contractor.

OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPULIN
- EXCESS DIRT ON ROAD REMOVED DAILY
- STABILIZED CONSTRUCTION ENTRANCE

OTHER: _____

REMARKS: Disposal areas, stockpiles, and haul roads shall be constructed in a manner that will minimize and control the amount of sediment that may enter receiving waters. Disposal areas shall not be located in any wetland, waterbody or streambed. Construction staging areas and vehicle maintenance areas shall be constructed by the Contractor in a manner to minimize the runoff of pollutants.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
 DATE: 2-9-11
 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

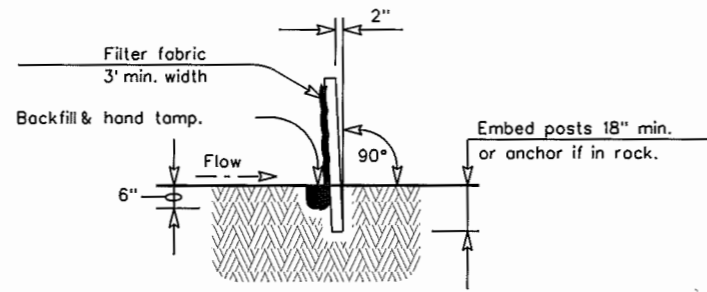
HIDALGO COUNTY PRECINCT No.2
 VAL-BAR SUBDIVISION
 STORM WATER POLLUTION
 PREVENTION PLAN (SW3P)



R. Gutierrez Professional Engineers & Land Surveyors
Engineering Corporation
 130 E. PARK AVENUE • PHARR, TEXAS 78577
 (TEL) 956 782-2557 • (FAX) 956 782-2558
 FIRM No. 488

FED. RD. DIV. No.		STATE AID PROJECT NO.		HIGHWAY NO.	
		ENG05.12J			
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	43

F:\2005\Eng\012\VAL-BAR\SW3P.dgn



SECTION A-A

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.

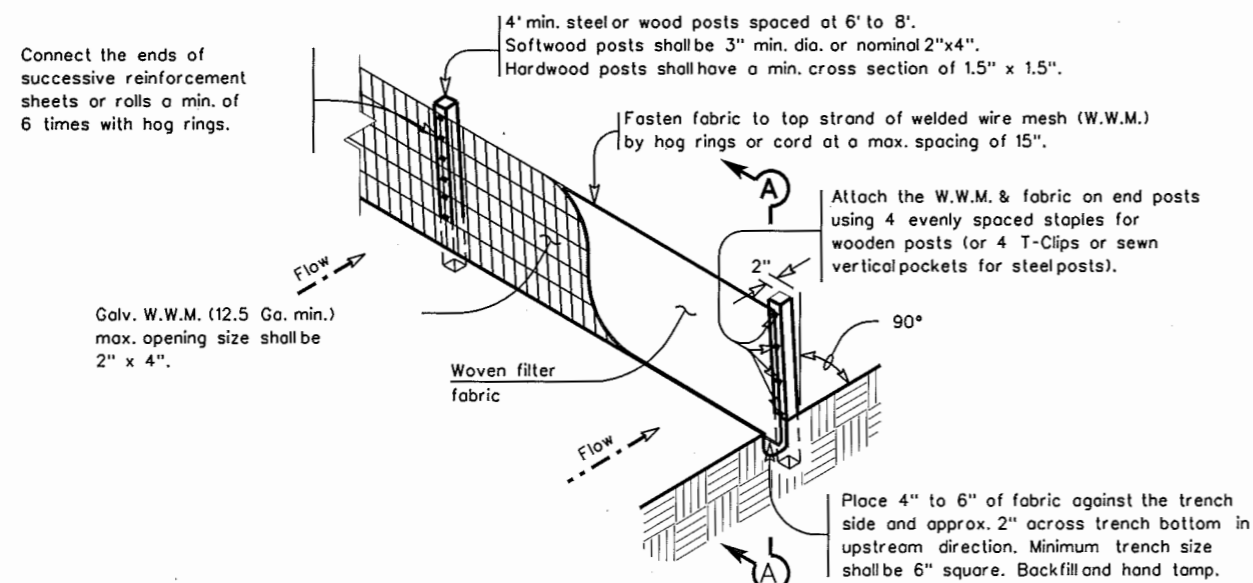
Sediment control fence should be sized to filter a max. flow through rate of 100 GPM/FT. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

PLAN SHEET LEGEND

Sediment Control Fence — SCF —

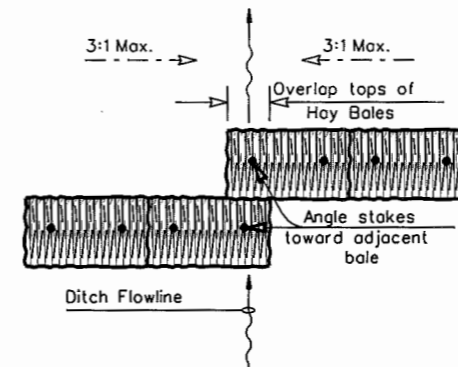
GENERAL NOTES

1. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

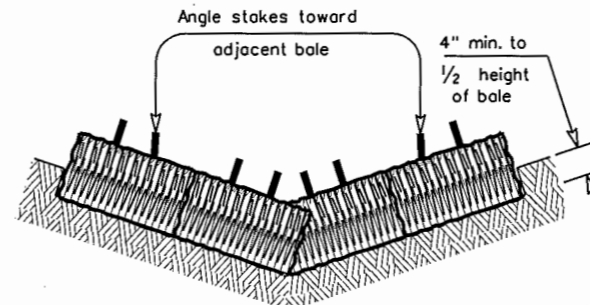


TEMPORARY SEDIMENT CONTROL FENCE

SCF



PLAN VIEW



PROFILE VIEW

PLANS SHEET LEGEND

Baled Hay — BH —

BALED HAY USAGE GUIDELINES

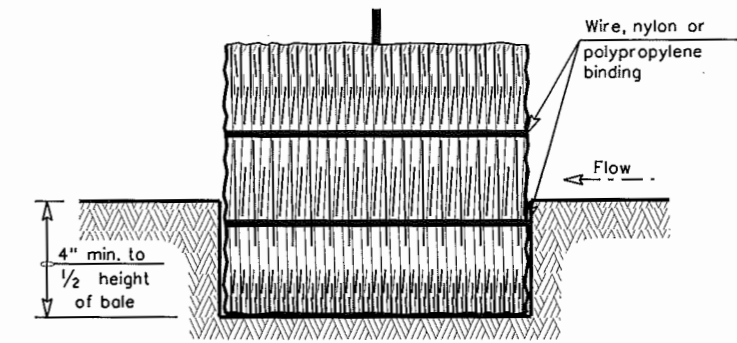
A Baled Hay installation may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A two year storm frequency may be used to calculate the flow rate to be filtered. The installation should be sized to filter a maximum flow thru rate of 5 GPM/FT² of cross sectional area. Baled hay may be used at the following locations:

1. Where the runoff approaching the baled hay flows over disturbed soil for less than 100'. If the slope of the disturbed soil exceeds 10%, the length of slope upstream the baled hay should be less than 50'.
2. Where the installation will be required for less than 3 months.
3. Where the contributing drainage area is less than 1/2 acre.

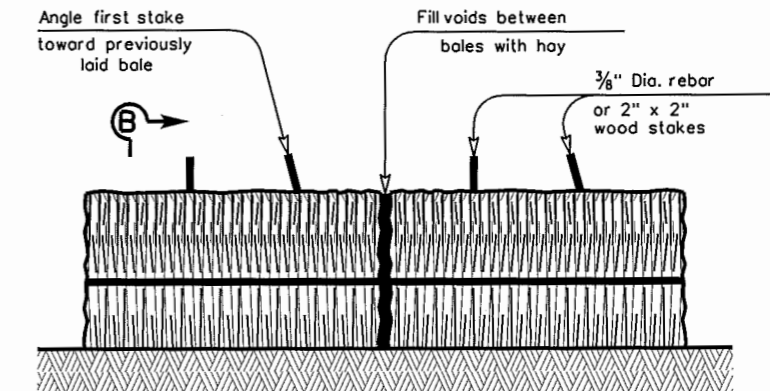
For Baled Hay installations in small ditches, the additional following considerations apply:

1. The ditch sideslopes should be graded as flat as possible to maximize the drainage flowrate thru the hay.
2. The ditch should be graded large enough to contain the overtopping drainage when sediment has filled to the top of the baled hay.

Bales should be replaced usually every 2 months or more often during wet weather when loss of structural integrity is accelerated.



SECTION B-B



BALED HAY FOR EROSION CONTROL

BH

GENERAL NOTES

1. Hay bales shall be a minimum of 30" in length and weigh a minimum of 50 Lbs.
2. Hay bales shall be bound by either wire or nylon or polypropylene string. The bales shall be composed entirely of vegetable matter.
3. Hay bales shall be embedded in the soil a minimum of 4" and where possible 1/2 the height of the bale.
4. Hay bales shall be placed in a row with ends tightly abutting the adjacent bales. The bales shall be placed with bindings parallel to the ground.
5. Hay bales shall be securely anchored in place with 3/8" Dia. rebar or 2" x 2" wood stakes, driven through the bales. The first stake shall be angled towards the previously laid bale to force the bales together.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.



**TEXAS DEPARTMENT OF TRANSPORTATION
TEMPORARY EROSION,
SEDIMENT AND WATER
POLLUTION CONTROL MEASURES
FENCE & BALED HAY**

EC(1)-93

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
	21		ENG05.12J	44
	COUNTY	CONTROL	SECTION	JOB
	HIDALGO	2C	1080	767

BASIS OF ESTIMATE (ROADWAY)											
CSJ	SUBDIVISION/ROAD NAME	ITEM 100	ITEM 110	ITEM 132	ITEM 204	ITEM 247	LIME	LIME	PRIME COAT	ASPH.CONC.PAV.	
		PREP. R.O.W. (2)	EXCAVATION (ROADWAY)	EMBANK (FINAL) (DENS. CONT.) (TY "C")	SPRINK DUST CONTROL (4 MG/STA)	FLEX BASE (RD DEL) TY E GR 4	ITEM 260	ITEM 260	AREA (2)	ITEM 310	ITEM 340
		(STA)	(CY)	(CY)	(MG)	(CY)	(TON)	(SY)	(SY)	(GAL)	(SY)
2C-1080-767	VAL-BAR DRIVE	8.67	1,191	7	84.68	521	8.8	2946	2566	513	2566
TOTAL		8.67	1,191	7	84.68	521	8.8	2946	2566	513	2566

SUMMARY OF DRAINAGE STRUCTURE					
CSJ	SUBDIVISION/ROAD NAME	ITEM 400	ITEM 464	ITEM 467	ITEM 496
		STRUCT. EXCAV. PROT. (2)	RC PIPE (CL III) (18") (LF)	SET (TY II) (18")(RCP) (6:1)(P) (EA)	REMV. OLD STR. PIPE (LF) (2)
		(CY)	(LF)	(EA)	(LF)
2C-1080-767	VAL-BAR DRIVE	18	68	2	49
TOTAL		18	68	2	49

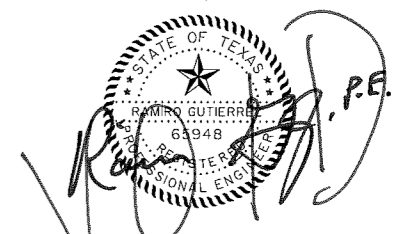
SUMMARY OF "SMALL SIGNS" (ITEM 644)		
CSJ	SUBDIVISION/ROAD NAME	TOTAL (EA) EST.
2C-1080-767	VAL-BAR DRIVE	1
TOTAL		1

SUMMARY OF CONC. CURB & GUTTER			
CSJ	SUBDIVISION/ROAD NAME	ITEM 529	ITEM 531
		CONC CURB & GUTTER (TY A) (BARRIER) (LF)	CONCRETE SIDEWALK (4") (SY)
		EST	EST
2C-1080-767	VAL-BAR DRIVE	1650	22.0
TOTAL		1650	22.0

SUMMARY OF DRIVEWAYS (ITEM 530)						
CSJ	SUBDIVISION/ROAD NAME	ITEM 530 DRIVEWAYS TY PRB-1				ITEM 530
		(SY)	(2) FLEX BASE (CY)	(2) AC-10 (GAL)	(2) ACP (SURF) (TONS)	DRIVEWAYS (CONC) (SY)
		EST	EST	EST	EST	EST
2C-1080-767	VAL-BAR DRIVE	357	39.7	71.4	20.3	153
TOTAL		357	39.7	71.4	20.3	153

SUMMARY OF MAILBOXES (ITEM 560)		
CSJ*	SUBDIVISION/ROAD NAME	ITEM 560 MAILBOX INSTALLATION (SINGLE) EA
2C-1080-767	VAL-BAR DRIVE	29
TOTAL		29

SUMMARY OF TEMPORARY EROSION SEDIMENTATION AND ENVIROMENTAL CONTROLS									
CSJ	SUBDIVISION/ROAD NAME	ITEM 164	ITEM 164	ITEM 164	ITEM 166	ITEM 168	ITEM 506	ITEM 506	ITEM 506
		CELL FIBER MULCH SEED (TEMP) (WARM) (SY)	CELL FIBER MULCH SEED (TEMP) (COOL) (SY)	CELL FIBER MULCH SEED (PERM.) (URBAN CLAY) (SY)	(2) FERTILIZER (TON)	VEGETATIVE WATERING (2) (MG)	CONST. EXITS TY (II) (INSTALL) (SY)	CONST. EXITS TY (II) (REMOVE) (SY)	TEMPORARY SEDIMENT CONTRL. FENCE # (LF)
		EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.
2C-1080-767	VAL-BAR DRIVE	1,422	711	711	0.01	15.92	168	168	24
TOTAL		1,422	711	711	0.01	15.92	168	168	24



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RAMIRO GUTIERREZ, P.E. 65948
DATE: 2-9-11
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY PRECINCT No.2
VAL-BAR SUBDIVISION
ESTIMATE & QUANTITIES

Texas Department of Transportation
© TxDOT 2010

R. Gutierrez Engineering Corporation
Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78677
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

LEGEND

(2) FOR CONTRACTORS INFORMATION ONLY (NON-PAY)
* QUANTITY BASED ON 36 LF PER INLET AND ALONG DITCH LINE. (12 LF/500 LF)

NOTE:
1.) EST. WT. OF NEW & SALVAGE FLEXIBLE BASE - 3375 lb/cy (COMPACTED DRY WT.)
EST. WT. OF SUBGRADE - 2970 lb/cy

FED. RD. DIV. NO.	STATE AID PROJECT NO.	HIGHWAY NO.			
	ENG05.12J				
STATE	DIST.	COUNTY			
TEXAS	21	HIDALGO			
DN:	DW:	CONT.	SECT.	JOB	SHEET No.
CK:	CK:	2C	1080	767	5

F:\2005\Eng\012J_VAL-BAR\PLANS\E&QSHTS.dgn