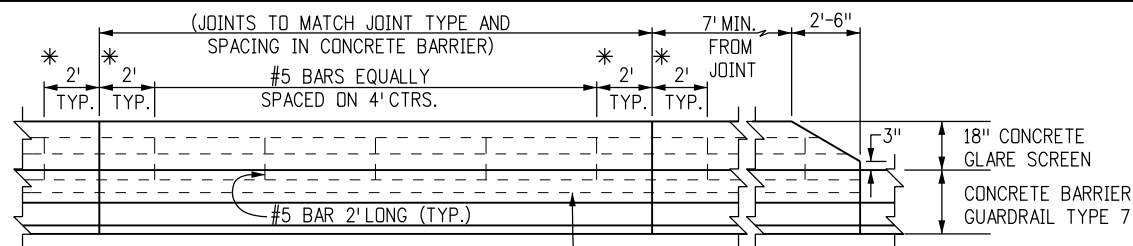


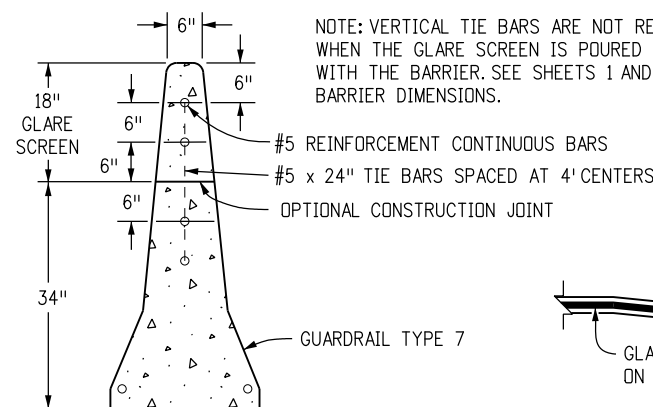
Computer File Information		Sheet Revisions		Colorado Department of Transportation 4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9083 Fax: (303) 757-9820 Project Development Branch DM/LTA	GUARDRAIL TYPE 7 F-SHAPE BARRIER Issued By: Project Development Branch July 4, 2012	STANDARD PLAN NO. M-606-13 Sheet No. 1 of 4
Creation Date: 07/04/12	Initials: DM	Date:	Comments			
Last Modification Date: 08/30/13	Initials: LTA	08/30/13	Revised Sheet 2 of 4.			
Full Path: www.coloradodot.info/business/designsupport	(R-X)					
Drawing File Name: 6060130104.dgn	(R-X)					
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)					



ELEVATION

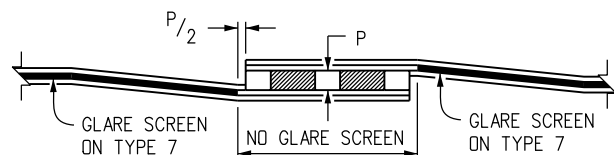
#5 REINFORCEMENT CONTINUOUS BARS

* 2 FT. IS TYPICAL FOR CAST-IN-PLACE BARRIERS.
1 FT. IS TYPICAL FOR PRECAST BARRIERS.
THE MINIMUM ACCEPTABLE DIMENSION IS 6 IN.



CONCRETE GLARE SCREEN

NOTE: VERTICAL TIE BARS ARE NOT REQUIRED WHEN THE GLARE SCREEN IS POURED MONOLITHICALLY WITH THE BARRIER. SEE SHEETS 1 AND 2 FOR BARRIER DIMENSIONS.

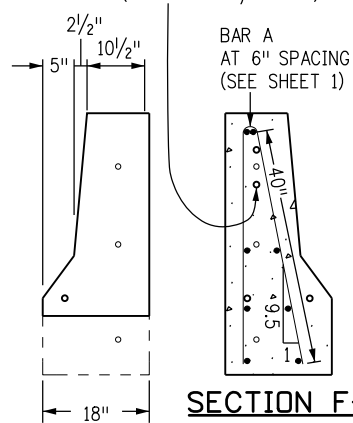


GLARE SCREEN AT MEDIAN OBSTRUCTIONS

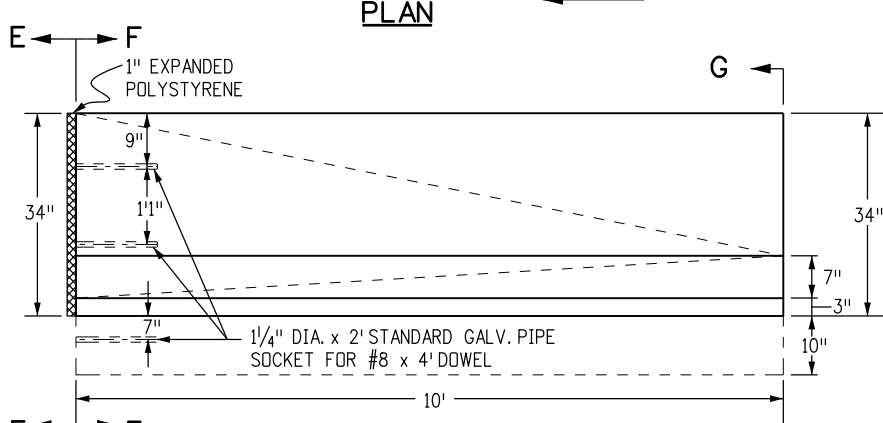
CONNECTS TO BRIDGE RAIL TYPE 7

CONNECTS TO STANDARD ROADWAY GUARDRAIL TYPE 7

4 #5 LONGITUDINAL CONTINUOUS REINFORCEMENT FOR ENTIRE LENGTH OF BARRIER (SEE SHEET 1, NOTE 7)



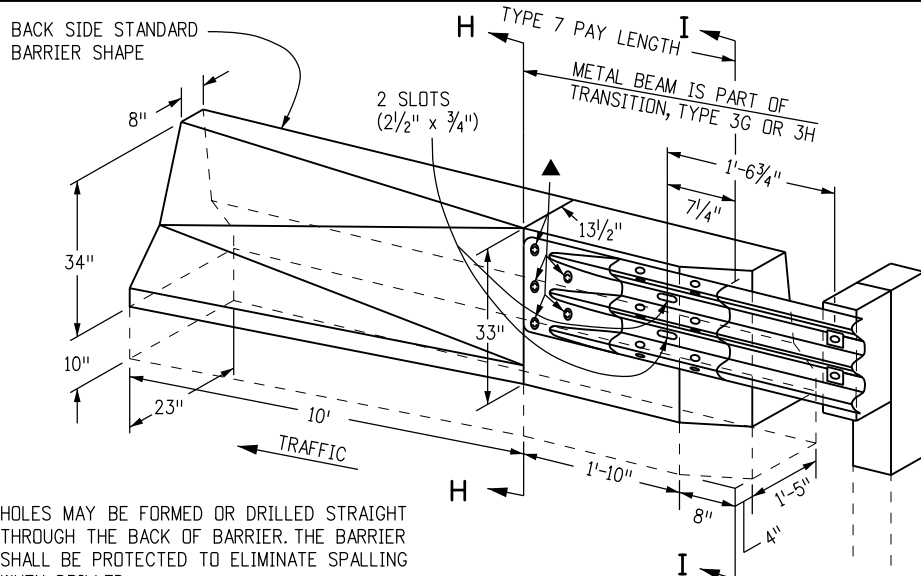
SECTION E-E



SECTION F-F

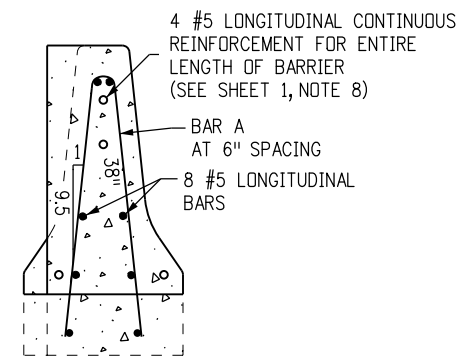
THIS SECTION PROVIDES A TRANSITION FOR THE SHAPE OF THE BRIDGE RAIL TYPE 7 TO THE ROADWAY GUARDRAIL TYPE 7. MEASURED AND PAID FOR AS GUARDRAIL TYPE 7. (SEE ANCHORAGE DETAIL ON SHEET 1 FOR REINFORCEMENT INFORMATION)

BRIDGE RAIL TYPE 7 TO ROADWAY SHOULDER TYPE 7 TRANSITION AND ANCHORAGE



SECTION H-H

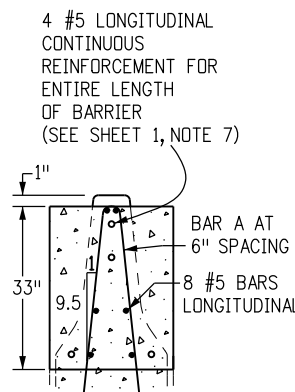
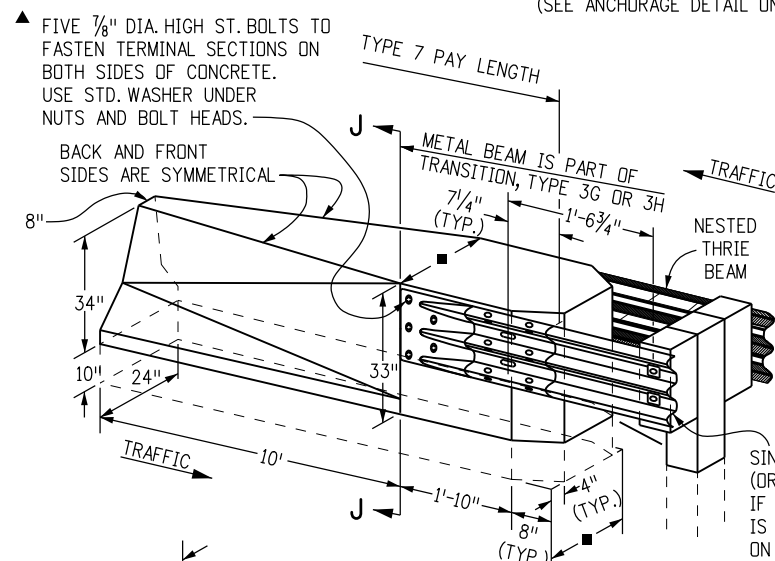
▲ HOLES MAY BE FORMED OR DRILLED STRAIGHT THROUGH THE BACK OF BARRIER. THE BARRIER SHALL BE PROTECTED TO ELIMINATE SPALLING WHEN DRILLED.



SECTION I-I

TYPE 7 TO SINGLE TYPE 3G TRANSITION AND ANCHORAGE

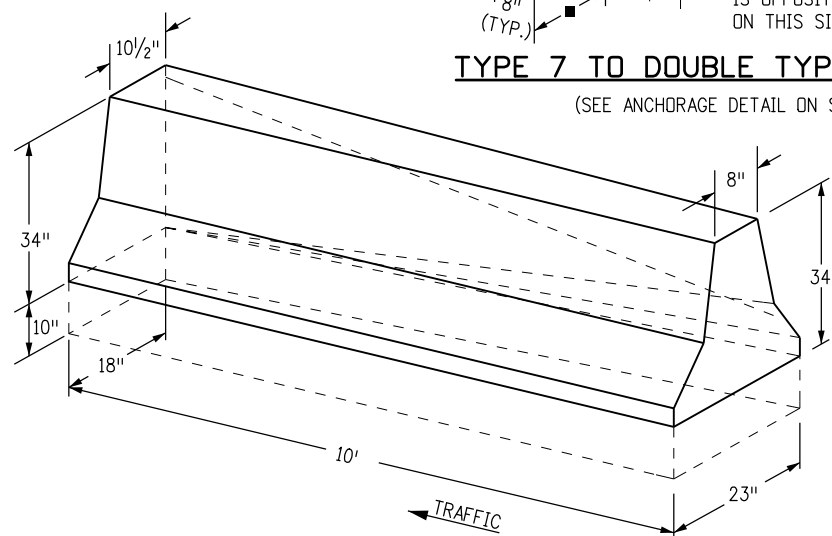
(SEE ANCHORAGE DETAIL ON SHEET 1 FOR REINFORCEMENT INFORMATION)



SECTION J-J

TYPE 7 TO DOUBLE TYPE 3G TRANSITION AND ANCHORAGE

(SEE ANCHORAGE DETAIL ON SHEET 1 FOR REINFORCEMENT INFORMATION)



Computer File Information

Creation Date: 07/04/12 Initials: DM
Last Modification Date: 08/30/13 Initials: LTA
Full Path: www.coloradodot.info/business/designsupport
Drawing File Name: 6060130204.dgn
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments
08/30/13	Revised some dimensions in the Type 7 to Type 3G transition details for consistency with M-606-1, Guardrail Type 3 W-Beam.

Colorado Department of Transportation

4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9083
Fax: (303) 757-9820

Project Development Branch

DM/LTA

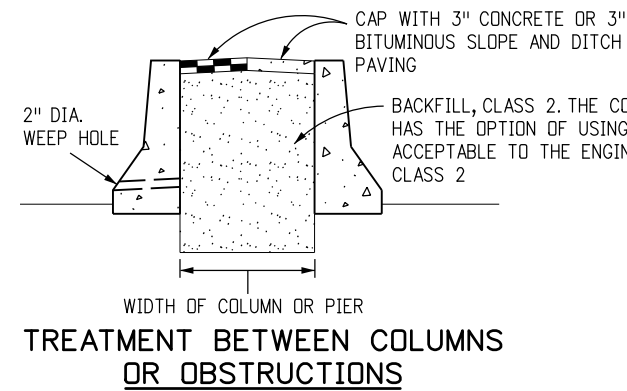
**GUARDRAIL TYPE 7
F-SHAPE BARRIER**

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.

M-606-13

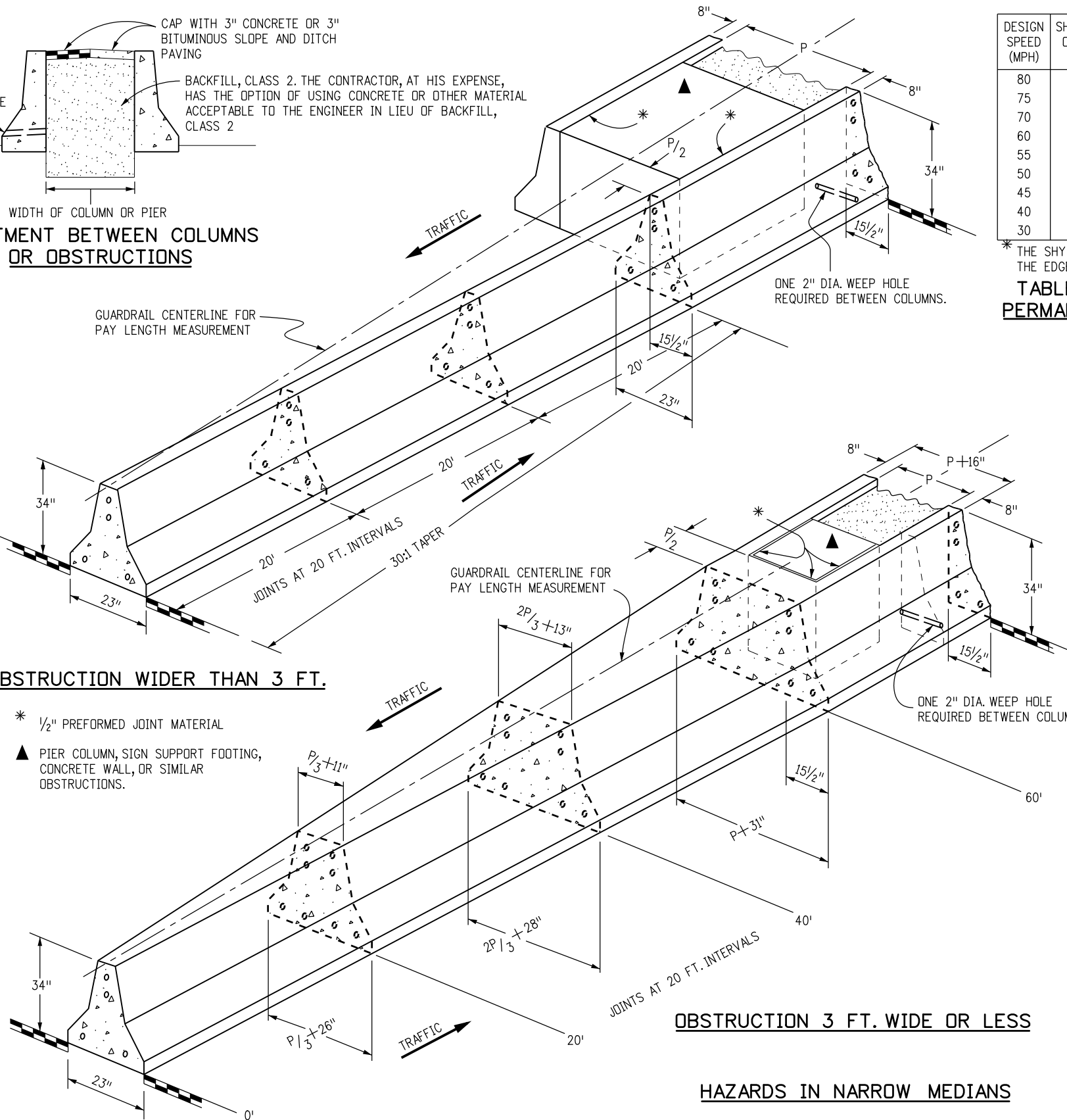
Sheet No. 2 of 4



GUARDRAIL CENTERLINE FOR PAY LENGTH MEASUREMENT

OBSTRUCTION WIDER THAN 3 FT.

- * 1/2" PREFORMED JOINT MATERIAL
- ▲ PIER COLUMN, SIGN SUPPORT FOOTING, CONCRETE WALL, OR SIMILAR OBSTRUCTIONS.



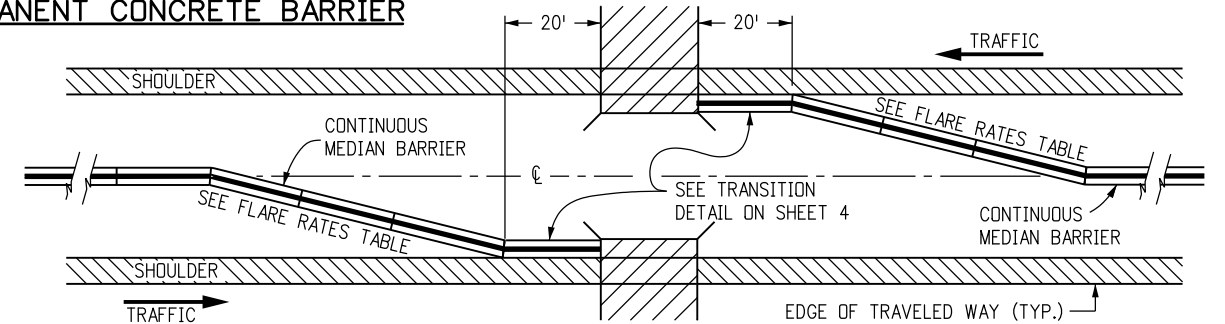
DESIGN SPEED (MPH)	SHY LINE OFFSET (FT.)*	FLARE RATE FOR BARRIER INSIDE SHY LINE	FLARE RATE FOR BARRIER OUTSIDE SHY LINE
80	12	30:1	20:1
75	10	30:1	20:1
70	9	30:1	20:1
60	8	26:1	18:1
55	7	24:1	16:1
50	6.5	21:1	14:1
45	6	18:1	12:1
40	5	16:1	10:1
30	4	13:1	8:1

* THE SHY LINE OFFSET IS MEASURED FROM THE EDGE OF THE TRAVELED WAY.

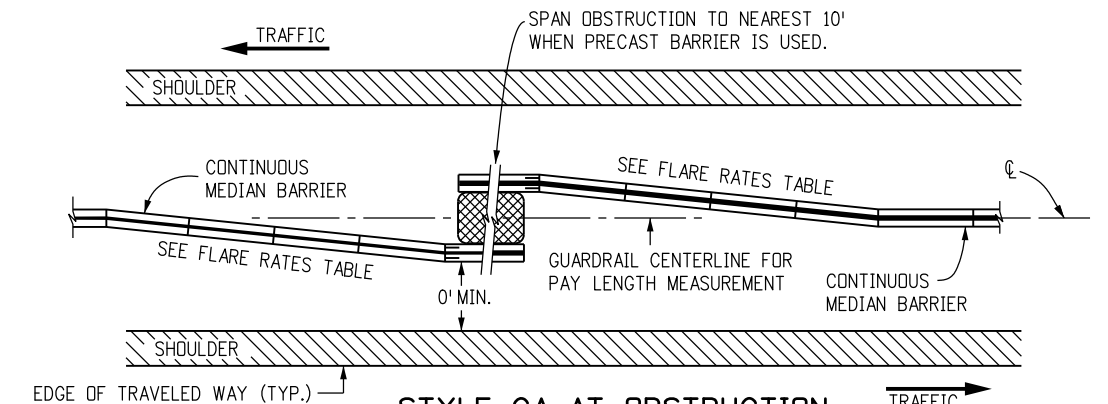
TABLE OF FLARE RATES FOR PERMANENT CONCRETE BARRIER

NOTES

1. THE MEDIAN IN THESE APPLICATIONS SHALL BE PAVED ON A SLOPE CONTINUED FROM THE ADJACENT PAVED SHOULDER OR A 10:1 OR FLATTER SLOPE.
2. THE PAY LENGTH FOR BARRIER ON BOTH SIDES OF AN OBSTRUCTION WILL BE DETERMINED BY ONE LINEAR MEASUREMENT ALONG THE GUARDRAIL CENTERLINE. THE BACKFILL AND CAP BETWEEN COLUMNS OR OBSTRUCTIONS WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
3. GUARDRAIL BETWEEN COLUMNS OR OBSTRUCTIONS MAY BE STYLES CD OR CA AS SHOWN ON THE PLANS.

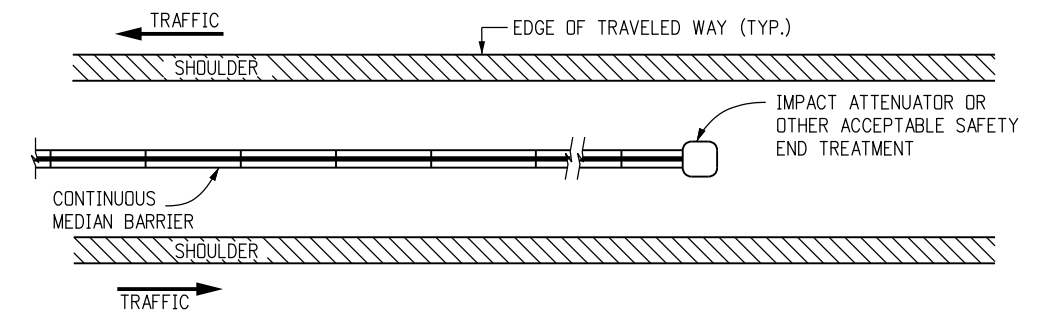


BRIDGE APPROACH



STYLE CA AT OBSTRUCTION

(OBSTRUCTION NOT SUITABLE FOR TYPE CD)



MEDIAN BARRIER END TREATMENT

Computer File Information

Creation Date: 07/04/12 Initials: DD
 Last Modification Date: 07/04/12 Initials: LTA
 Full Path: www.coloradodot.info/business/designsupport
 Drawing File Name: 6060130304.dgn
 CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments:
(R-X)	
(R-X)	
(R-X)	
(R-X)	

Colorado Department of Transportation



4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9083
 Fax: (303) 757-9820

Project Development Branch

DD/LTA

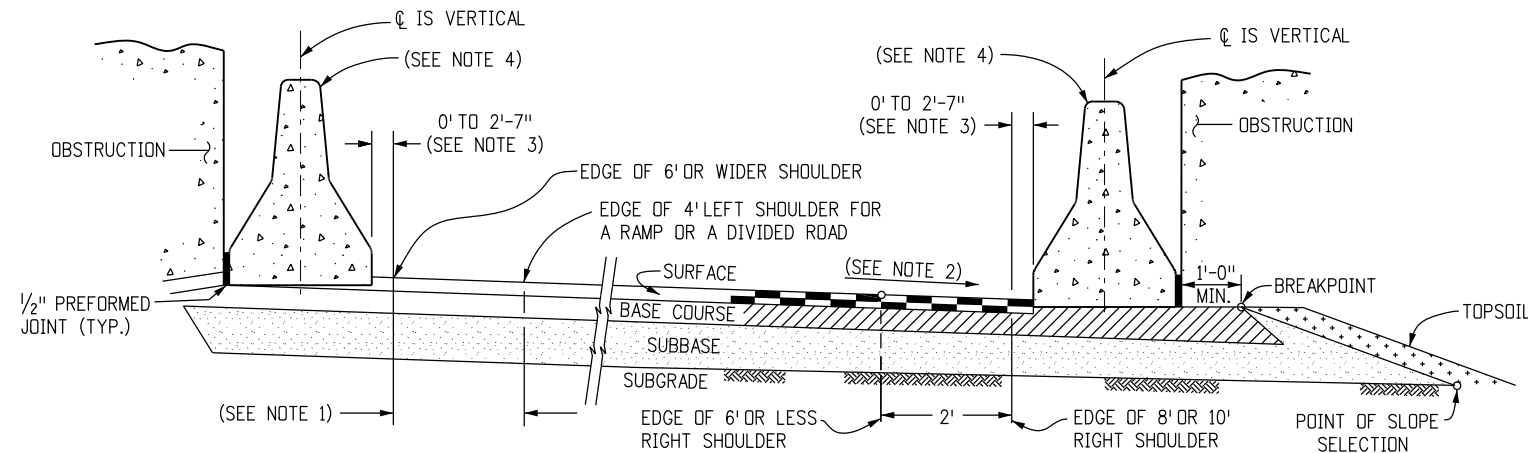
GUARDRAIL TYPE 7 F-SHAPE BARRIER

Issued By: Project Development Branch July 4, 2012

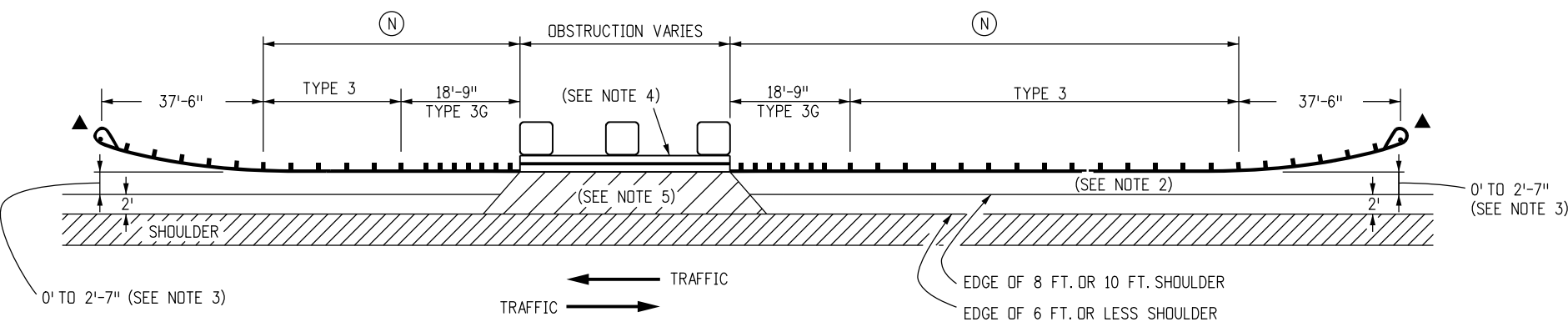
STANDARD PLAN NO.

M-606-13

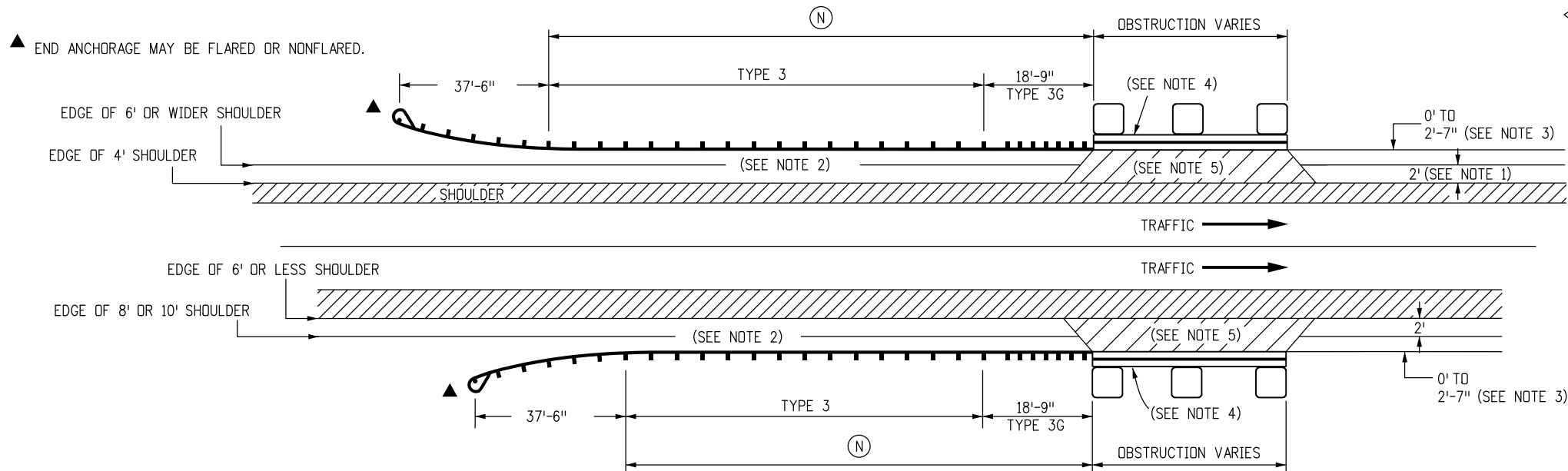
Sheet No. 3 of 4



TYPE 7 ON LEFT AND RIGHT SHOULDERS AT OBSTRUCTIONS



2-LANE 2-WAY ROADS



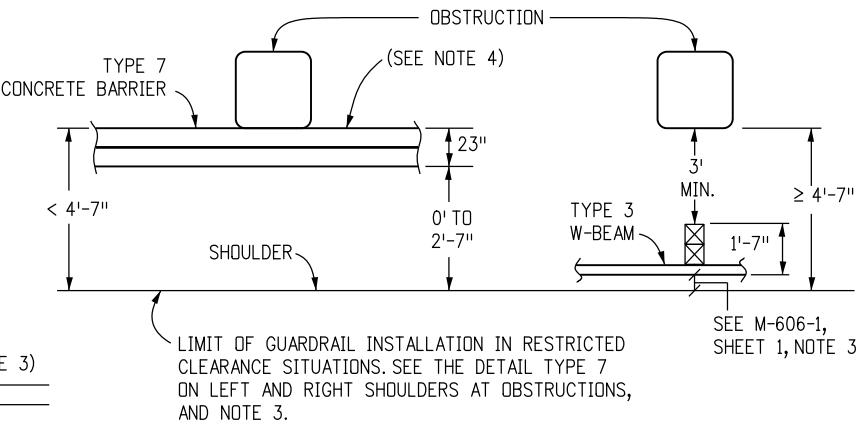
DIRECTIONAL ROADWAYS AND RAMP

HAZARDS ON ROADSIDES

NOTES

1. TWO FT. IS DESIRABLE FOR THIS DIMENSION WITH A 4 FT. LEFT SHOULDER. THE MINIMUM IS 0 FT., WHICH IS ACCEPTABLE FOR 6 FT. OR WIDER SHOULDERS.
2. RATE OF SLOPE DEPENDS ON GUARDRAIL LOCATION:
 - A. FOR GUARDRAIL FACE 2 FT. OR LESS FROM THE NORMAL EDGE OF PAVED SHOULDER, CONTINUE THE RATE OF SLOPE OF THE NORMAL PAVED SHOULDER TO THE BREAKPOINT.
 - B. FOR GUARDRAIL FACE MORE THAN 2 FT. FROM THE NORMAL EDGE OF THE PAVED SHOULDER, THE SLOPE SHALL BE 10:1 OR FLATTER.
3. IF THE DISTANCE FROM THE EDGE OF SHOULDER TO THE OBSTRUCTION EXCEEDS 4 FT.-7 IN., TYPE 3-W BEAM GUARDRAIL MAY BE SPECIFIED ON THE PLANS INSTEAD OF TYPE 7 (SEE PLANS, AND DETAIL BELOW).
4. STYLE CA BARRIERS ARE SHOWN. STYLE CD MAY BE USED AS APPROPRIATE. SEE SHEET 2 FOR TYPE 7 TO SINGLE TYPE 3G TRANSITION.
5. THE AREA BETWEEN SHOULDER AND THE TYPE 7 SHALL BE PAVED. PAYMENT FOR THE PAVED SURFACE WILL BE MADE UNDER A PAVEMENT PAY ITEM, HMA OR CONCRETE, WITH QUANTITIES SHOWN ON THE PLANS.

(N) THE GUARDRAIL LENGTH DIMENSION "N" IS THE LENGTH AS DETERMINED BY THE LENGTH OF NEED COMPUTATION AND AS SHOWN ON THE PLANS. MINIMUM SHALL BE 12 FT.-6 IN. WHERE SITE CONDITIONS ALLOW.



Computer File Information		<div><div>(R-X)</div><div>(R-X)</div><div>(R-X)</div><div>(R-X)</div></div>	Sheet Revisions		<div><div>Colorado Department of Transportation</div><div><div></div><div>4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9083 Fax: (303) 757-9820</div></div><div>Project Development Branch DD/LTA</div></div>	GUARDRAIL TYPE 7 F-SHAPE BARRIER		STANDARD PLAN NO.	
Creation Date: 07/04/12	Initials: DD		Date:	Comments		M-606-13			
Last Modification Date: 07/04/12	Initials: LTA								
Full Path: www.coloradodot.info/business/designsupport									
Drawing File Name: 6060130404.dgn									
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English						Issued By: Project Development Branch July 4, 2012			
						Sheet No. 4 of 4			