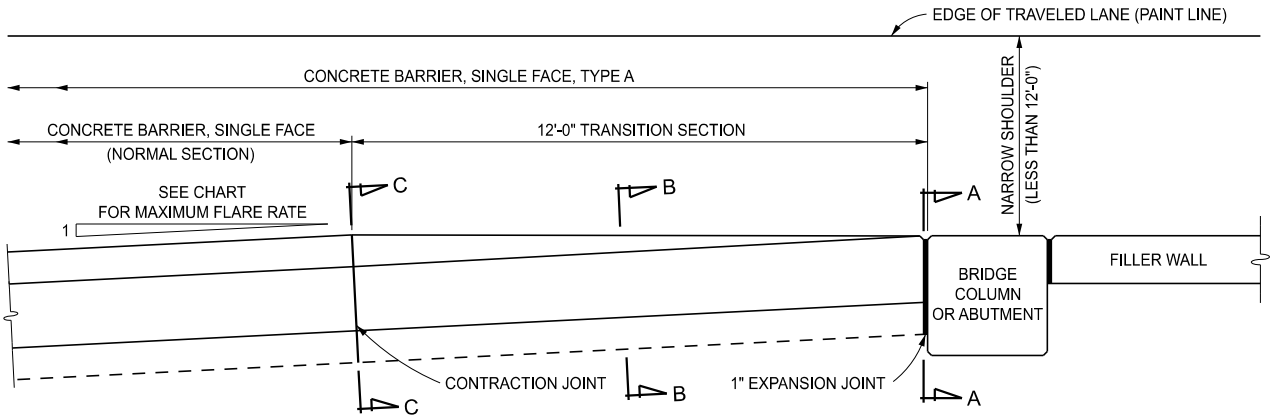
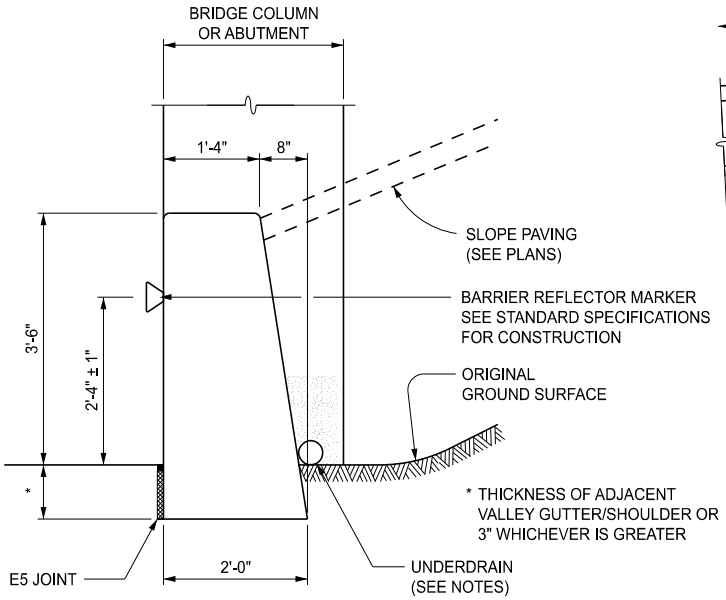
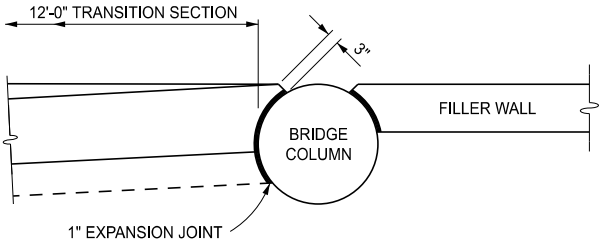


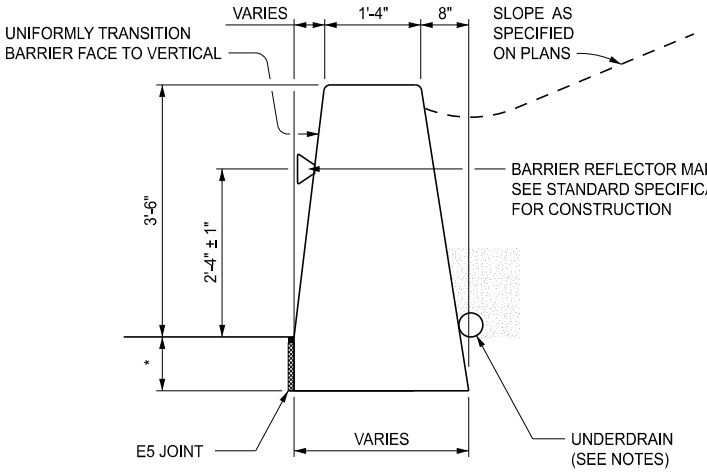
CONCRETE BARRIER, SINGLE FACE
(AT SQUARE COLUMN OR ABUTMENT)



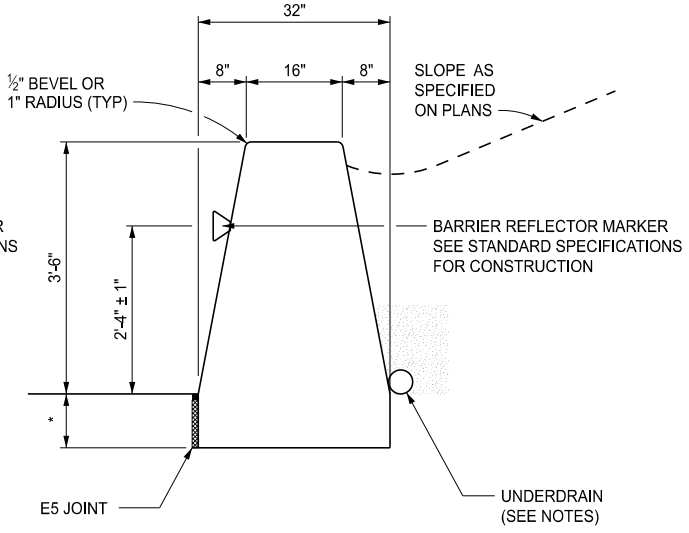
SECTION A - A



CONCRETE BARRIER, SINGLE FACE
(AT CIRCULAR COLUMN)



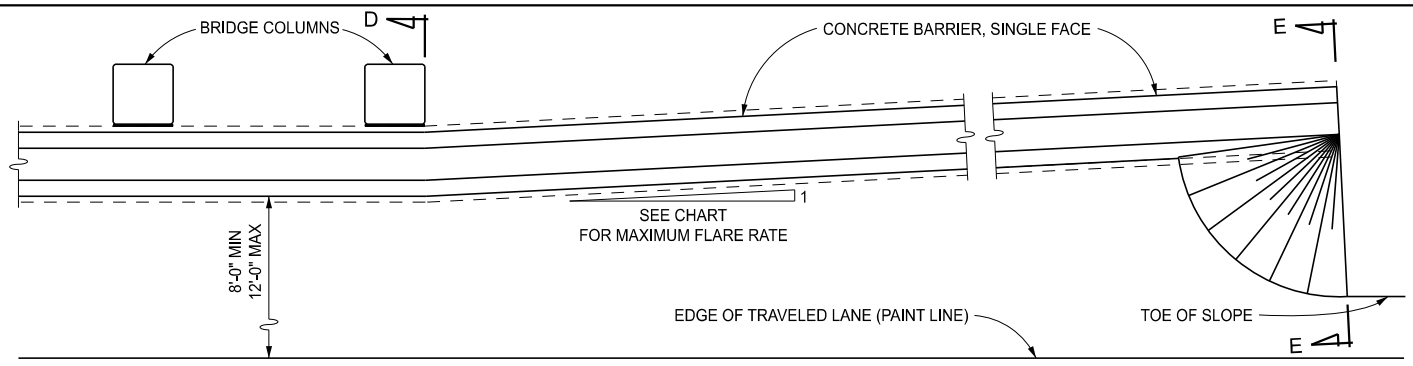
SECTION B - B



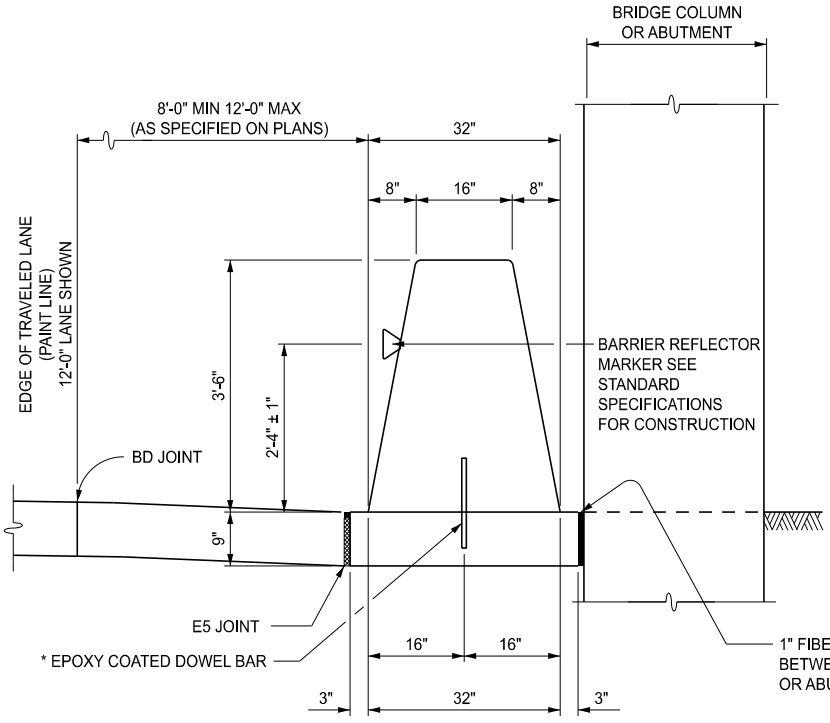
SECTION C - C

CONCRETE BARRIER, SINGLE FACE, TYPE A
(IN LINE WITH BRIDGE COLUMNS OR ABUTMENT)

APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT	MDOT Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR CONCRETE BARRIER, SINGLE FACE			
		SPECIAL DETAIL FHWA APPROVAL	12/15/2025 PLAN DATE	R-54-J	SHEET 1 OF 5



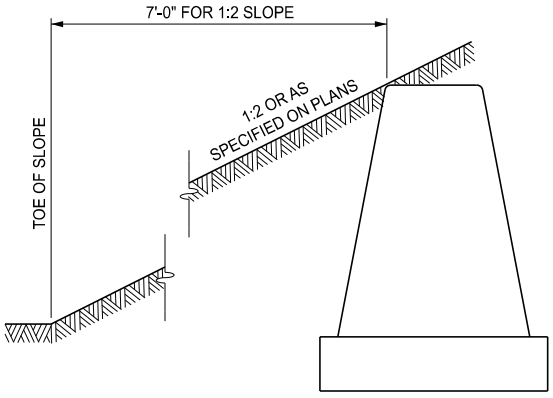
PLAN VIEW



SECTION D - D

* NOTE:

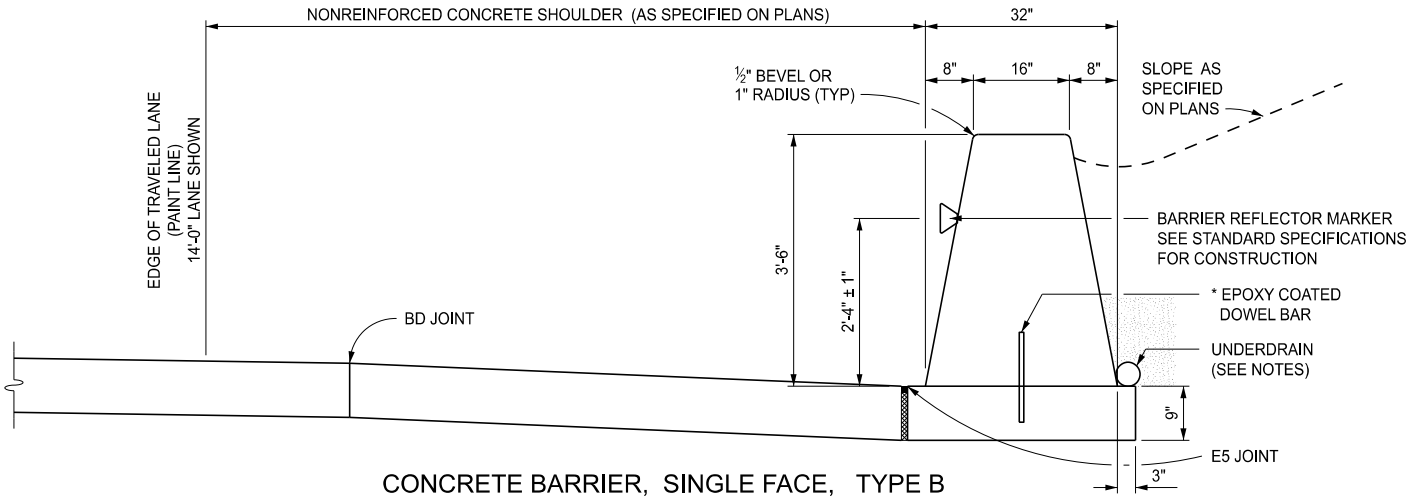
USE 1'-3" LONG EPOXY COATED #6 DEFORMED DOWEL BARS SPACED AT 1'-6" WITH 6" EMBEDMENT IN FOOTING OR CONCRETE SHOULDER STARTING AT 1'-6" FROM THE BEGINNING OF THE BARRIER. SPACE NO CLOSER THAN 1'-6" FROM ANY TRANSVERSE JOINT. ADJUST SPACING TO AVOID ANY CONFLICT.



SECTION E - E

CONCRETE BARRIER, SINGLE FACE, TYPE B (SHOWN)

(IN FRONT OF BRIDGE COLUMNS OR ABUTMENTS)



CONCRETE BARRIER, SINGLE FACE, TYPE B

(IN LINE WITH BRIDGE COLUMNS OR ABUTMENT)

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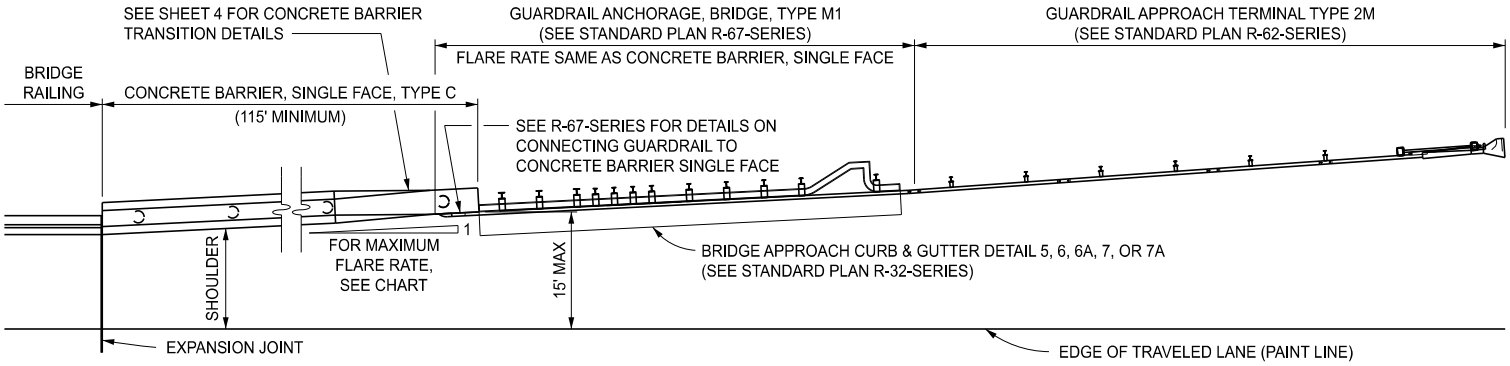
STANDARD PLAN FOR
CONCRETE BARRIER, SINGLE FACE

SPECIAL DETAIL / FHWA APPROVAL	12/15/2025 / PLAN DATE	R-54-J	SHEET 2 OF 5

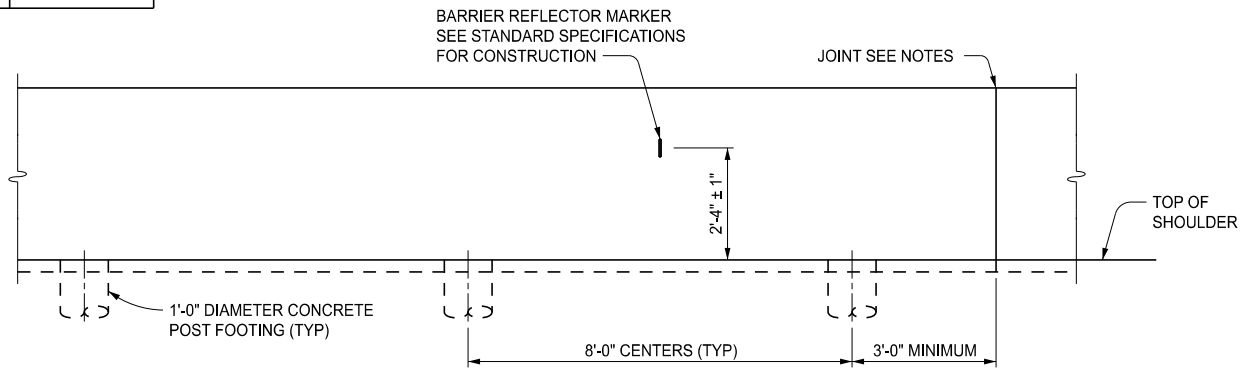


FLARE CHART	
MAXIMUM FLARE	DESIGN SPEED (MPH)
1:20	70
1:18	60
1:16	55
1:14	50
1:12	45
1:10	40
1:8	30

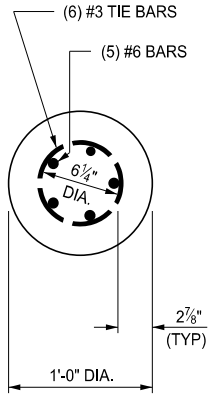
TRANSITION END OF CONCRETE BARRIER, SINGLE FACE ADJACENT TO BRIDGE RAILING TO MATCH SHAPE OF BRIDGE RAILING. ENSURE CONCRETE BARRIER, SINGLE FACE AND BRIDGE RAILING ARE FLUSH ON THE SIDE FACING TRAFFIC.

THE MAXIMUM FLARE RATE IS THE LARGEST ALLOWABLE DEPARTURE ANGLE FOR THE SPECIFIED DESIGN SPEED. THE FLARE RATE OF THE CONCRETE BARRIER IS LIMITED BY ITS LENGTH AND MAXIMUM 15' OFFSET.

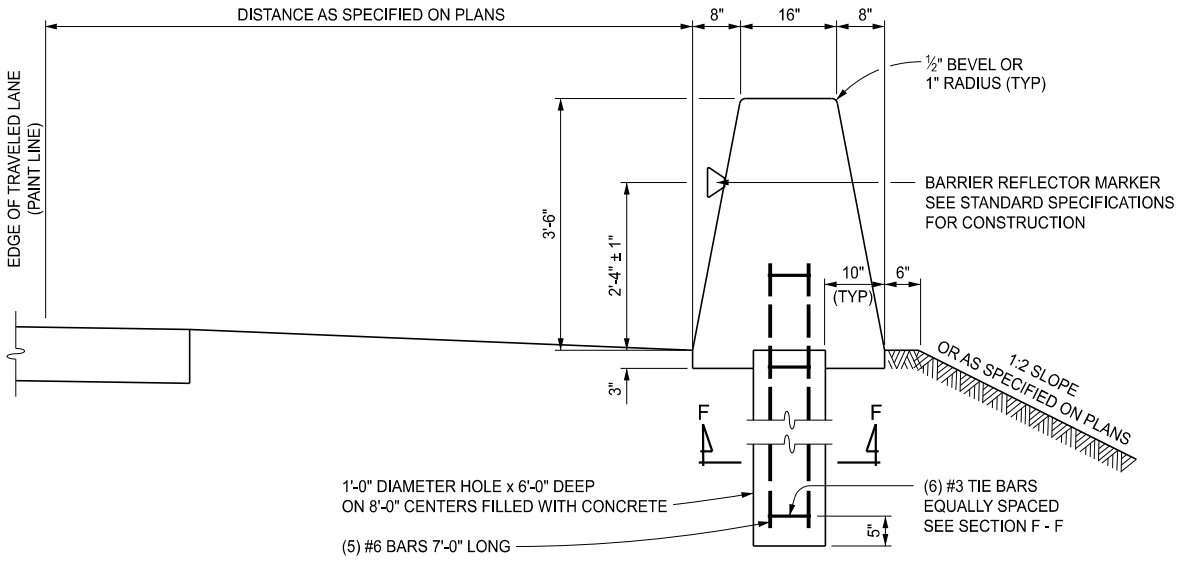
CONCRETE BARRIER, SINGLE FACE, TYPE C
(WITH GUARDRAIL ENDING)



ELEVATION VIEW



SECTION F - F
POST FOOTING



CROSS SECTION VIEW

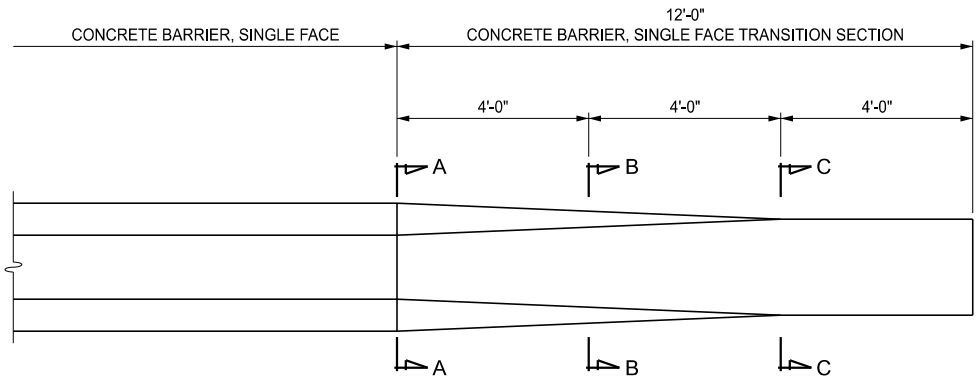
CONCRETE BARRIER, SINGLE FACE, TYPE C
(IN LINE WITH BRIDGE COLUMNS OR ABUTMENT)

MDOT Michigan Department of Transportation

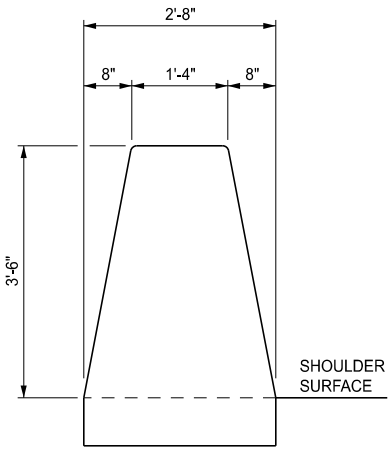
DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
CONCRETE BARRIER, SINGLE FACE

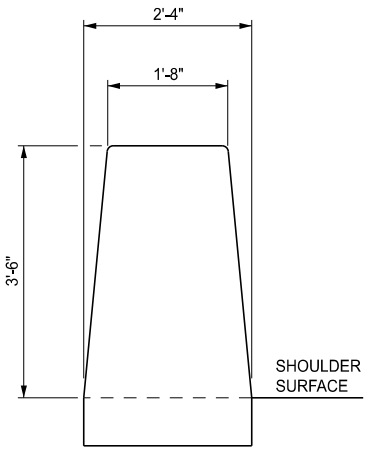
SPECIAL DETAIL / FHWA APPROVAL	12/15/2025 PLAN DATE	R-54-J	SHEET 3 OF 5



PLAN VIEW

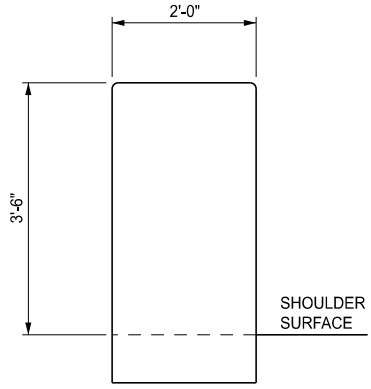


SECTION A-A



SECTION B-B

UNIFORMLY TRANSITION THE BARRIER FACES
FROM SINGLE SLOPE SHAPE TO VERTICAL WALL



SECTION C-C

CONCRETE BARRIER, SINGLE FACE TRANSITION TO VERTICAL WALL

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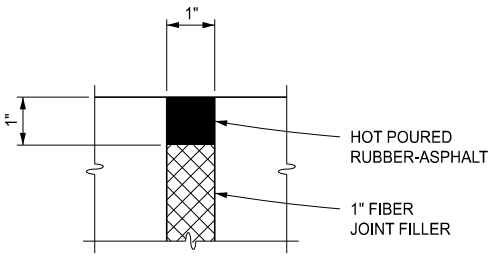
STANDARD PLAN FOR
CONCRETE BARRIER, SINGLE FACE

SPECIAL DETAIL / FHWA APPROVAL	12/15/2025 PLAN DATE	R-54-J	SHEET 4 OF 5



E5 JOINT DETAIL

NOTES:

THE SIDE CONFIGURATION SPECIFIED ON THIS PLAN CONFORMS TO THE SINGLE SLOPE SHAPE AS SPECIFIED ON STANDARD PLAN R-49-SERIES.

PLACE 1" EXPANSION JOINTS IN THE CONCRETE BARRIER AT APPROXIMATELY 400' INTERVALS. ALSO PLACE 1" EXPANSION JOINTS AT STRUCTURES (INCLUDING SIGN SUPPORTS, LIGHT STANDARD FOUNDATIONS, BRIDGE PIERS, OR ANY STRUCTURE WITH A FOUNDATION). ADJUST LOCATION OF EXPANSION JOINTS TO MATCH EXPANSION JOINTS IN THE SHOULDER. SPACE PLANE OF WEAKNESS JOINTS 20' MAXIMUM AND 10' MINIMUM, EXCEPT WHEN THE BARRIER IS ON A CONCRETE SHOULDER. ENSURE PLANE OF WEAKNESS JOINT SPACING COINCIDES WITH THE CONTRACTION JOINTS IN THE SHOULDER.

ENSURE JOINTS IN THE CONCRETE FOOTING COINCIDE WITH THE JOINTS IN THE CONCRETE BARRIER.

ENSURE PLANE OF WEAKNESS JOINTS IN THE CONCRETE BARRIER ARE AT LEAST 2½" DEEP AND EDGED.

IN A CUT SECTION, END THE CONCRETE BARRIER BY BURYING IT IN THE SIDE SLOPE.

IN FILL SECTIONS, END THE CONCRETE BARRIER WITH GUARDRAIL ANCHORAGE, BRIDGE, DETAIL M1 AND GUARDRAIL APPROACH TERMINAL TYPE TYPE 2M. BUILD GUARDRAIL ANCHORAGES ACCORDING TO STANDARD PLAN R-67-SERIES. BUILD GUARDRAIL APPROACH TERMINALS ACCORDING TO STANDARD PLAN R-62-SERIES. USE BRIDGE APPROACH CURB & GUTTER DETAIL 5, 6, 6A, 7, OR 7A AS SPECIFIED ON THE PLANS AND CONSTRUCT ACCORDING TO STANDARD PLAN R-32-SERIES.

ENSURE THE TOP AND FACES OF THE BARRIER VARY NO MORE THAN ½" IN 10' WHEN CHECKED WITH A 10' STRAIGHTEDGE, EXCEPT AT GRADE CHANGES AND CURVES, AND ARE FREE OF HUMPS, SAGS, AND OTHER IRREGULARITIES.

"CONCRETE BARRIER, SINGLE FACE, TYPE A" IS CONCRETE BARRIER CAST MONOLITHIC WITH CONCRETE FOOTINGS; TYPE B IS CONCRETE BARRIER DOWELED TO NONREINFORCED CONCRETE SHOULDERS OR TO A SEPARATE BASE; TYPE C IS CONCRETE BARRIER PLACED ON CONCRETE POST FOOTINGS, WITH NO BACKFILL TO SUPPORT THE BACK SIDE OF THE BARRIER WALL.

WHEN "CONCRETE BARRIER, SINGLE FACE, TYPE A" IS DESIGNATED ON THE PLANS, THE BARRIER MAY BE CONSTRUCTED USING DOWELS AND A WIDENED BASE AS SPECIFIED FOR THE "CONCRETE BARRIER, SINGLE FACE, TYPE B". THE DOWELS, EXTRA WIDTH OF BASE, OR ANY EXTRA WORK REQUIRED WILL BE INCLUDED IN THE PAY ITEM "CONC BARRIER, SINGLE FACE, TYPE A".

THE UNDERDRAIN LOCATED BEHIND THE CONCRETE BARRIER AND AT THE ELEVATION OF THE TOP OF SHOULDER IS A MINIMUM 4" DIAMETER FOUNDATION UNDERDRAIN WRAPPED WITH GEOTEXTILE. PLACE CLASS IIAA GRANULAR MATERIAL AROUND THE UNDERDRAIN AND AT LEAST 12" ABOVE IT. THE REMAINDER OF THE FILL WILL BE ACCORDING TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

FOR DETAILS OF THE SHOULDER SECTION, SEE TYPICAL CROSS-SECTIONS IN THE ROAD PLANS.

SPACE BARRIER REFLECTOR MARKERS AT THE FOLLOWING INTERVALS:

1) 50'-0" ON TANGENT SECTIONS AND CURVES WITH A RADIUS OF 1150' OR MORE.
2) 25'-0" ON CURVES WITH A RADIUS LESS THAN 1150'.

MATCH BARRIER REFLECTOR MARKER COLOR TO COLOR OF EDGE LINE.

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DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
CONCRETE BARRIER, SINGLE FACE

(SPECIAL DETAIL)	12/15/2025	R-54-J	SHEET
FHWA APPROVAL	PLAN DATE		5 OF 5