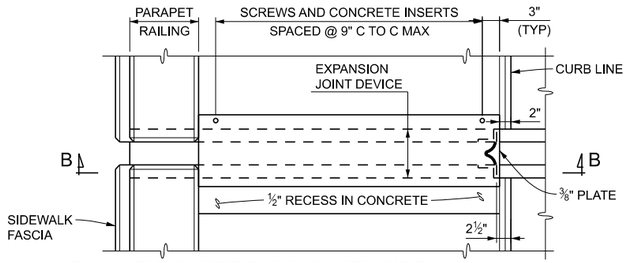
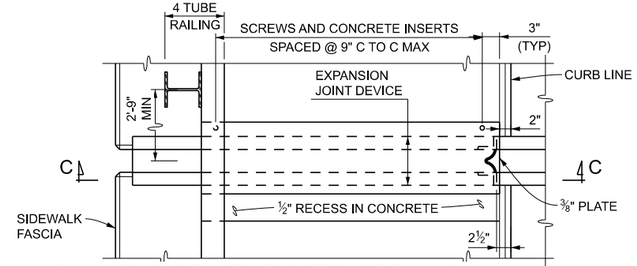


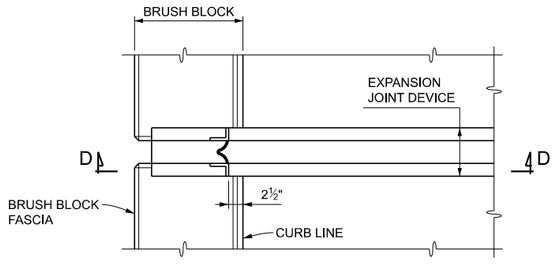
PLAN AT BARRIER RAILING TYPE 4 & TYPE 5



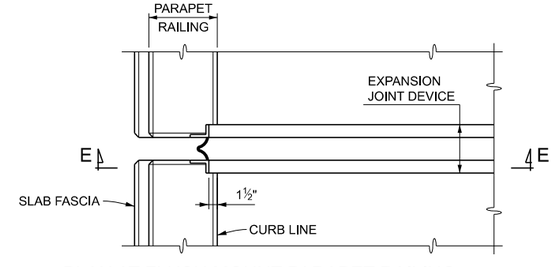
PLAN AT PARAPET RAILING WITH SIDEWALK



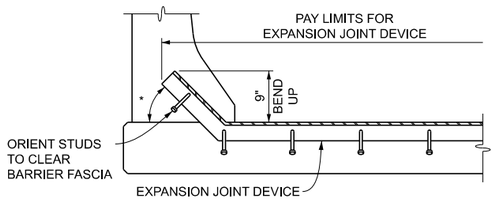
PLAN AT 3 TUBE WITH PICKETS (SIDEWALK) &
4 TUBE (PEDESTRAIN) STEEL RAILING



PLAN AT 2 TUBE, 3 TUBE WITH PICKETS (BRUSH BLOCK)
& 4 TUBE (BICYCLE) STEEL RAILING

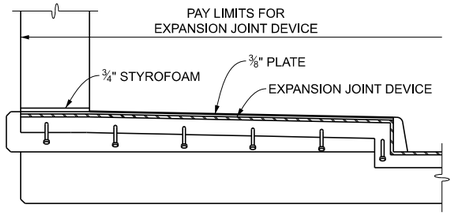


PLAN AT FLUSH MOUNT PARAPET RAILING

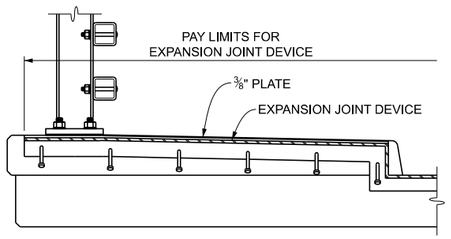


SECTION A - A

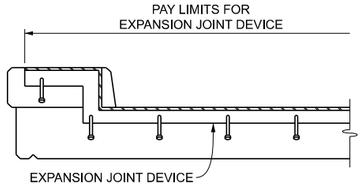
* BEND ANCHORAGE UP 45° ALONG ℄ OF EXPANSION JOINT.



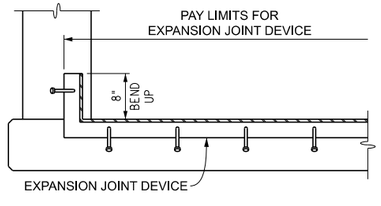
SECTION B - B



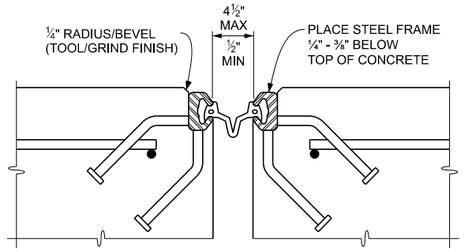
SECTION C - C



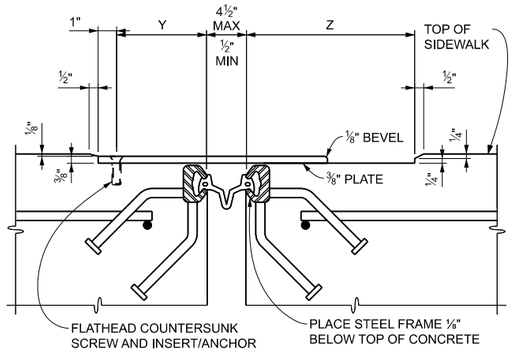
SECTION D - D



SECTION E - E



SECTION THROUGH EXPANSION JOINT

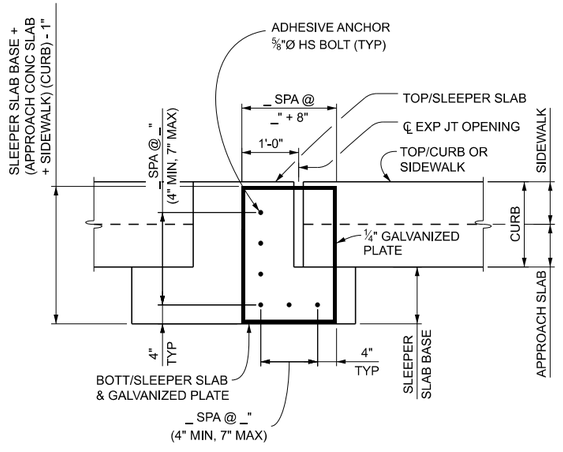


SECTION THROUGH EXPANSION JOINT
AND COVER PLATE

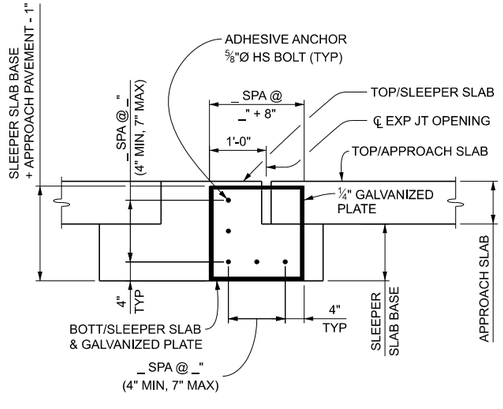
WABO STRIP SEAL TYPE M			
TOTAL TRAVEL *	PLATE WIDTH	Y	Z
< 1"	10"	3¾"	5¾"
1" - 2"	11"	3¾"	6¾"
2" - 3"	12"	3¾"	7¾"
> 3"	13"	3¾"	8¾"

ALL OTHER DEVICES			
TOTAL TRAVEL *	PLATE WIDTH	Y	Z
< 1½"	8"	2½"	5"
1½" - 3½"	10"	2½"	7"
> 3½"	12"	2½"	9"

* SEE TABLE FOR MINIMUM TOTAL TRAVEL ALONG CENTERLINE OF BRIDGE



END PLATE DETAIL
(SLEEPER SLAB WITH APPROACH SLAB AND SIDEWALK OR CURB)



END PLATE DETAIL
(SLEEPER SLAB WITH APPROACH SLAB/PAVEMENT)

NOTES:

JOINT TYPES

PROVIDE AN EXPANSION JOINT DEVICE THAT INCLUDES A CONTINUOUS NEOPRENE (OR EQUIVALENT) SEAL ACROSS THE DECK. UNLESS OTHERWISE NOTED, ANY OF THE DEVICES LISTED BELOW THAT ARE SUITABLE TO MEET THE TOTAL MOVEMENT NOTED ON THE PLANS ARE PERMITTED:

DEVICE	MANUFACTURER
WABO STRIP SEAL - TYPE M	WATSON-BOWMAN & ACME, INC.
WABO STRIP SEAL - TYPE A	WATSON-BOWMAN & ACME, INC.
STEELFLEX-SSA2	D.S. BROWN
STEELFLEX-SSCM	D.S. BROWN
ONFLEX 40 SS	STRUCTURAL RUBBER PRODUCTS CO.
ONFLEX 40 SSA	STRUCTURAL RUBBER PRODUCTS CO.

DETAILS AT CURBS OR BARRIERS

THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

COVER PLATE LENGTHS

COVER PLATES WITH A LENGTH GREATER THAN 11' MAY BE FABRICATED FROM TWO EQUAL LENGTH PIECES WITH A JOINT LOCATED AT THE CENTERLINE OF THE SIDEWALK OR PATH. PROVIDE A ¼" WIDE GAP AT THE JOINT THAT IS PARALLEL TO THE CENTERLINE OF THE SIDEWALK OR PATH.

EXPANSION JOINT DEVICE WELD

WELDED SPLICES TO BE PLACED AT THE CROWN OF THE ROADWAY, AT LONGITUDINAL CONSTRUCTION JOINTS OR AT TRANSVERSE BREAKS IN THE DECK.

NO WELDING IS PERMITTED WHERE THE FRAME RAIL COMES IN CONTACT WITH THE NEOPRENE SEAL.

ALTERNATE WELD DETAILS WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

STRUCTURE NUMBER	ANGLE OF CROSSING TO NEAREST 10°	LOCATION OF JOINT	MIN. TOT. TRAVEL ALONG CENTERLINE OF BRIDGE *	REQUIRED LENGTH OF EXPANSION JOINT DEVICE

QUANTITY		
ITEM	UNIT	AMOUNT
Expansion Joint Device	Ft	
Expansion Joint Device, Cover Plate	Ft	

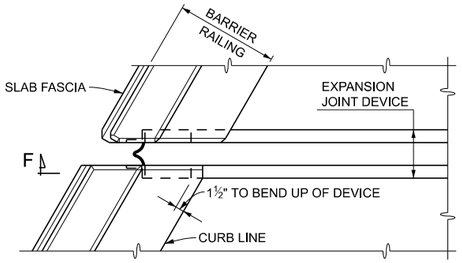
END PLATE TABLE	
STRUCTURE NUMBER	SIZE

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

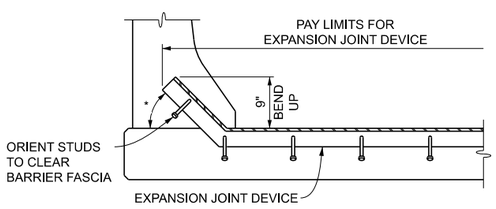
MDOT Michigan Department of Transportation

NO SCALE

	DATE:	CS:	EXPANSION JOINT DETAILS	DRAWING
	DESIGN UNIT:	JN:	DEVICE, BARRIER, AND END PLATE DETAILS	SHEET
FILE:	TSC:		EJ3AG (04-28-2024)	SECT

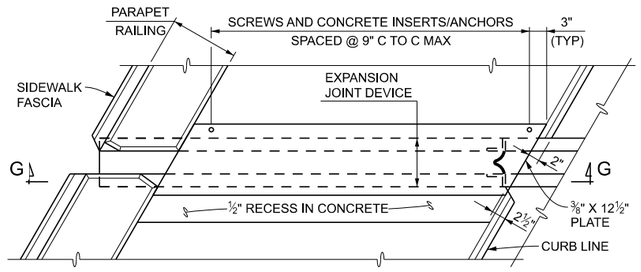


PLAN AT BARRIER RAILING TYPE 4 & TYPE 5

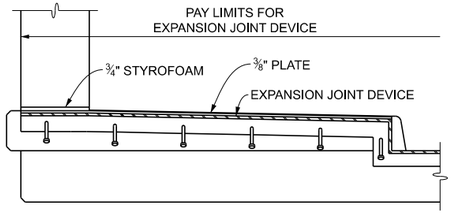


SECTION F - F

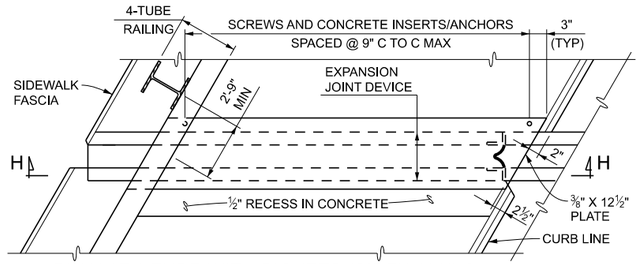
* FOR ANGLES OF CROSSING FROM 69° TO 45° INCLUSIVE, BEND ANCHORAGE UP 45° ALONG ℄ OF EXPANSION JOINT. FOR ANGLES OF CROSSING LESS THAN 45°, A SPECIAL ENDING MAY BE REQUIRED.



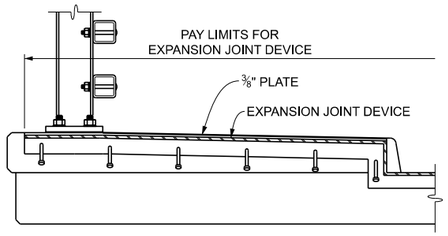
PLAN AT PARAPET RAILING WITH SIDEWALK



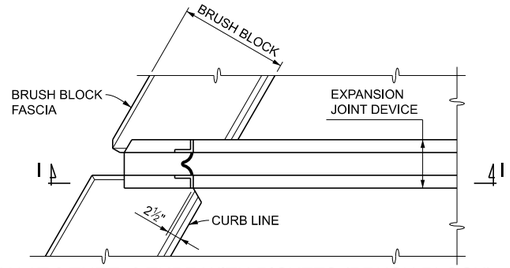
SECTION G - G



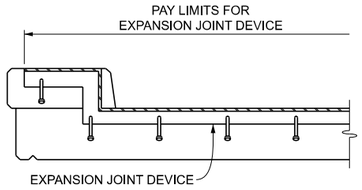
PLAN AT 3 TUBE WITH PICKETS (SIDEWALK) & 4 TUBE (PEDESTRAIN) STEEL RAILING



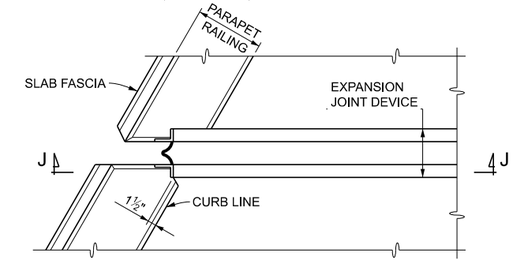
SECTION H - H



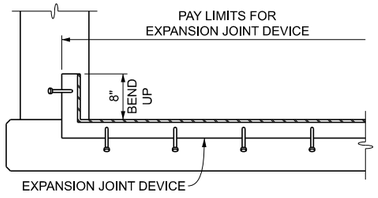
PLAN AT 2 TUBE, 3 TUBE WITH PICKETS (BRUSH BLOCK) & 4 TUBE (BICYCLE) STEEL RAILING



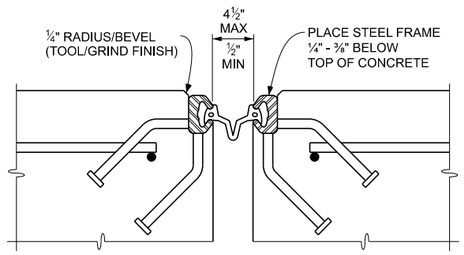
SECTION I - I



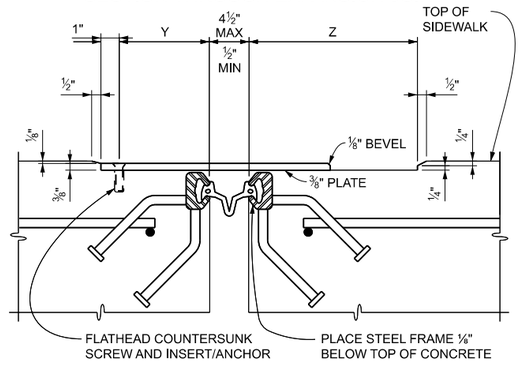
PLAN AT FLUSH MOUNT PARAPET RAILING



SECTION J - J



SECTION THROUGH EXPANSION JOINT

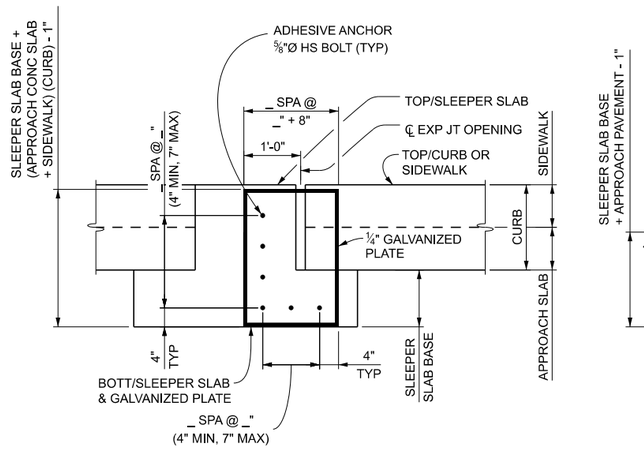


SECTION THROUGH EXPANSION JOINT AND COVER PLATE

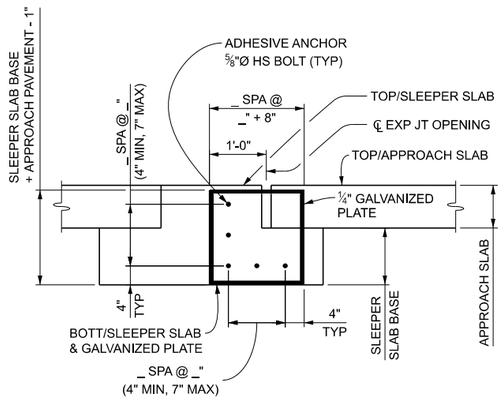
WABO STRIP SEAL TYPE M			
TOTAL TRAVEL *	PLATE WIDTH	Y	Z
< 1"	10"	3¾"	5¾"
1" - 2"	11"	3¾"	6¾"
2" - 3"	12"	3¾"	7¾"
> 3"	13"	3¾"	8¾"

ALL OTHER DEVICES			
TOTAL TRAVEL *	PLATE WIDTH	Y	Z
< 1½"	8"	2½"	5"
1½" - 3½"	10"	2½"	7"
> 3½"	12"	2½"	9"

* SEE TABLE FOR MINIMUM TOTAL TRAVEL ALONG CENTERLINE OF BRIDGE



END PLATE DETAIL
(SLEEPER SLAB WITH APPROACH SLAB AND SIDEWALK OR CURB)



END PLATE DETAIL
(SLEEPER SLAB WITH APPROACH SLAB/PAVEMENT)

NOTES:

JOINT TYPES

PROVIDE AN EXPANSION JOINT DEVICE THAT INCLUDES A CONTINUOUS NEOPRENE (OR EQUIVALENT) SEAL ACROSS THE DECK, UNLESS OTHERWISE NOTED, ANY OF THE DEVICES LISTED BELOW THAT ARE SUITABLE TO MEET THE TOTAL MOVEMENT NOTED ON THE PLANS ARE PERMITTED:

DEVICE	MANUFACTURER
WABO STRIP SEAL - TYPE M	WATSON-BOWMAN & ACME, INC.
WABO STRIP SEAL - TYPE A	WATSON-BOWMAN & ACME, INC.
STEELFLEX-SSA2	D.S. BROWN
STEELFLEX-SSCM	D.S. BROWN
ONFLEX 40 SS	STRUCTURAL RUBBER PRODUCTS CO.
ONFLEX 40 SSA	STRUCTURAL RUBBER PRODUCTS CO.

DETAILS AT CURBS OR BARRIERS

THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

COVER PLATE LENGTHS

COVER PLATES WITH A LENGTH GREATER THAN 11' MAY BE FABRICATED FROM TWO EQUAL LENGTH PIECES WITH A JOINT LOCATED AT THE CENTERLINE OF THE SIDEWALK OR PATH. PROVIDE A ¼" WIDE GAP AT THE JOINT THAT IS PARALLEL TO THE CENTERLINE OF THE SIDEWALK OR PATH.

EXPANSION JOINT DEVICE WELD

WELDED SPLICES TO BE PLACED AT THE CROWN OF THE ROADWAY, AT LONGITUDINAL CONSTRUCTION JOINTS OR AT TRANSVERSE BREAKS IN THE DECK.

NO WELDING IS PERMITTED WHERE THE FRAME RAIL COMES IN CONTACT WITH THE NEOPRENE SEAL.

ALTERNATE WELD DETAILS WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

STRUCTURE NUMBER	ANGLE OF CROSSING TO NEAREST 10°	LOCATION OF JOINT	MIN. TOT. TRAVEL ALONG CENTERLINE OF BRIDGE *	REQUIRED LENGTH OF EXPANSION JOINT DEVICE

QUANTITY		
ITEM	UNIT	AMOUNT
Expansion Joint Device	Ft	
Expansion Joint Device, Cover Plate	Ft	

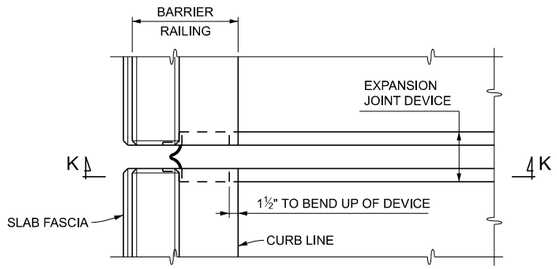
END PLATE TABLE	
STRUCTURE NUMBER	SIZE

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

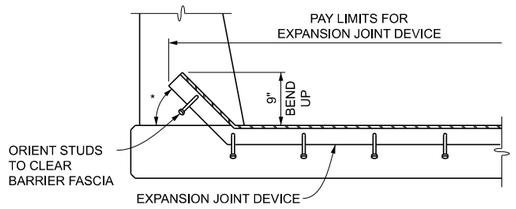
MDOT Michigan Department of Transportation

NO SCALE

	DATE:	CS:	EXPANSION JOINT DETAILS	DRAWING	SHEET
	DESIGN UNIT:	JN:	DEVICE, BARRIER, AND END PLATE DETAILS		SECT
FILE:	TSC:		EJ3AG (04-28-2024)		

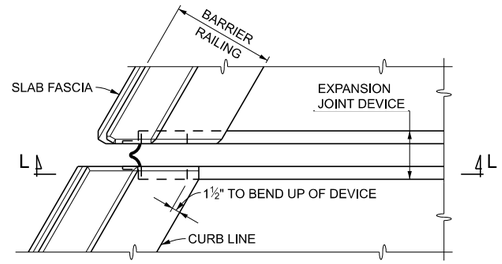


PLAN AT BARRIER RAILING TYPE 6 & TYPE 7

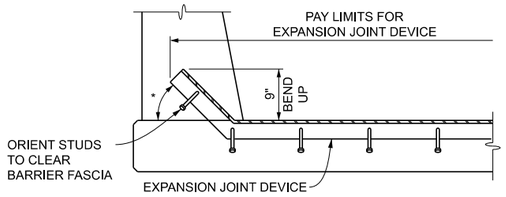


SECTION K - K

* BEND ANCHORAGE UP 45° ALONG ℄ OF EXPANSION JOINT.

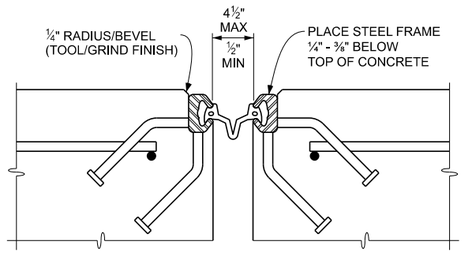


PLAN AT BARRIER RAILING TYPE 6 & TYPE 7



SECTION L - L

* FOR ANGLES OF CROSSING FROM 69° TO 45° INCLUSIVE, BEND ANCHORAGE UP 45° ALONG ℄ OF EXPANSION JOINT. FOR ANGLES OF CROSSING LESS THAN 45°, A SPECIAL ENDING MAY BE REQUIRED.



SECTION THROUGH EXPANSION JOINT

NOTES:

JOINT TYPES

PROVIDE AN EXPANSION JOINT DEVICE THAT INCLUDES A CONTINUOUS NEOPRENE (OR EQUIVALENT) SEAL ACROSS THE DECK. UNLESS OTHERWISE NOTED, ANY OF THE DEVICES LISTED BELOW THAT ARE SUITABLE TO MEET THE TOTAL MOVEMENT NOTED ON THE PLANS ARE PERMITTED:

DEVICE	MANUFACTURER
WABO STRIP SEAL - TYPE M	WATSON-BOWMAN & ACME, INC.
WABO STRIP SEAL - TYPE A	WATSON-BOWMAN & ACME, INC.
STEELFLEX-SSA2	D.S. BROWN
STEELFLEX-SSCM	D.S. BROWN
ONFLEX 40 SS	STRUCTURAL RUBBER PRODUCTS CO.
ONFLEX 40 SSA	STRUCTURAL RUBBER PRODUCTS CO.

DETAILS AT CURBS OR BARRIERS

THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

COVER PLATE LENGTHS

COVER PLATES WITH A LENGTH GREATER THAN 11' MAY BE FABRICATED FROM TWO EQUAL LENGTH PIECES WITH A JOINT LOCATED AT THE CENTERLINE OF THE SIDEWALK OR PATH. PROVIDE A ¼" WIDE GAP AT THE JOINT THAT IS PARALLEL TO THE CENTERLINE OF THE SIDEWALK OR PATH.

EXPANSION JOINT DEVICE WELD

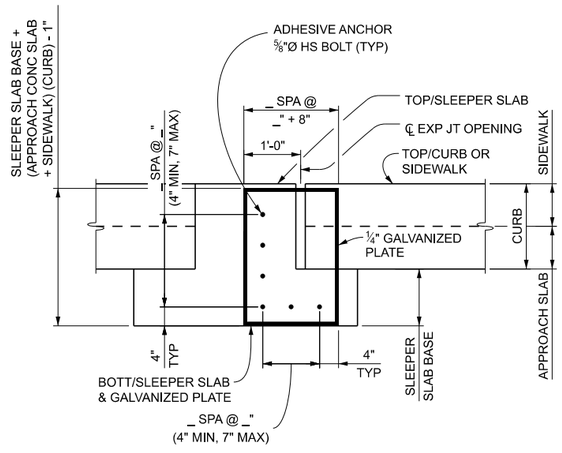
WELDED SPLICES TO BE PLACED AT THE CROWN OF THE ROADWAY, AT LONGITUDINAL CONSTRUCTION JOINTS OR AT TRANSVERSE BREAKS IN THE DECK.

NO WELDING IS PERMITTED WHERE THE FRAME RAIL COMES IN CONTACT WITH THE NEOPRENE SEAL.

ALTERNATE WELD DETAILS WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

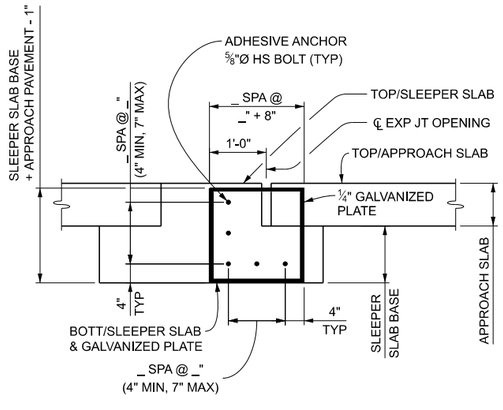
STRUCTURE NUMBER	ANGLE OF CROSSING TO NEAREST 10°	LOCATION OF JOINT	MIN. TOT. TRAVEL ALONG CENTERLINE OF BRIDGE *	REQUIRED LENGTH OF EXPANSION JOINT DEVICE

QUANTITY		
ITEM	UNIT	AMOUNT
Expansion Joint Device	Ft	
Expansion Joint Device, Cover Plate	Ft	



END PLATE DETAIL

(SLEEPER SLAB WITH APPROACH SLAB AND SIDEWALK OR CURB)



END PLATE DETAIL

(SLEEPER SLAB WITH APPROACH SLAB/PAVEMENT)

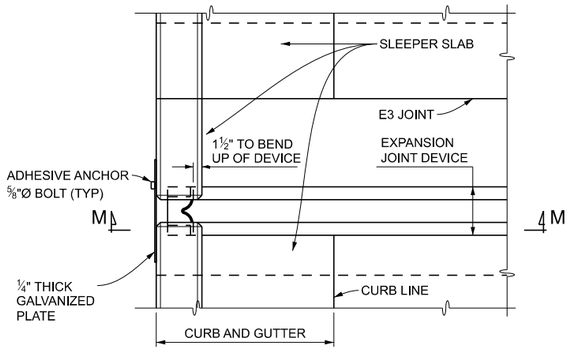
END PLATE TABLE	
STRUCTURE NUMBER	SIZE

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

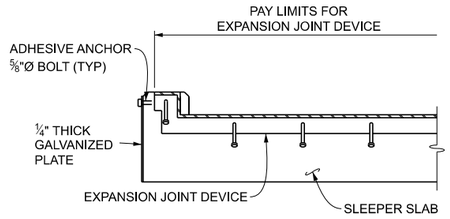
MDOT Michigan Department of Transportation

NO SCALE

	DATE:	CS:	EXPANSION JOINT DETAILS	DRAWING	SHEET
	DESIGN UNIT:	JN:	DEVICE, BARRIER, AND END PLATE DETAILS		SECT
FILE:	TSC:		EJ3AG (04-28-2024)		

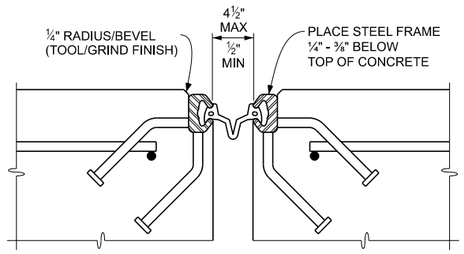


PLAN AT SLEEPER SLAB WITH CURB & GUTTER

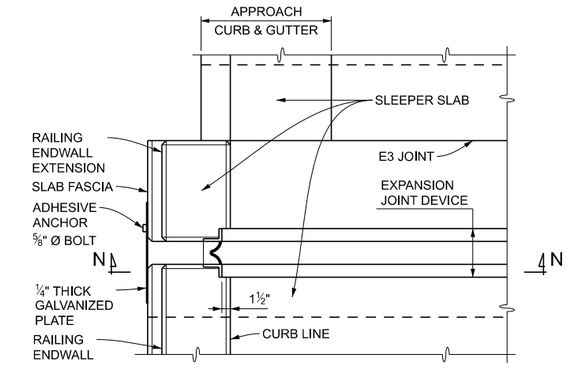


SECTION M - M

(MODIFY CURB HEIGHT/DETAIL AS NECESSARY)

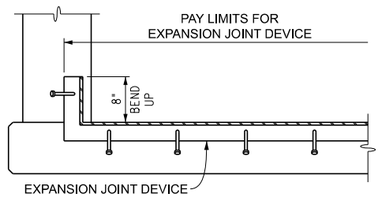


SECTION THROUGH EXPANSION JOINT

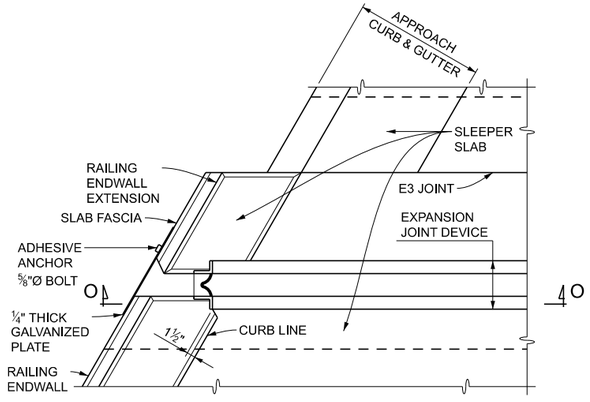


PLAN AT SLEEPER SLAB WITH RAILING ENDWALL

(RAILING ENDING AT SLEEPER SLAB)

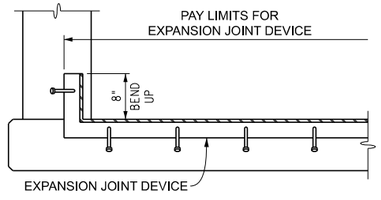


SECTION N - N

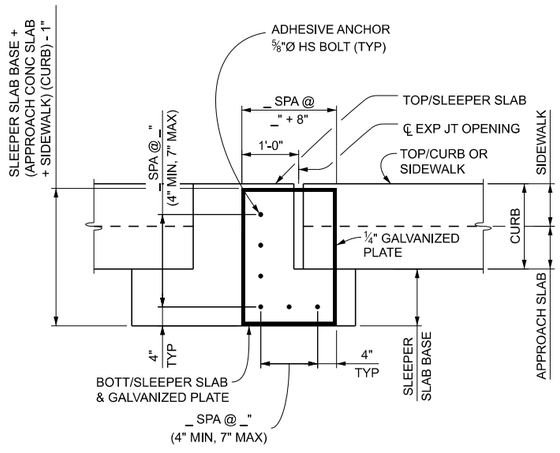


PLAN AT SLEEPER SLAB WITH RAILING ENDWALL

(RAILING ENDING AT SLEEPER SLAB)

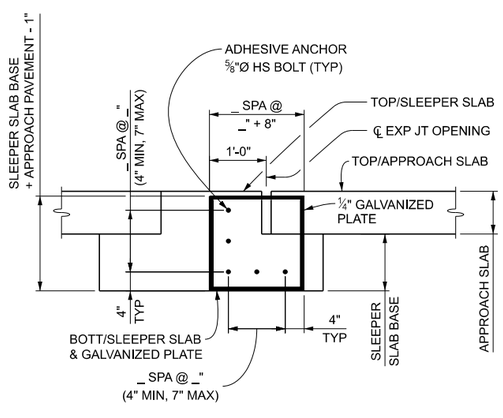


SECTION O - O



END PLATE DETAIL

(SLEEPER SLAB WITH APPROACH SLAB AND SIDEWALK OR CURB)



END PLATE DETAIL

(SLEEPER SLAB WITH APPROACH SLAB/PAVEMENT)

NOTES:

JOINT TYPES

PROVIDE AN EXPANSION JOINT DEVICE THAT INCLUDES A CONTINUOUS NEOPRENE (OR EQUIVALENT) SEAL ACROSS THE DECK, UNLESS OTHERWISE NOTED, ANY OF THE DEVICES LISTED BELOW THAT ARE SUITABLE TO MEET THE TOTAL MOVEMENT NOTED ON THE PLANS ARE PERMITTED:

DEVICE	MANUFACTURER
WABO STRIP SEAL - TYPE M	WATSON-BOWMAN & ACME, INC.
WABO STRIP SEAL - TYPE A	WATSON-BOWMAN & ACME, INC.
STEELFLEX-SSA2	D.S. BROWN
STEELFLEX-SSCM	D.S. BROWN
ONFLEX 40 SS	STRUCTURAL RUBBER PRODUCTS CO.
ONFLEX 40 SSA	STRUCTURAL RUBBER PRODUCTS CO.

DETAILS AT CURBS OR BARRIERS

THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

COVER PLATE LENGTHS

COVER PLATES WITH A LENGTH GREATER THAN 11' MAY BE FABRICATED FROM TWO EQUAL LENGTH PIECES WITH A JOINT LOCATED AT THE CENTERLINE OF THE SIDEWALK OR PATH. PROVIDE A ¼" WIDE GAP AT THE JOINT THAT IS PARALLEL TO THE CENTERLINE OF THE SIDEWALK OR PATH.

EXPANSION JOINT DEVICE WELD

WELDED SPLICES TO BE PLACED AT THE CROWN OF THE ROADWAY, AT LONGITUDINAL CONSTRUCTION JOINTS OR AT TRANSVERSE BREAKS IN THE DECK.

NO WELDING IS PERMITTED WHERE THE FRAME RAIL COMES IN CONTACT WITH THE NEOPRENE SEAL.

ALTERNATE WELD DETAILS WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

STRUCTURE NUMBER	ANGLE OF CROSSING TO NEAREST 10°	LOCATION OF JOINT	MIN. TOT. TRAVEL ALONG CENTERLINE OF BRIDGE *	REQUIRED LENGTH OF EXPANSION JOINT DEVICE

QUANTITY		
ITEM	UNIT	AMOUNT
Expansion Joint Device	Ft	
Expansion Joint Device, Cover Plate	Ft	

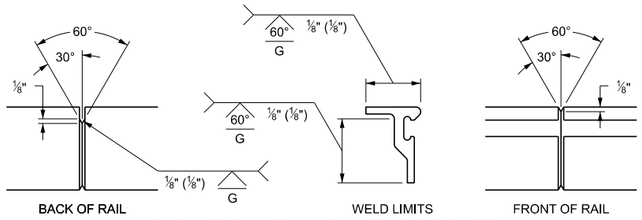
END PLATE TABLE	
STRUCTURE NUMBER	SIZE

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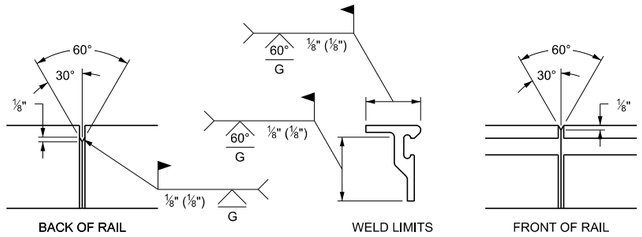
MDOT Michigan Department of Transportation

NO SCALE

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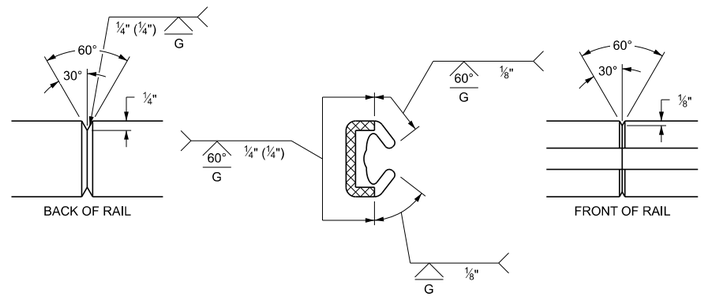


EXPANSION JOINT RAIL SHOP SPLICE

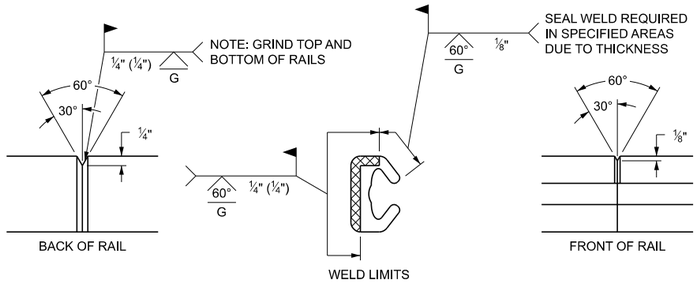


EXPANSION JOINT RAIL FIELD SPLICE

DS BROWN STEELFLEX - SSCM

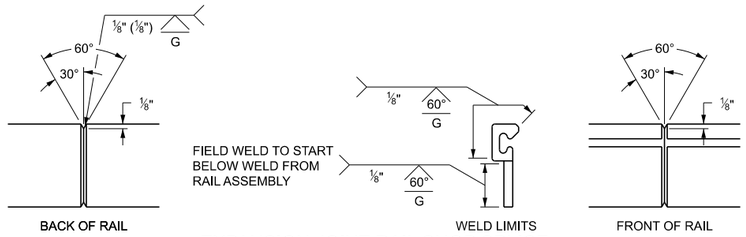


EXPANSION JOINT RAIL SHOP SPLICE

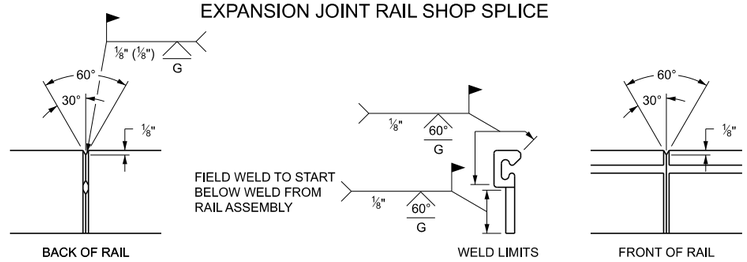


EXPANSION JOINT RAIL FIELD SPLICE

DS BROWN STEELFLEX - SSA2

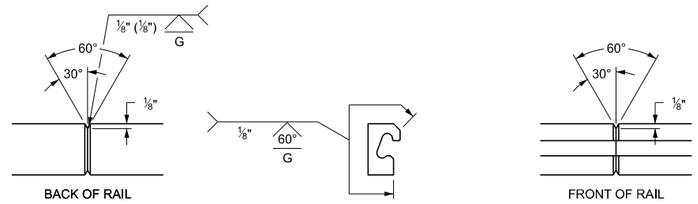


EXPANSION JOINT RAIL SHOP SPLICE

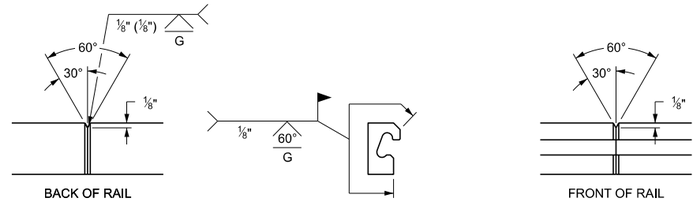


EXPANSION JOINT RAIL FIELD SPLICE

STRUCTURAL RUBBER PRODUCTS

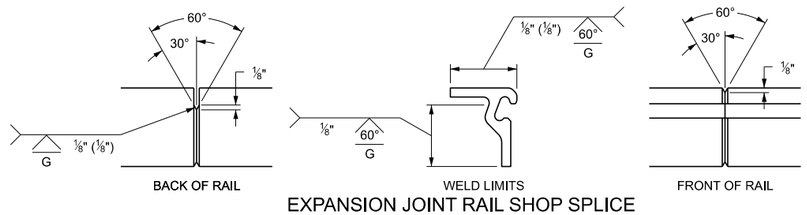


EXPANSION JOINT RAIL SHOP SPLICE

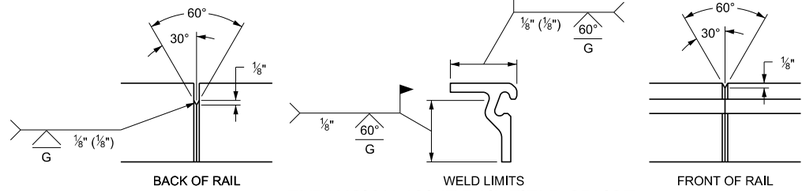


EXPANSION JOINT RAIL FIELD SPLICE

WATSON BOWMAN ACME TYPE A



EXPANSION JOINT RAIL SHOP SPLICE



EXPANSION JOINT RAIL FIELD SPLICE

WATSON BOWMAN ACME TYPE M

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EXPANSION JOINT DETAILS	DRAWING	SHEET
RAIL SPLICE DETAILS		SECT
EJ3AG (04-28-2025)		