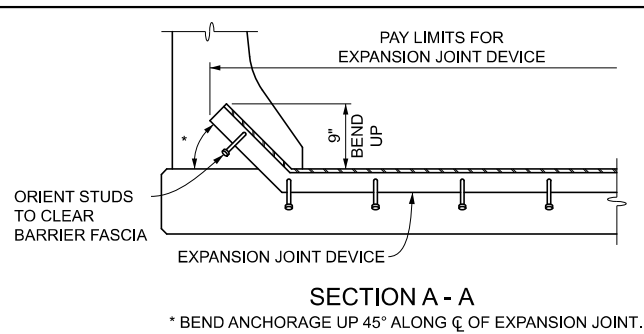
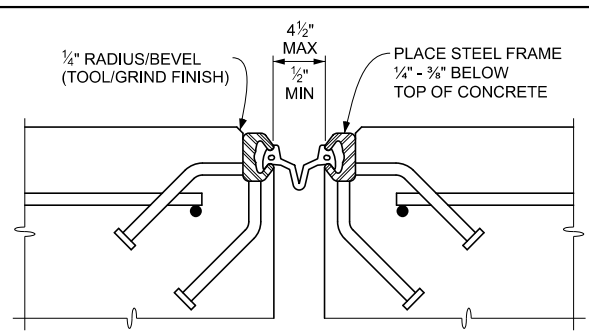


PLAN AT BARRIER RAILING TYPE 4 & TYPE 5



SECTION A - A

\* BEND ANCHORAGE UP 45° ALONG C OF EXPANSION JOINT.



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.
STEEFLFLEX-SSA2	D.S. BROWN
STEEFLFLEX-SSCM	D.S. BROWN
ONFLEX 40 SS	STRUCTURAL RUBBER PRODUCTS CO.
ONFLEX 40 SSA	STRUCTURAL RUBBER PRODUCTS CO.

**DETAILS AT CURBS OR BARRIERS**

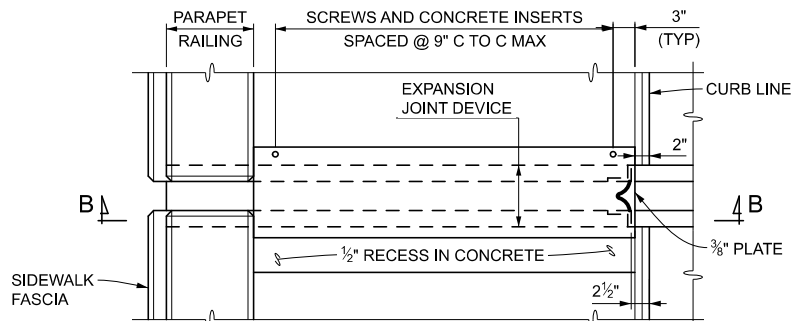
THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

**COVER PLATE LENGTHS**

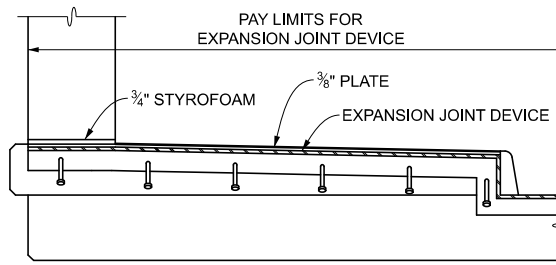
COVER PLATES WITH A LENGTH GREATER THAN 11' MAY BE FABRICATED FROM TWO EQUAL LENGTH PIECES WITH A JOINT LOCATED AT THE CENTERLINE OF THE SIDEWALK OR PATH. PROVIDE A 1/4" WIDE GAP AT THE JOINT THAT IS PARALLEL TO THE CENTERLINE OF THE SIDEWALK OR PATH.

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

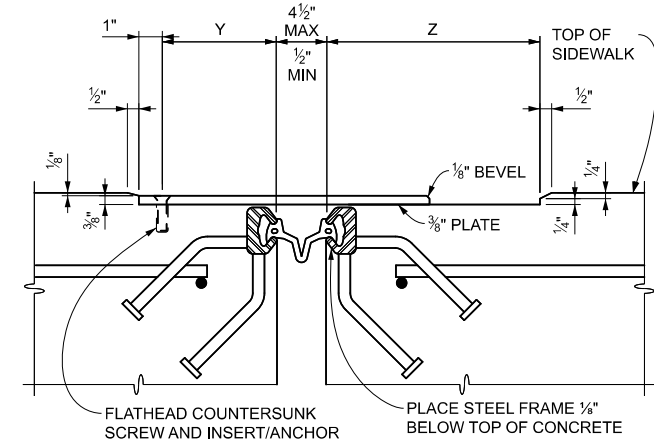
ITEM	QUANTITY	UNIT	AMOUNT
Expansion Joint Device		Ft	
Expansion Joint Device, Cover Plate		Ft	



PLAN AT PARAPET RAILING WITH SIDEWALK



SECTION B - B

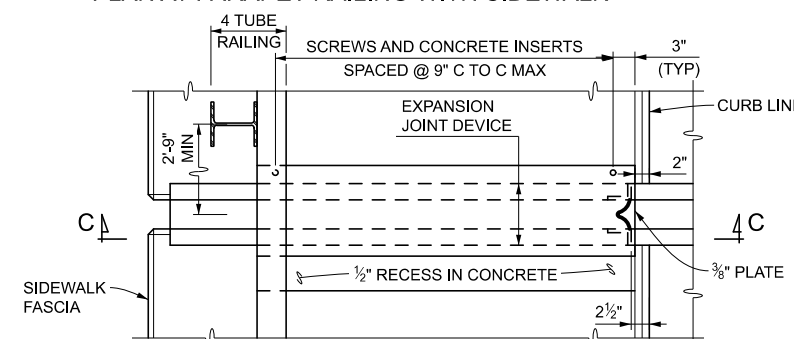


SECTION THROUGH EXPANSION JOINT AND COVER PLATE

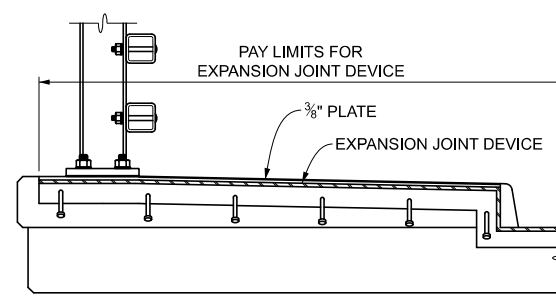
WABO STRIP SEAL TYPE M			
TOTAL TRAVEL *	PLATE WIDTH	Y	Z
< 1"	10"	3 3/4"	5 3/4"
1" - 2"	11"	3 3/4"	6 3/4"
2" - 3"	12"	3 3/4"	7 3/4"
> 3"	13"	3 3/4"	8 3/4"

ALL OTHER DEVICES			
TOTAL TRAVEL *	PLATE WIDTH	Y	Z
< 1 1/2"	8"	2 1/2"	5"
1 1/2" - 3 1/2"	10"	2 1/2"	7"
> 3 1/2"	12"	2 1/2"	9"

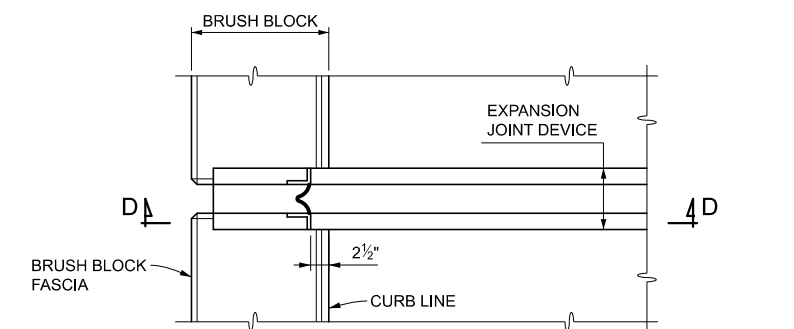
\* SEE TABLE FOR MINIMUM TOTAL TRAVEL ALONG CENTERLINE OF BRIDGE



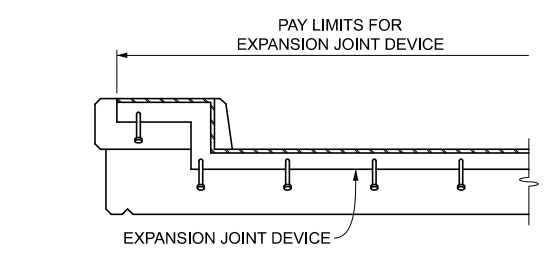
PLAN AT 3 TUBE WITH PICKETS (SIDEWALK) & 4 TUBE (PEDESTRAIN) STEEL RAILING



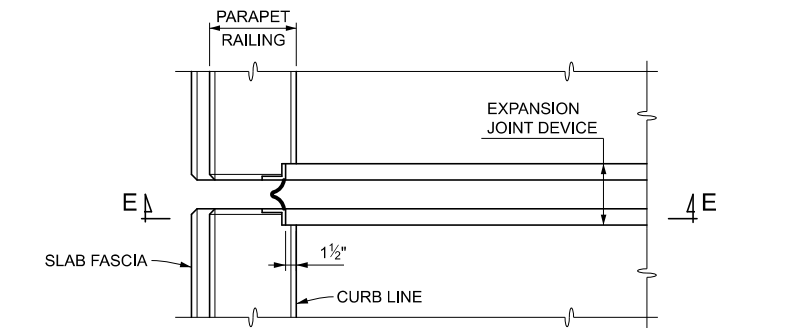
SECTION C - C



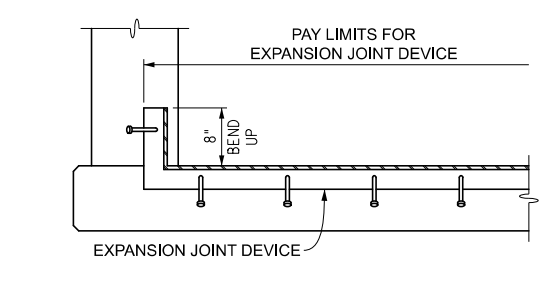
PLAN AT 2 TUBE, 3 TUBE WITH PICKETS (BRUSH BLOCK) & 4 TUBE (BICYCLE) STEEL RAILING



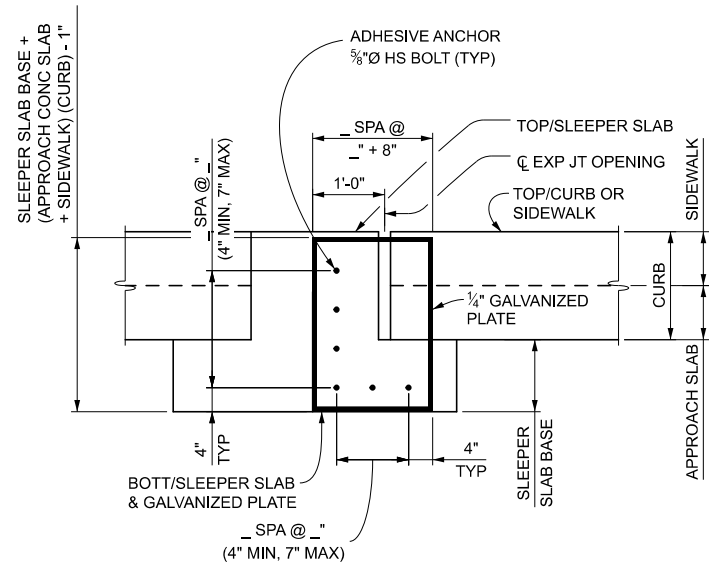
SECTION D - D



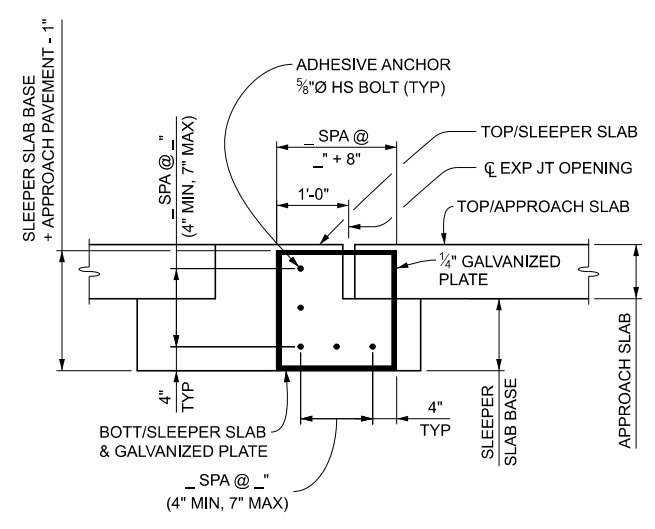
PLAN AT FLUSH MOUNT PARAPET RAILING



SECTION E - E



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

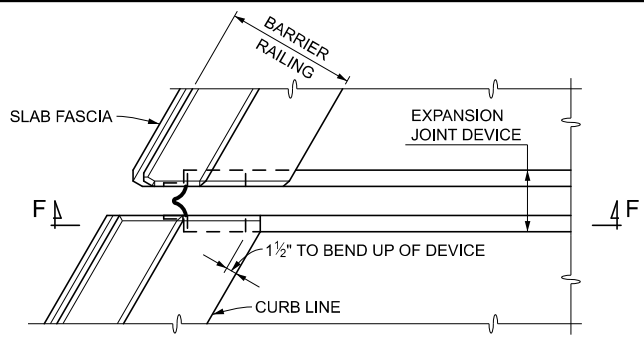
FINAL ROW PLAN REVISIONS				SUBMITTAL DATE:			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



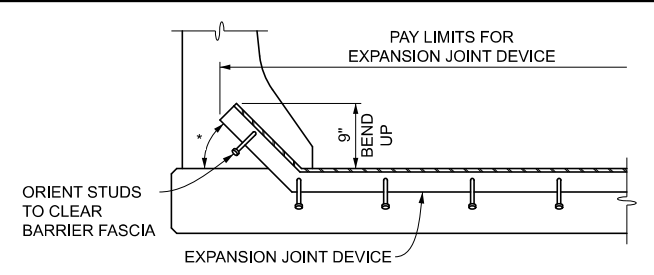
NO SCALE

DATE:	CS:
DESIGN UNIT:	JN:
TSC:	
FILE:	

EXPANSION JOINT DETAILS		DRAWING	SHEET
EJ3AF (01-23-2023)			

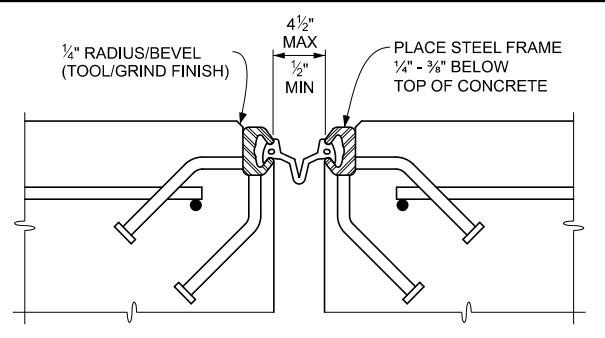


PLAN AT BARRIER RAILING TYPE 4 & TYPE 5

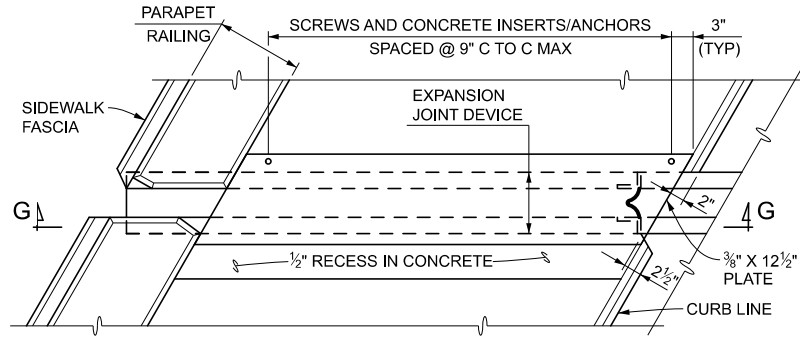


SECTION F - F

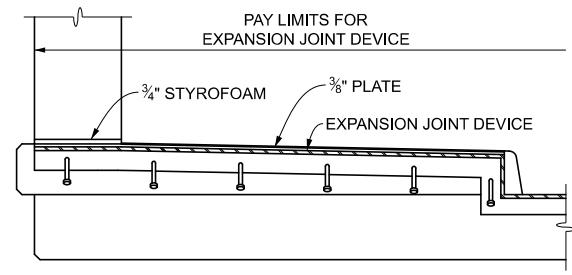
\* FOR ANGLES OF CROSSING FROM 69° TO 45° INCLUSIVE, BEND ANCHORAGE UP 45° ALONG C OF EXPANSION JOINT. FOR ANGLES OF CROSSING LESS THAN 45°, A SPECIAL ENDING MAY BE REQUIRED.



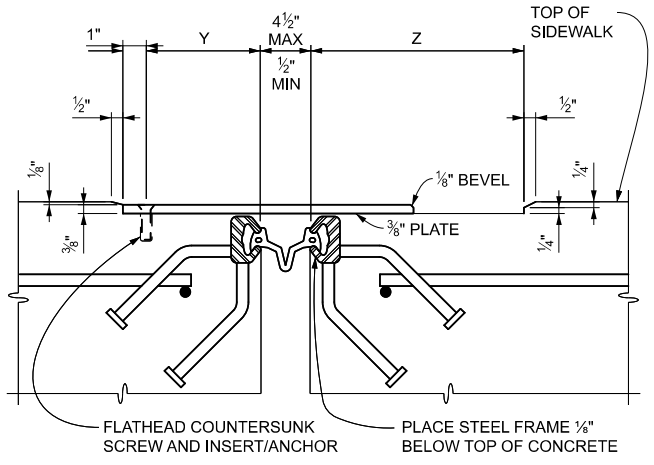
SECTION THROUGH EXPANSION JOINT



PLAN AT PARAPET RAILING WITH SIDEWALK



SECTION G - G

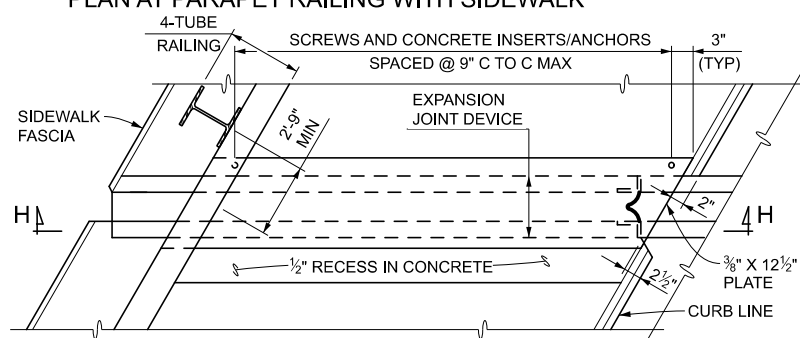


SECTION THROUGH EXPANSION JOINT AND COVER PLATE

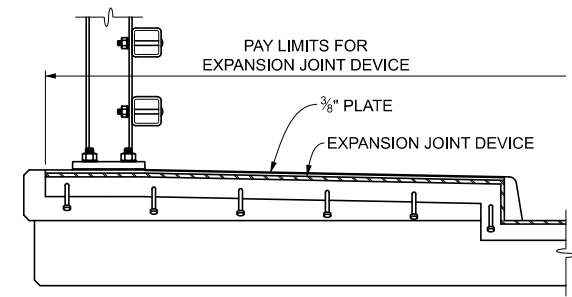
WABO STRIP SEAL TYPE M			
TOTAL TRAVEL *	PLATE WIDTH	Y	Z
< 1"	10"	3 3/4"	5 3/4"
1" - 2"	11"	3 3/4"	6 3/4"
2" - 3"	12"	3 3/4"	7 3/4"
> 3"	13"	3 3/4"	8 3/4"

ALL OTHER DEVICES			
TOTAL TRAVEL *	PLATE WIDTH	Y	Z
< 1 1/2"	8"	2 1/2"	5"
1 1/2" - 3 1/2"	10"	2 1/2"	7"
> 3 1/2"	12"	2 1/2"	9"

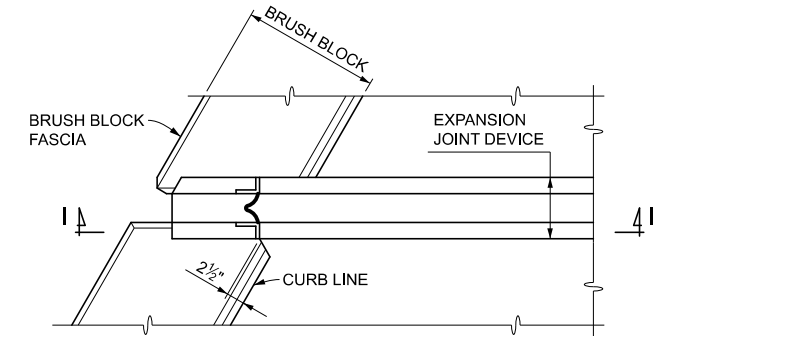
\* SEE TABLE FOR MINIMUM TOTAL TRAVEL ALONG CENTERLINE OF BRIDGE



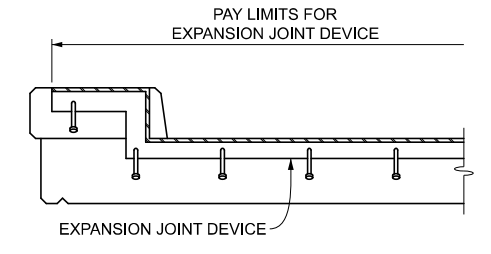
PLAN AT 3 TUBE WITH PICKETS (SIDEWALK) & 4 TUBE (PEDESTRIAN) STEEL RAILING



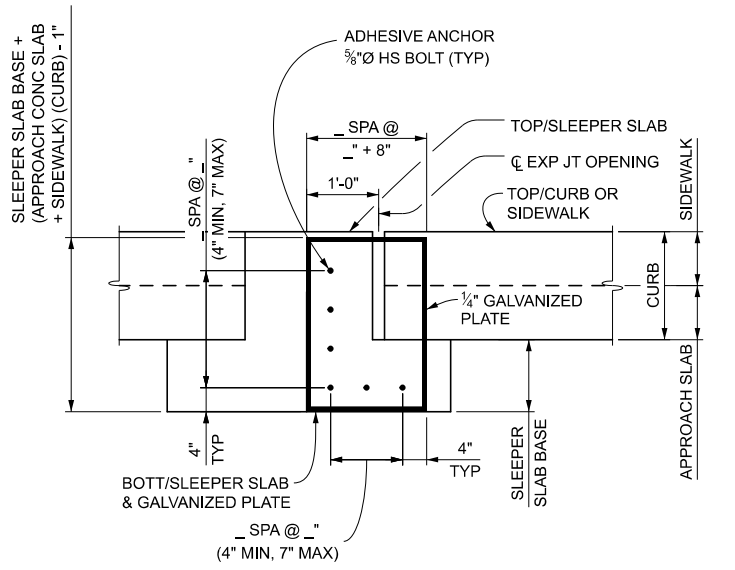
SECTION H - H



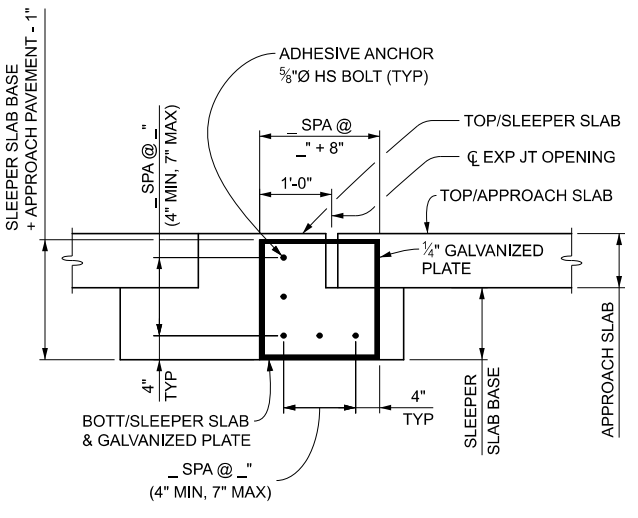
PLAN AT 2 TUBE, 3 TUBE WITH PICKETS (BRUSH BLOCK) & 4 TUBE (BICYCLE) STEEL RAILING



SECTION I - I



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.
STEELEX-SSA2	D.S. BROWN
STEELEX-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 1/4" WIDE GAP AT THE JOINT THAT IS PARALLEL TO THE CENTERLINE OF THE SIDEWALK OR PATH.

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

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

END PLATE TABLE	
STRUCTURE NUMBER	SIZE

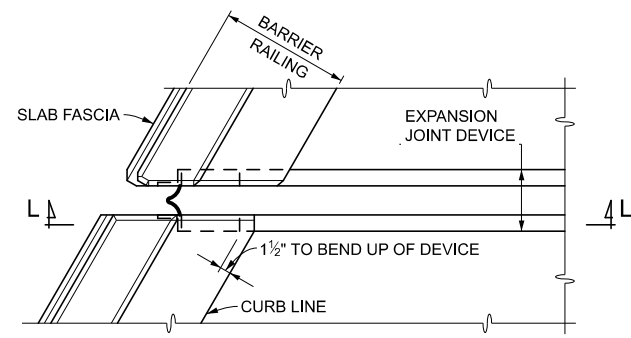
FINAL ROW PLAN REVISIONS				SUBMITTAL DATE:			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

**MDOT**  
Michigan Department of Transportation

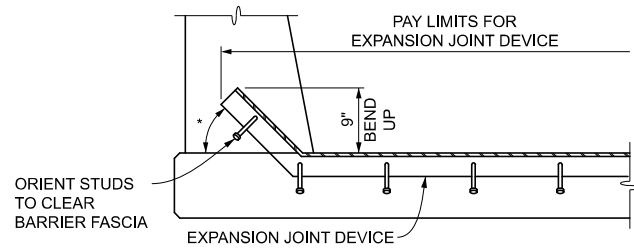
**NO SCALE**

DATE:	CS:
DESIGN UNIT:	JN:
TSC:	

EXPANSION JOINT DETAILS		DRAWING	SHEET
EJ3AF (01-23-2023)			
FILE:			

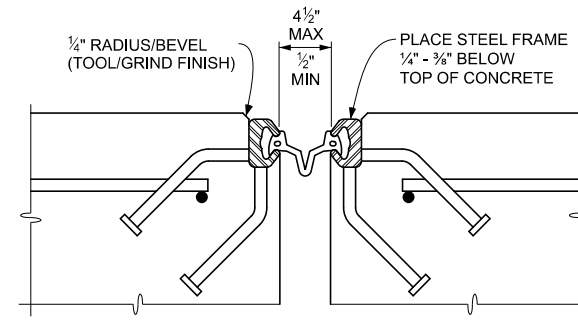


PLAN AT BARRIER RAILING TYPE 6 & TYPE 7

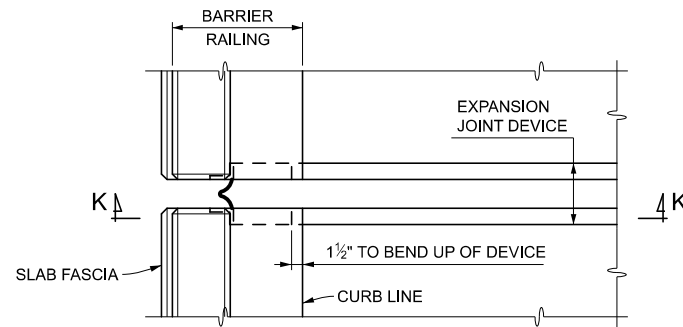


SECTION L - L

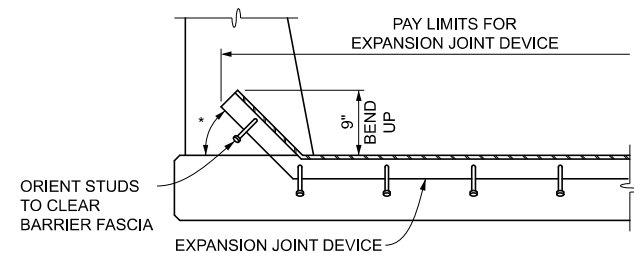
\* FOR ANGLES OF CROSSING FROM 69° TO 45° INCLUSIVE, BEND ANCHORAGE UP 45° ALONG C<sub>L</sub> OF EXPANSION JOINT. FOR ANGLES OF CROSSING LESS THAN 45°, A SPECIAL ENDING MAY BE REQUIRED.



SECTION THROUGH EXPANSION JOINT



PLAN AT BARRIER RAILING TYPE 6 & TYPE 7



SECTION K - K

\* BEND ANCHORAGE UP 45° ALONG C<sub>L</sub> OF 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**

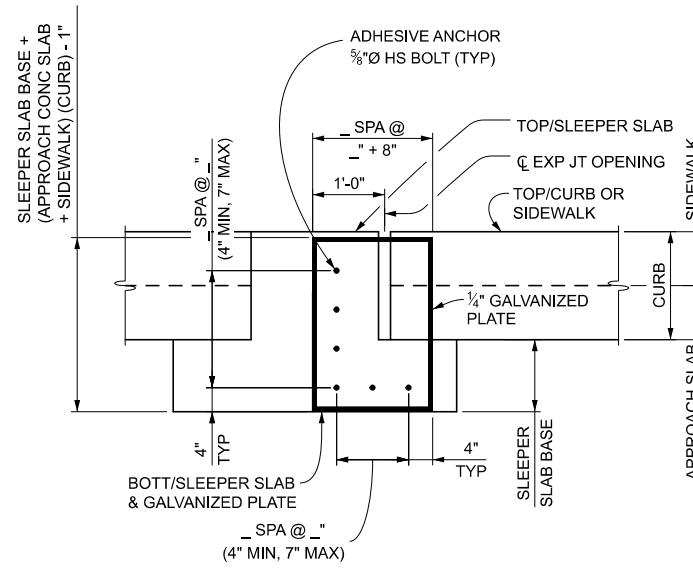
THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

**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 1/4" WIDE GAP AT THE JOINT THAT IS PARALLEL TO THE CENTERLINE OF THE SIDEWALK OR PATH.

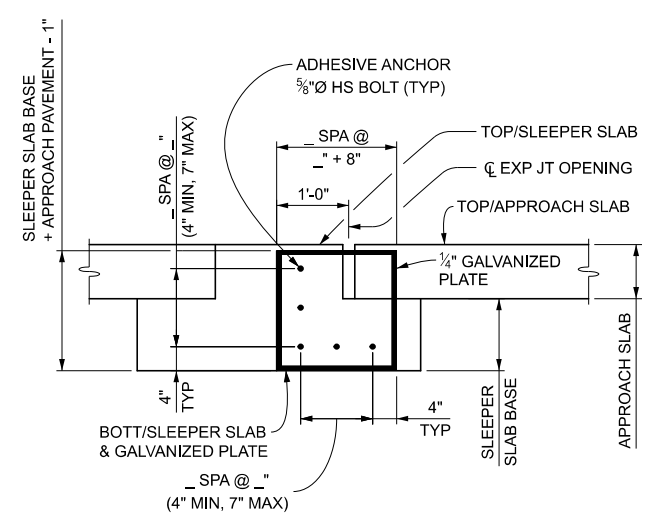
STRUCTURE NUMBER	ANGLE OF CROSSING TO NEAREST 10°	LOCATION OF JOINT	MIN. TOT. TRAVEL ALONG CENTERLINE OF BRIDGE *	REQUIRED LENGTH OF EXPANSION JOINT DEVICE

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

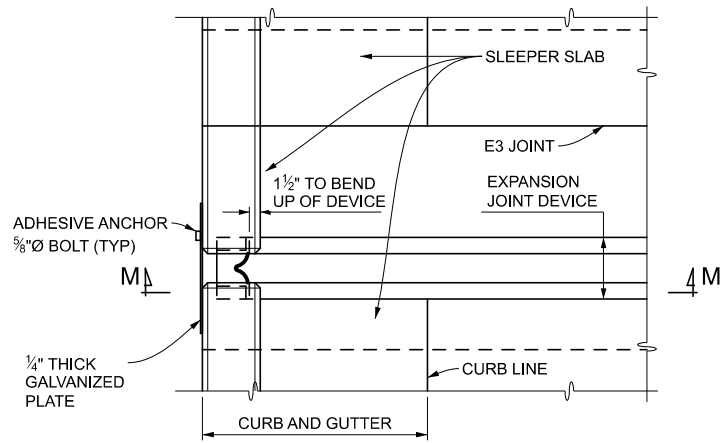
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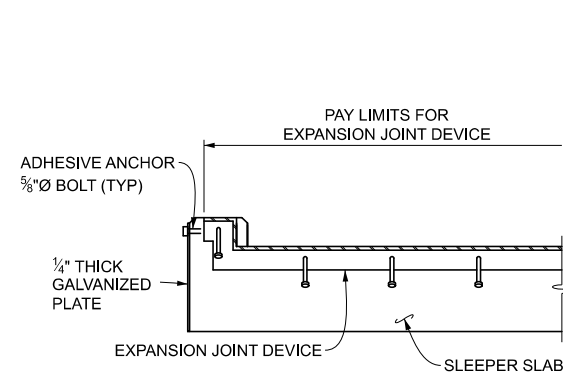
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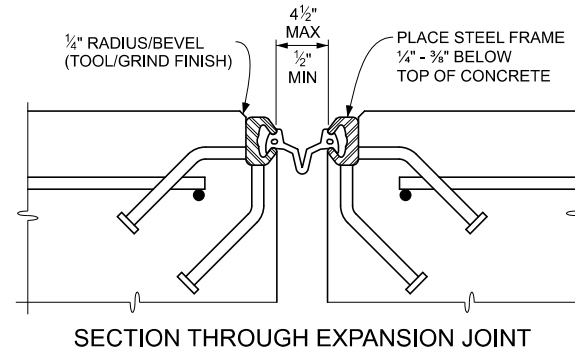
EXPANSION JOINT DETAILS		DRAWING	SHEET
EJ3AF (01-23-2023)			
			SECT



PLAN AT SLEEPER SLAB WITH CURB & GUTTER



SECTION M - M  
(MODIFY CURB HEIGHT/DETAIL AS NECESSARY)



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.
STEELEX-SSA2	D.S. BROWN
STEELEX-SSCM	D.S. BROWN
ONFLEX 40 SS	STRUCTURAL RUBBER PRODUCTS CO.
ONFLEX 40 SSA	STRUCTURAL RUBBER PRODUCTS CO.

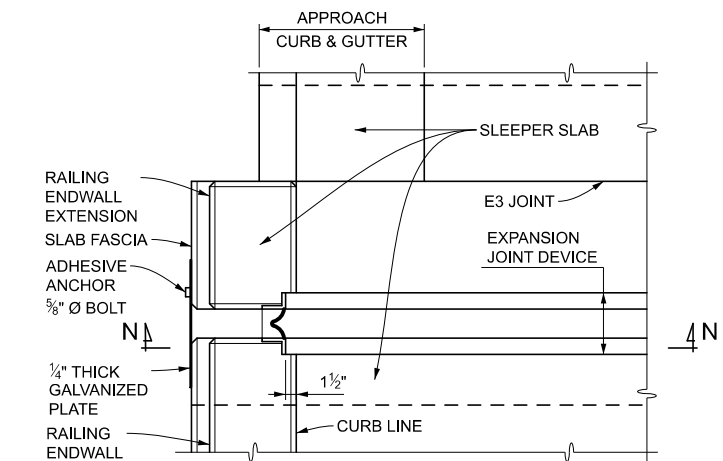
**DETAILS AT CURBS OR BARRIERS**

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.

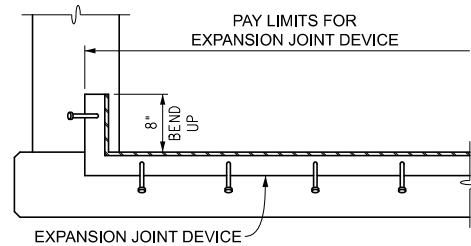
**COVER PLATE LENGTHS**

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 1/4" WIDE GAP AT THE JOINT THAT IS PARALLEL TO THE CENTERLINE OF THE SIDEWALK OR PATH.

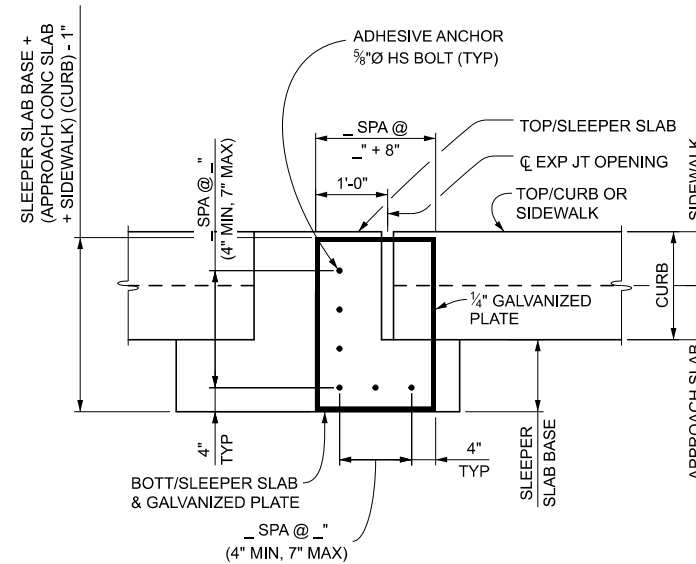
STRUCTURE NUMBER	ANGLE OF CROSSING TO NEAREST 10°	LOCATION OF JOINT	MIN. TOT. TRAVEL ALONG CENTERLINE OF BRIDGE *	REQUIRED LENGTH OF EXPANSION JOINT DEVICE



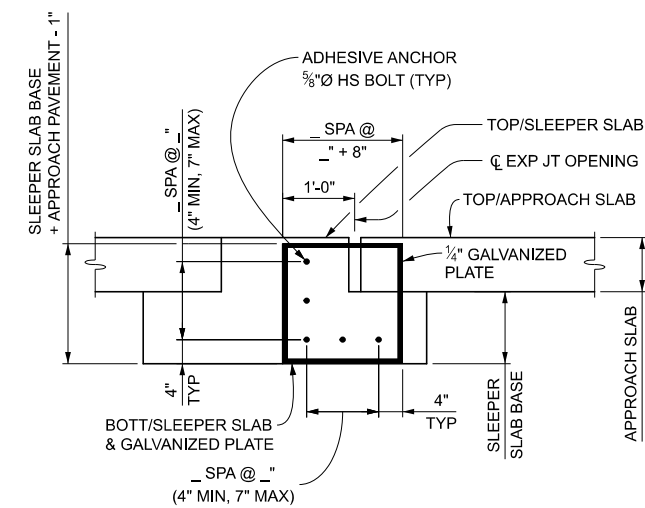
PLAN AT SLEEPER SLAB WITH RAILING ENDWALL  
(RAILING ENDING AT SLEEPER SLAB)



SECTION N - N



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



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

QUANTITY		UNIT	AMOUNT
ITEM			
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



NO SCALE

DATE:	CS:
DESIGN UNIT:	JN:
TSC:	
FILE:	

EXPANSION JOINT DETAILS	
EJ3AF (01-23-2023)	

DRAWING	SHEET
	SECT