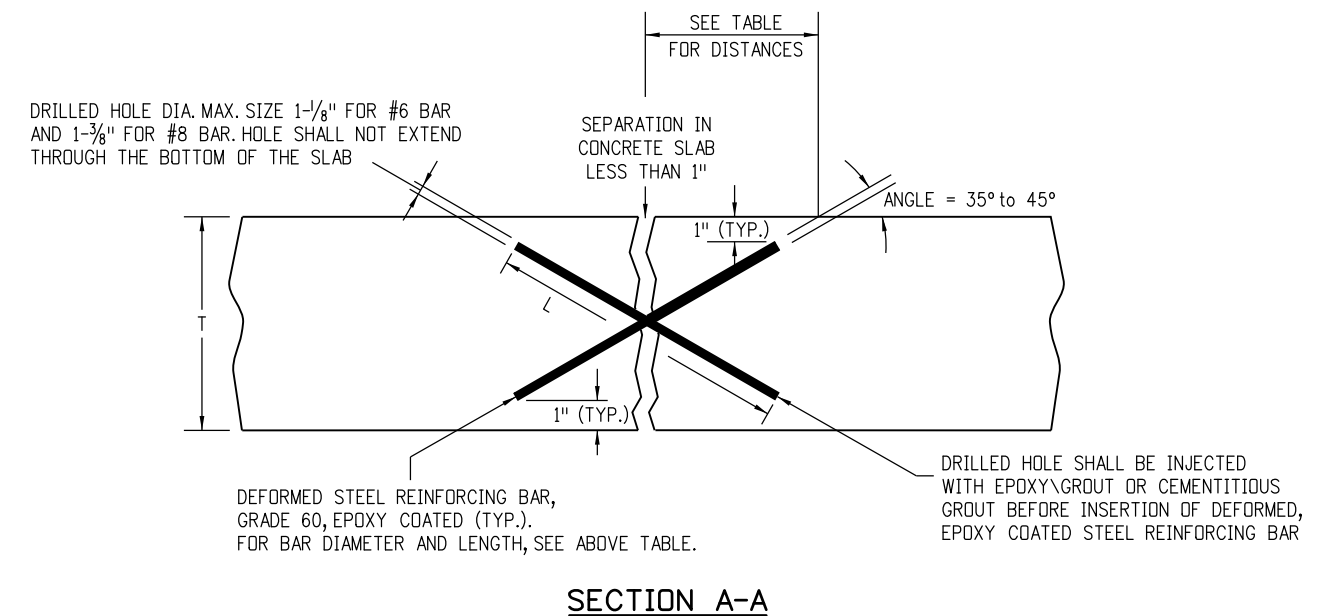
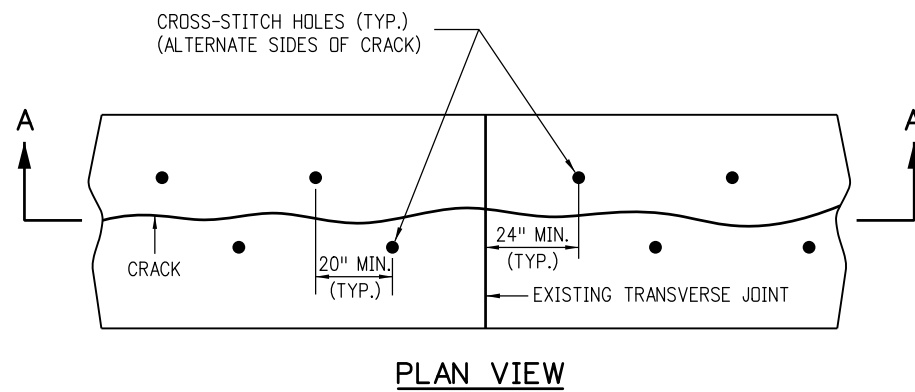


ANGLE	SLAB THICKNESS (T) (IN.)							
	8	9	10	11	12	13	14	15≥
	DISTANCE TO HOLE (IN.)							
35	5.75	6.50	7.25	7.75	8.50	-	-	-
40	-	-	-	6.50	7.25	7.75	8.25	-
45	-	-	-	-	6.00	6.50	7.00	7.50
	LENGTH OF BAR (L) (IN.)							
35	9.50	11.00	12.50	14.50	16.00	-	-	-
40	-	-	-	12.50	14.00	16.00	18.50	-
45	-	-	-	-	12.00	14.00	16.50	18.00
	EPOXY COATED BAR NUMBER (#)							
	6	6	6	6	6	8	8	8

**GENERAL NOTES**

1. THERE SHALL BE A MINIMUM 1 INCH GAP FROM THE ENDS OF THE DEFORMED REBARS TO THE TOP OR BOTTOM OF THE CONCRETE SLAB.
2. DO NOT DRILL HOLE COMPLETELY THROUGH THE SLAB, SO THAT THE EPOXY/GROUT WILL BE CONTAINED IN THE HOLE WHILE BACK FILLING.

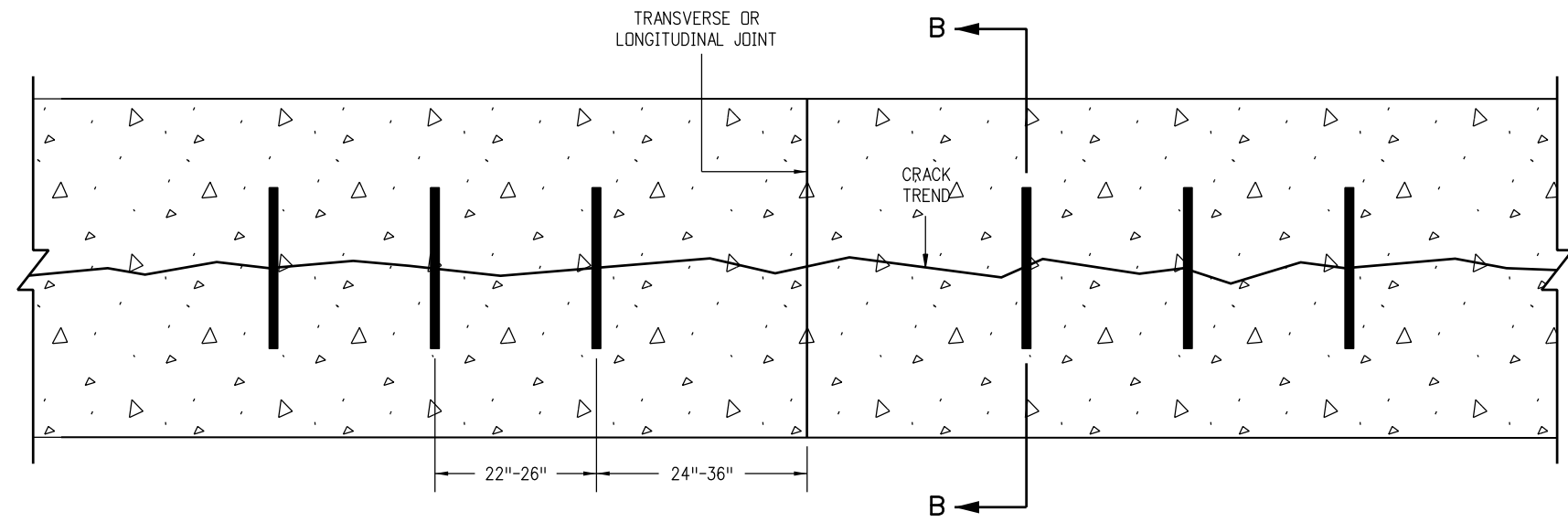
**CROSS STITCHING BAR DIMENSIONS AND LOCATION OF DRILL HOLES**



**CROSS STITCHING DETAILS**

FOR PCCP 8" OR MORE IN THICKNESS

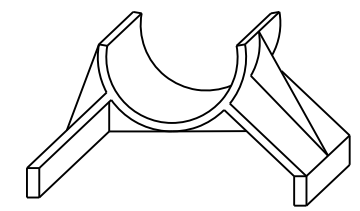
<b>Computer File Information</b>		<b>Sheet Revisions</b>		<b>Colorado Department of Transportation</b>  2829 West Howard Place CDDT HQ, 3rd Floor Denver, CO 80204 Phone: 303-757-9021 FAX: 303-757-9868 <b>Project Development Branch</b>	<b>CONCRETE PAVEMENT CRACK REPAIR</b>	<b>STANDARD PLAN NO.</b>	
Creation Date: 10/07/19		Date:	Comments			M-412-2	
Designer Initials: JBK		10/07/19	Created this new M-Standard.			Standard Sheet No. 1 of 4	
Last Modification Date: 10/07/19						Project Sheet Number:	
Detailer Initials: LTA						Issued by the Project Development Branch: July 31, 2019	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English				<b>JBK</b>			



PLAN VIEW

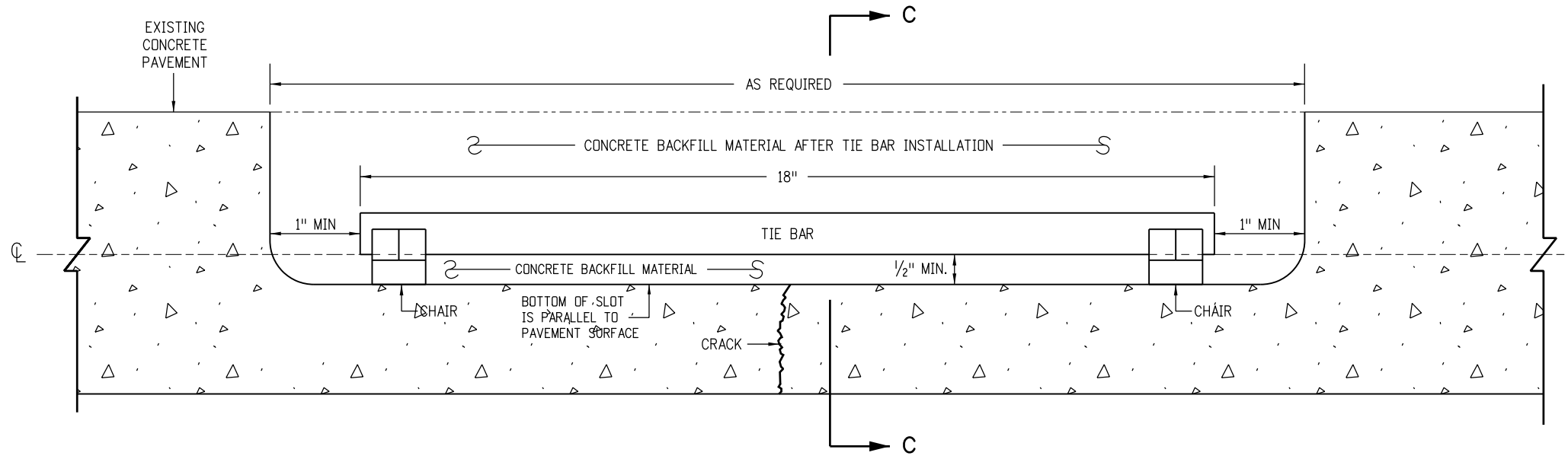
PAVEMENT THICKNESS (T)	TIE BAR SIZE
T ≤ 6 INCHES	#4
6 INCHES < T < 8 INCHES ON UNBOUNDED BASE	#5
6 INCHES < T < 8 INCHES ON LIME TREATED, ASPHALT OR CEMENT TREATED, MILLED ASPHALT OR RECYCLED ASPHALT BASES	#6

TIE BARS SHOULD BE PLACED APPROXIMATELY PERPENDICULAR TO THE GENERAL TREND OF THE CRACK.

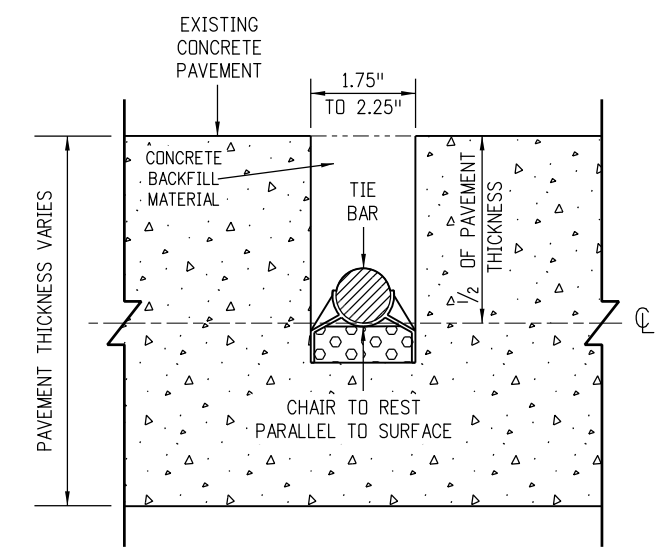


TYPICAL CHAIR DETAIL

ONE REQUIRED UNDER EACH END OF TIE BAR



SECTION B-B



SECTION C-C

SLOT STITCHING DETAILS

FOR PCCP 8" OR MORE IN THICKNESS

Computer File Information	
Creation Date: 10/07/19	
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Last Modification Date: 10/07/19	(R-X)
Detailer Initials: LTA	(R-X)
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)

Sheet Revisions	
Date:	Comments
10/07/19	Created this new M-Standard.

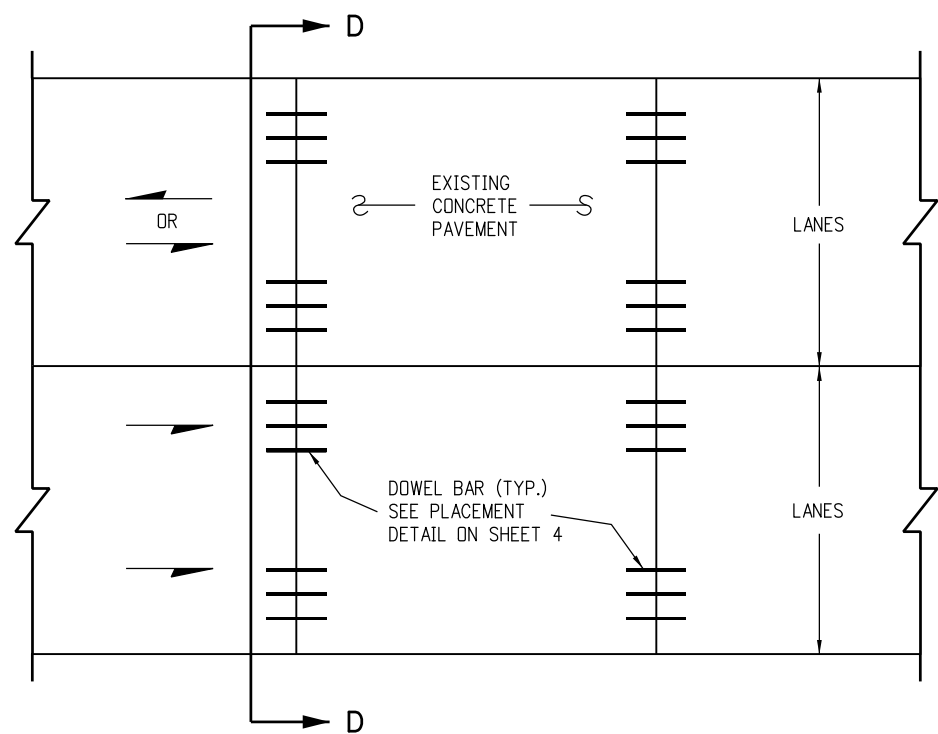
Colorado Department of Transportation  
 2829 West Howard Place  
 CDDT HQ, 3rd Floor  
 Denver, CO 80204  
 Phone: 303-757-9021 FAX: 303-757-9868

Project Development Branch JBK

**CONCRETE PAVEMENT  
 CRACK REPAIR**

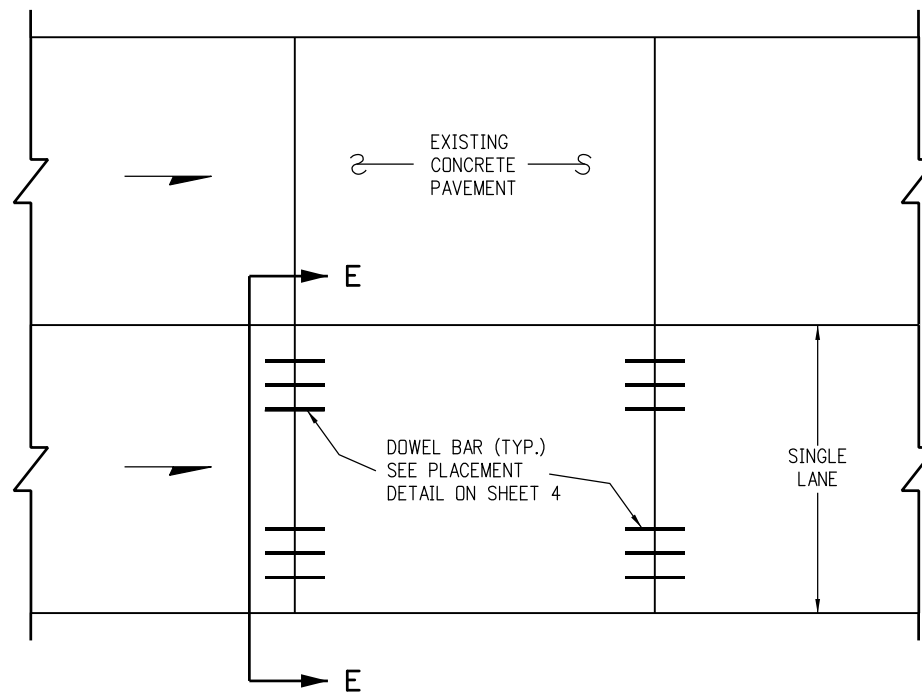
Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-412-2
Standard Sheet No. 2 of 4
Project Sheet Number:



**PLAN VIEW  
DOWEL BAR RETROFIT**

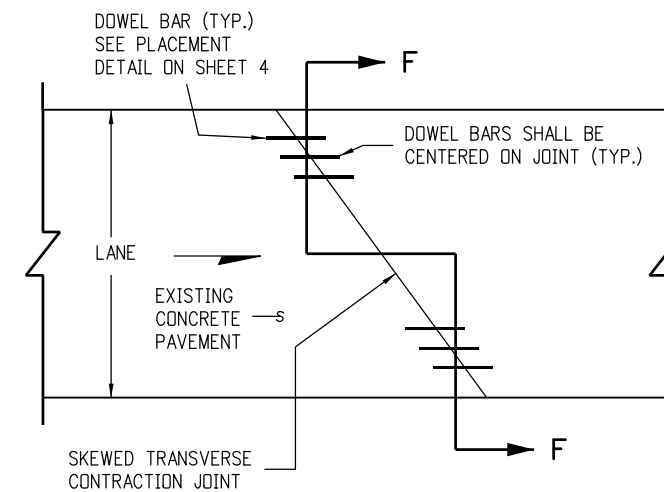
FOR EACH LANE IN UNDIVIDED HIGHWAY (TWO WAY TRAFFIC)  
OR FOR MULTI-LANE DIVIDED HIGHWAY (ONE WAY TRAFFIC)



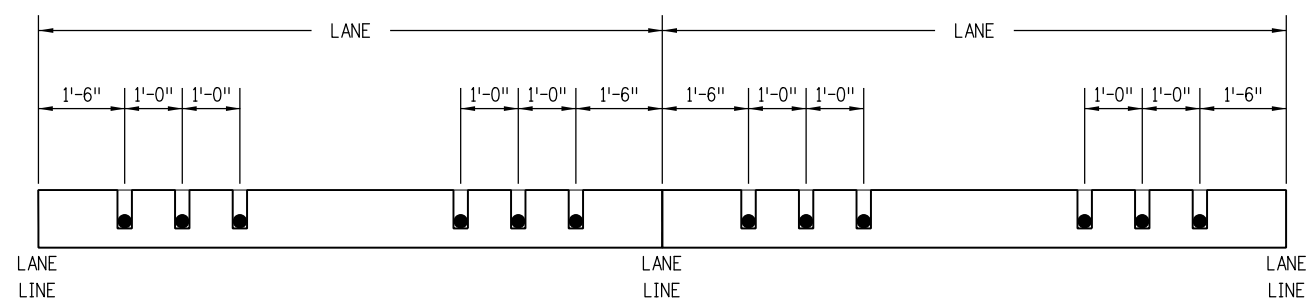
**PLAN VIEW  
DOWEL BAR RETROFIT**

FOR SINGLE LANE RETROFIT

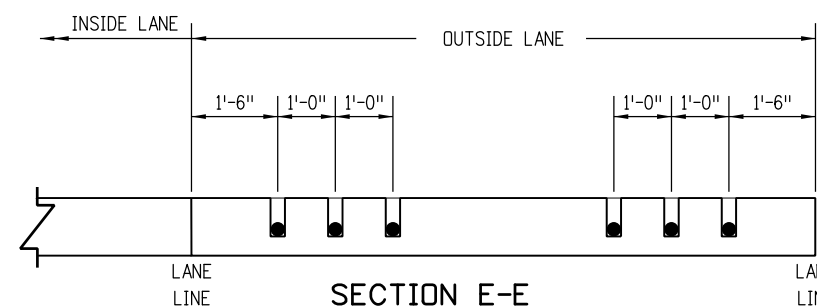
- NOTES**
1. IF A LONGITUDINAL JOINT IS PRESENT IN THE WHEEL PATH OR AT THE MIDDLE OF THE SLAB, CONTACT THE ENGINEER.
  2. DOWELS SHALL BE A MINIMUM OF 1 FT. - 6 INCHES AWAY FROM ANY LONGITUDINAL JOINT.



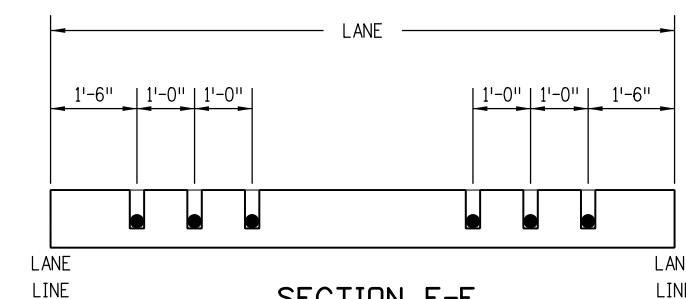
**PLAN VIEW  
SKEWED JOINT DETAIL**



**SECTION D-D**



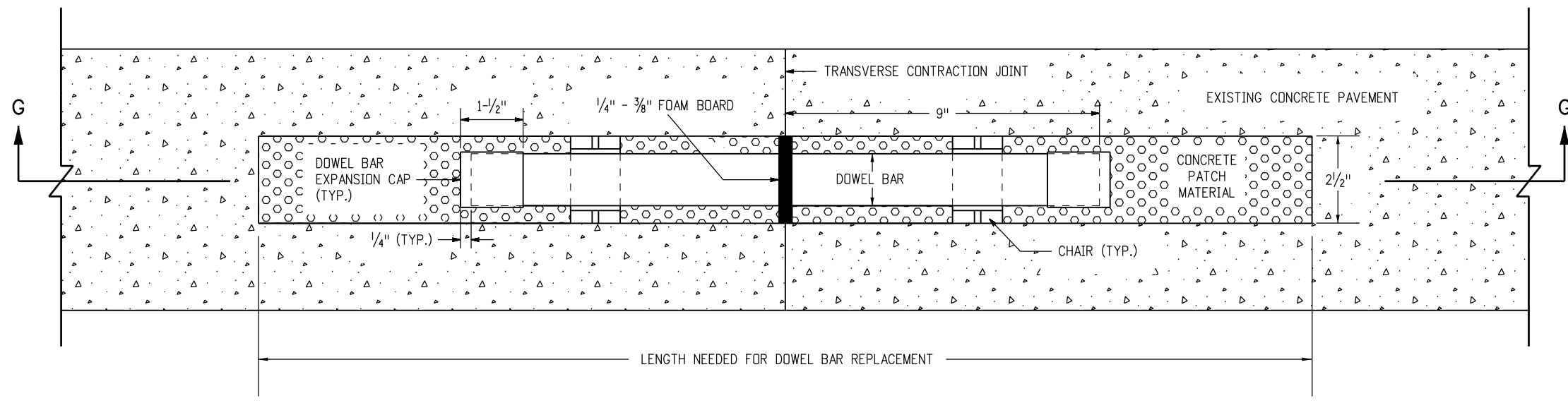
**SECTION E-E**



**SECTION F-F**

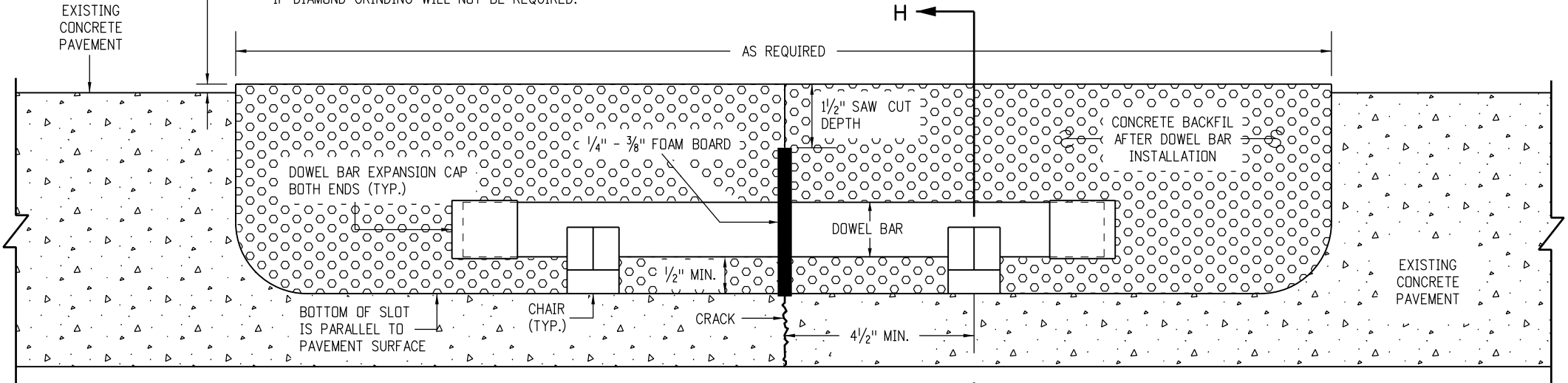
**DOWEL BAR RETROFIT DETAILS**

<b>Computer File Information</b>		<b>Sheet Revisions</b>		Colorado Department of Transportation 2829 West Howard Place CDDT HQ, 3rd Floor Denver, CO 80204 Phone: 303-757-9021 FAX: 303-757-9868 <b>Project Development Branch</b>	<b>CONCRETE PAVEMENT CRACK REPAIR</b>	<b>STANDARD PLAN NO.</b>	
Creation Date: 10/07/19		Date:	Comments			M-412-2	
Designer Initials: JBK		10/07/19	Created this new M-Standard.			Standard Sheet No. 3 of 4	
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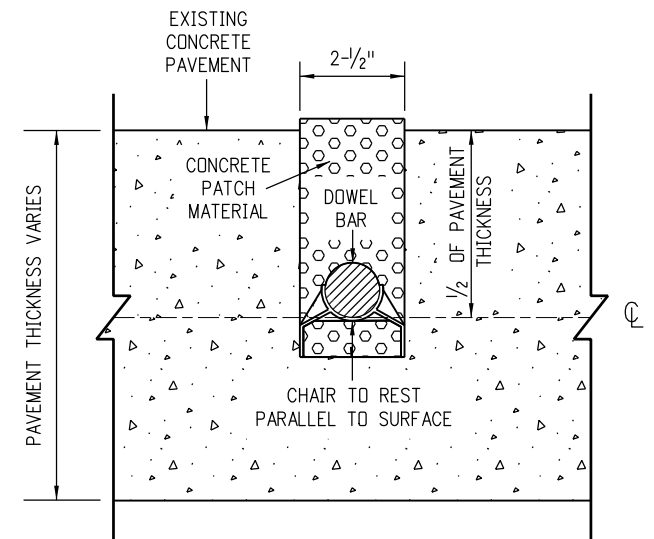
**PLAN VIEW**

1/8" DEPTH OF CONCRETE PATCH MATERIAL ABOVE EXISTING CONCRETE SURFACE FOR PROJECTS THAT WILL BE DIAMOND GROUND. MAKE FLUSH WITH EXISTING PAVEMENT SURFACE IF DIAMOND GRINDING WILL NOT BE REQUIRED.

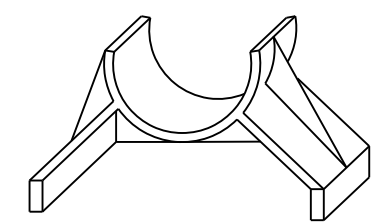


**SECTION G-G**

PAVEMENT THICKNESS (T)	DOWEL BAR DIAMETER
7 INCHES ≤ T < 8 INCHES	1 INCH
8 INCHES ≤ T ≤ 10 INCHES	1.25 INCH
10 INCHES < T ≤ 15 INCHES	1.50 INCH



**SECTION H-H**



**TYPICAL CHAIR DETAIL**  
ONE REQUIRED UNDER EACH END OF DOWEL BAR

**DOWEL BAR RETROFIT DETAILS**

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Last Modification Date: 10/07/19	(R-X)
Detailer Initials: LTA	(R-X)
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 Project Development Branch **JBK**

**CONCRETE PAVEMENT  
 CRACK REPAIR**  
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STANDARD PLAN NO.
M-412-2
Standard Sheet No. 4 of 4
Project Sheet Number: