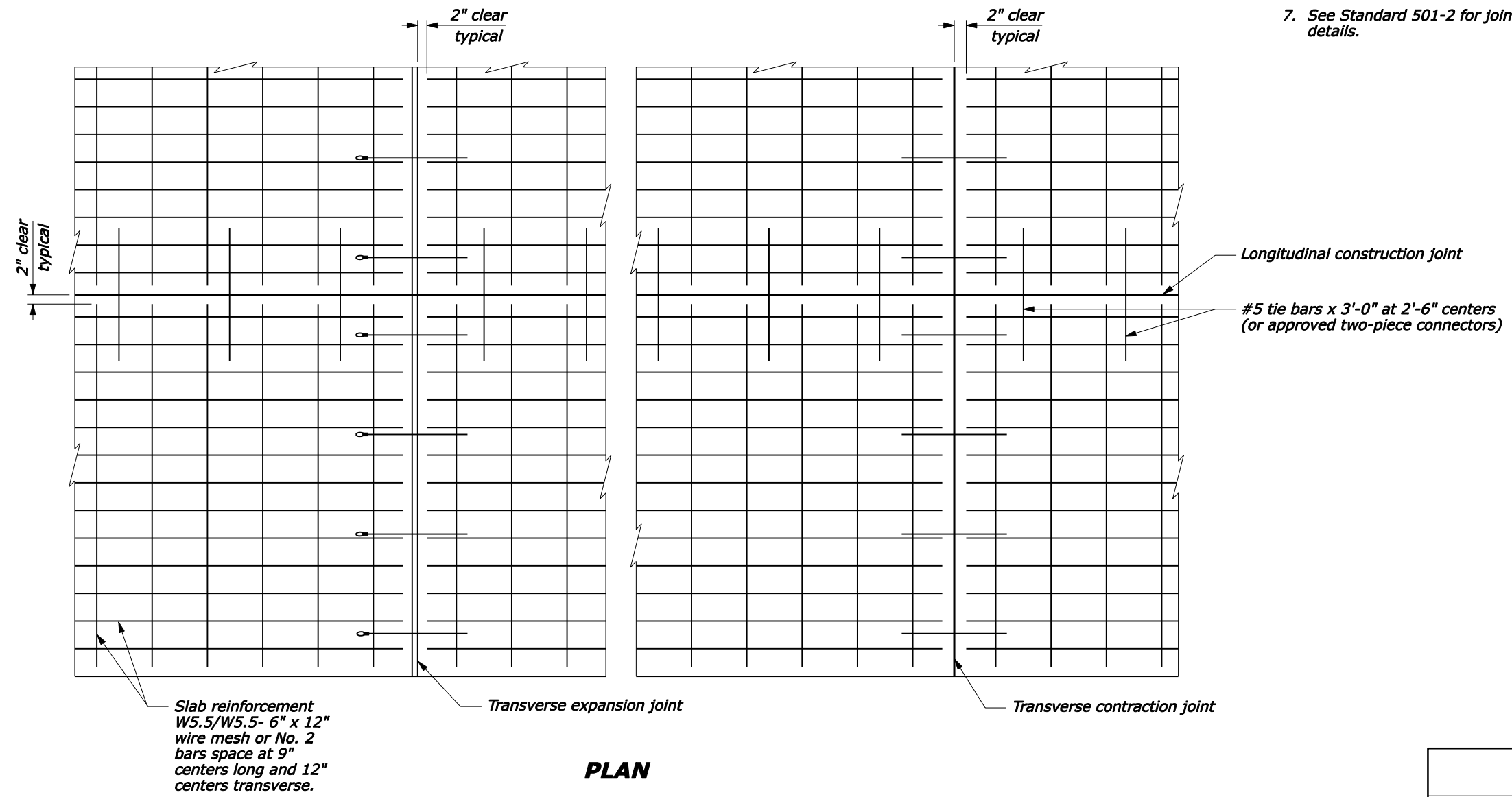


FOR COMMENT

NOTE:

1. Lap longitudinal reinforcement not less than 13-inches.
2. Lap transverse reinforcement not less than 9-inches.
3. Eliminate all longitudinal and transverse reinforcing steel, wire, or bars where plain portland cement concrete pavement or base is required.
4. Provide the same type of dowel assemblies and tie bars for joints in plain portland cement concrete pavement as shown for joints in reinforced pavement.
5. Space transverse expansion joints at a minimum of 280 feet.
6. Space transverse contraction joints for reinforced concrete pavement at not more than 40 foot intervals and for plain concrete pavement or base at not more than 20 foot intervals.
7. See Standard 501-2 for joint details and joint sealing details.

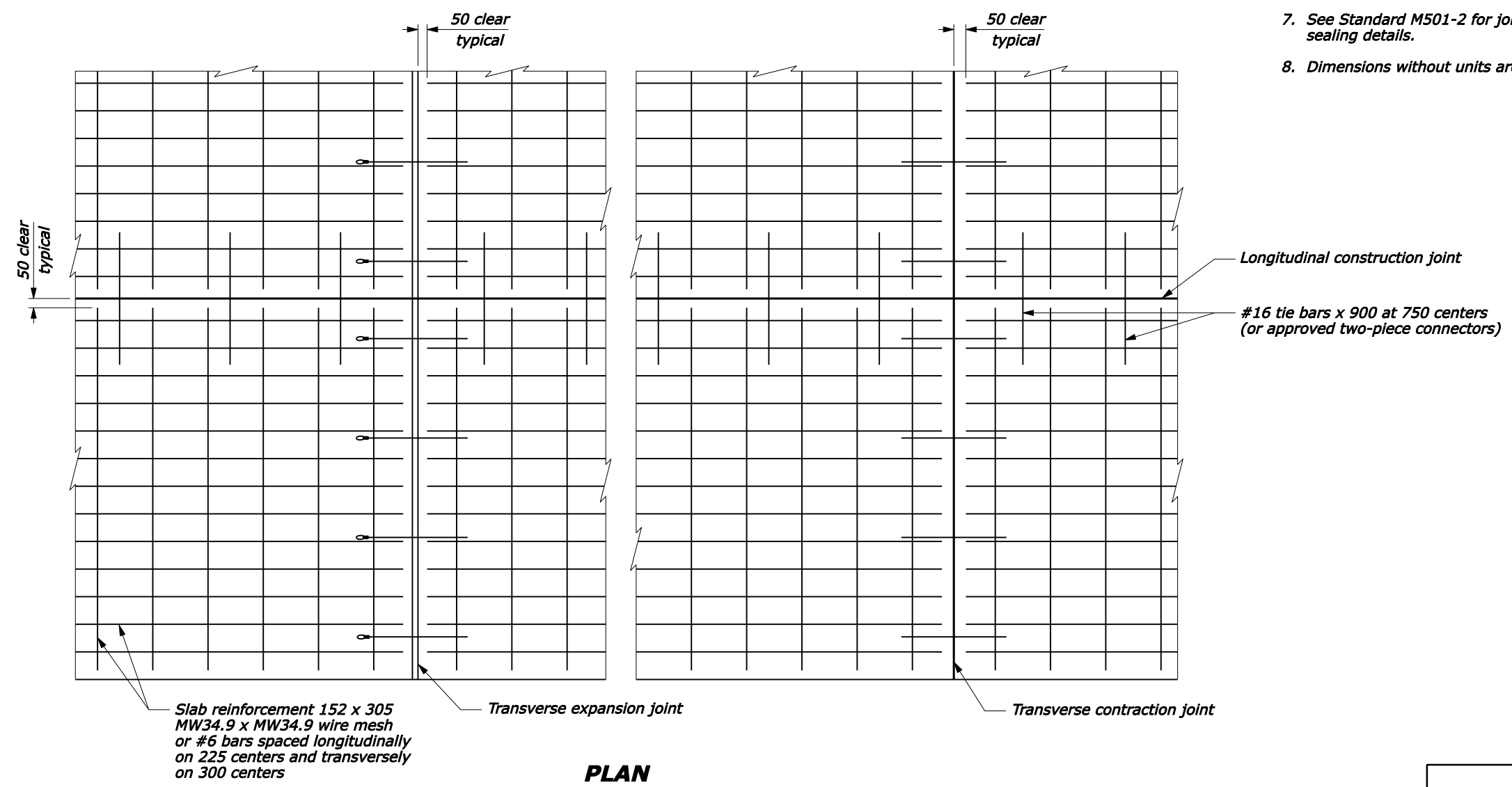


NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
U.S. CUSTOMARY STANDARD	
PORTLAND CEMENT CONCRETE PAVEMENT	
STANDARD APPROVED FOR USE --/----	STANDARD
REVISED: DRAFT: 9/2004	501-1

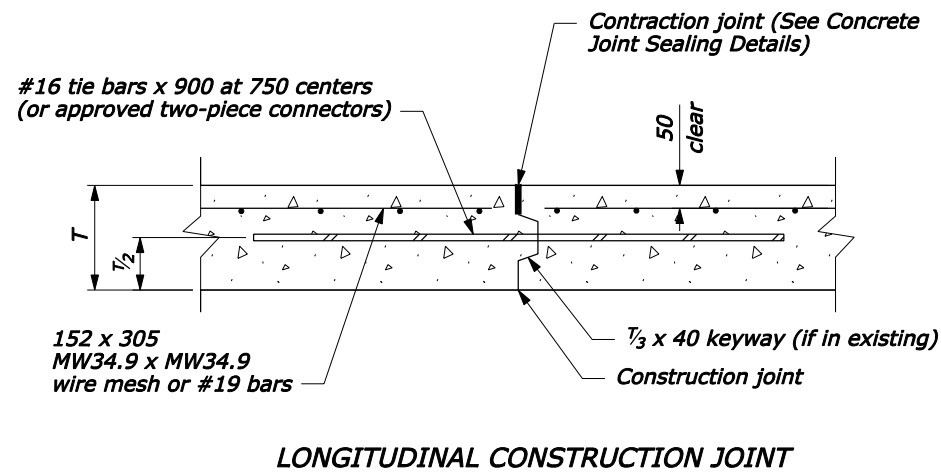
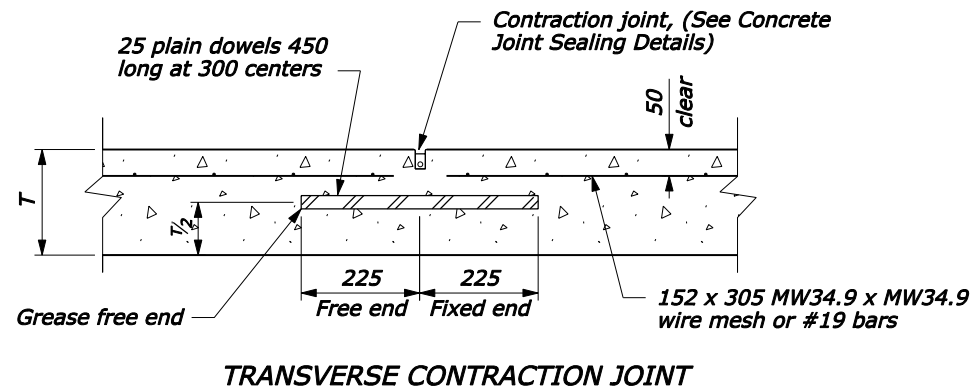
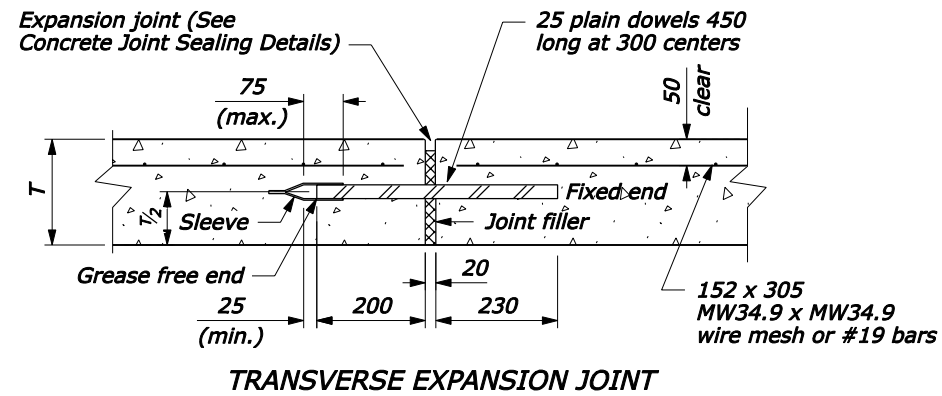
FOR COMMENT

- NOTE:**
1. Lap longitudinal reinforcement not less than 325 mm.
 2. Lap transverse reinforcement not less than 225 mm.
 3. Eliminate all longitudinal and transverse reinforcing steel, wire, or bars where plain portland cement concrete pavement or base is required.
 4. Provide the same type of dowel assemblies and tie bars for joints in plain portland cement concrete pavement as shown for joints in reinforced pavement.
 5. Space transverse expansion joints at a minimum of 84 meters.
 6. Space transverse contraction joints for reinforced concrete pavement at not more than 12 meter intervals and for plain concrete pavement or base at not more than 6 meter intervals.
 7. See Standard M501-2 for joint details and joint sealing details.
 8. Dimensions without units are millimeters.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
METRIC STANDARD	
PORTLAND CEMENT CONCRETE PAVEMENT	
STANDARD APPROVED FOR USE 3/1996	STANDARD
REVISED: 5/1997 DRAFT: 9/2004	M501-1

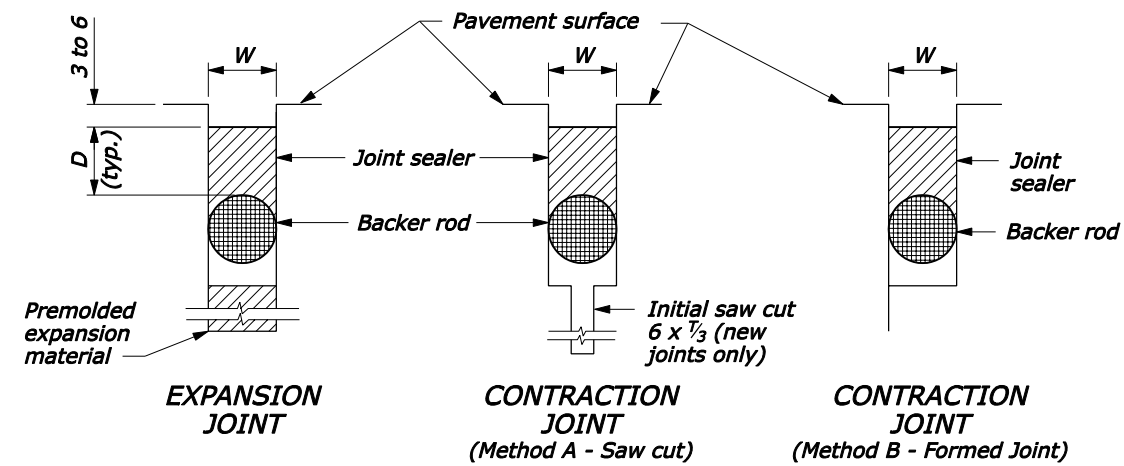


REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT JOINT DETAILS

FOR COMMENT

NOTE:

1. Anchor tie bars and dowels into existing concrete pavement with epoxy resin adhesive.
2. Space expansion joints a minimum of 84 meters.
3. $W = 10$ for longitudinal contraction joints and 20 for transverse expansion and contraction joints field conditions require larger openings.
4. Maintain joint sealant shape factor of 1:1 except that when silicone sealant is used, the width to depth ($W:D$) shape factor is 1:2.
5. Dimensions without units are millimeters.



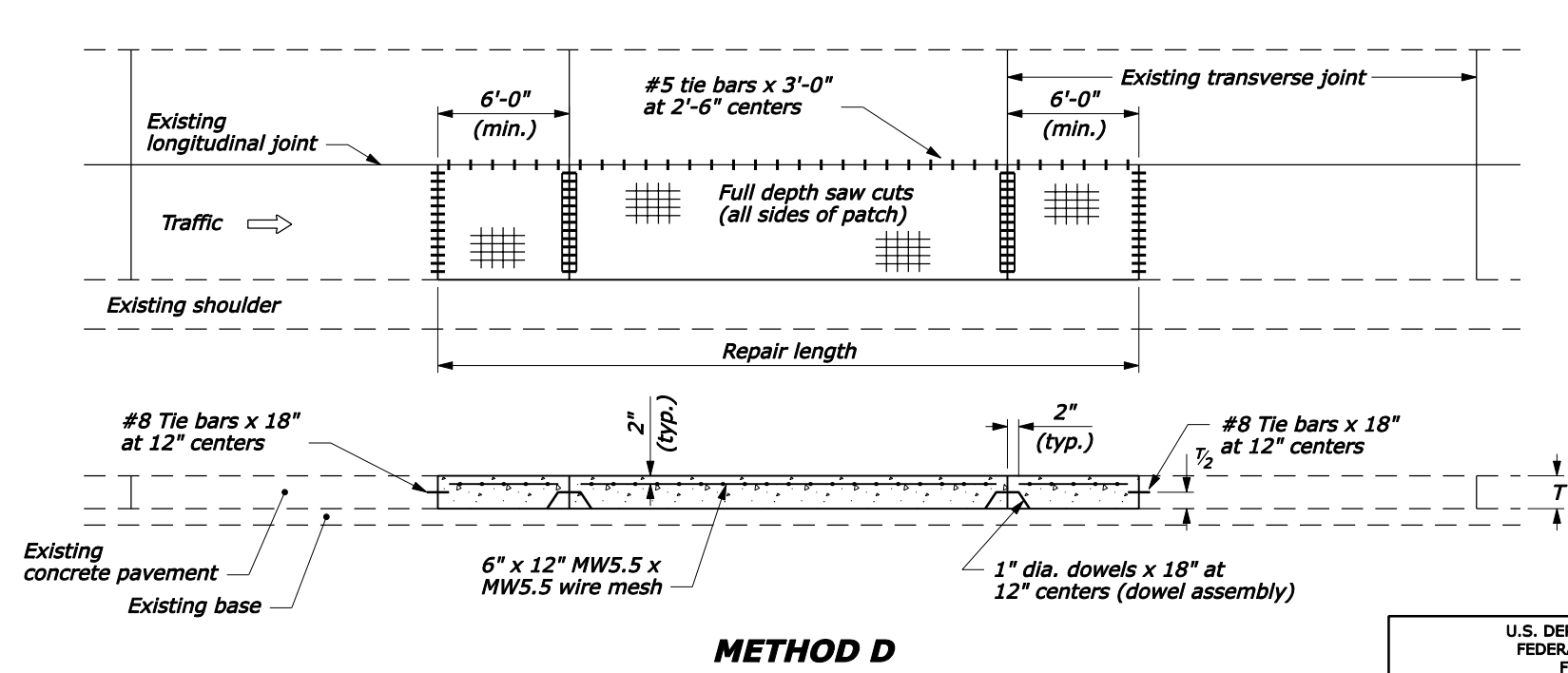
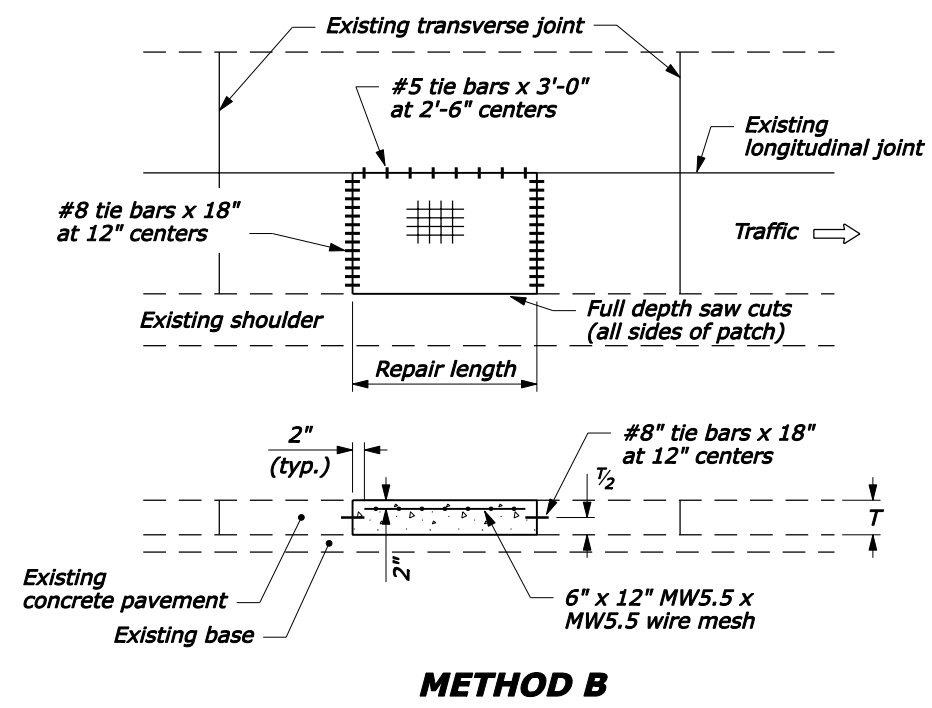
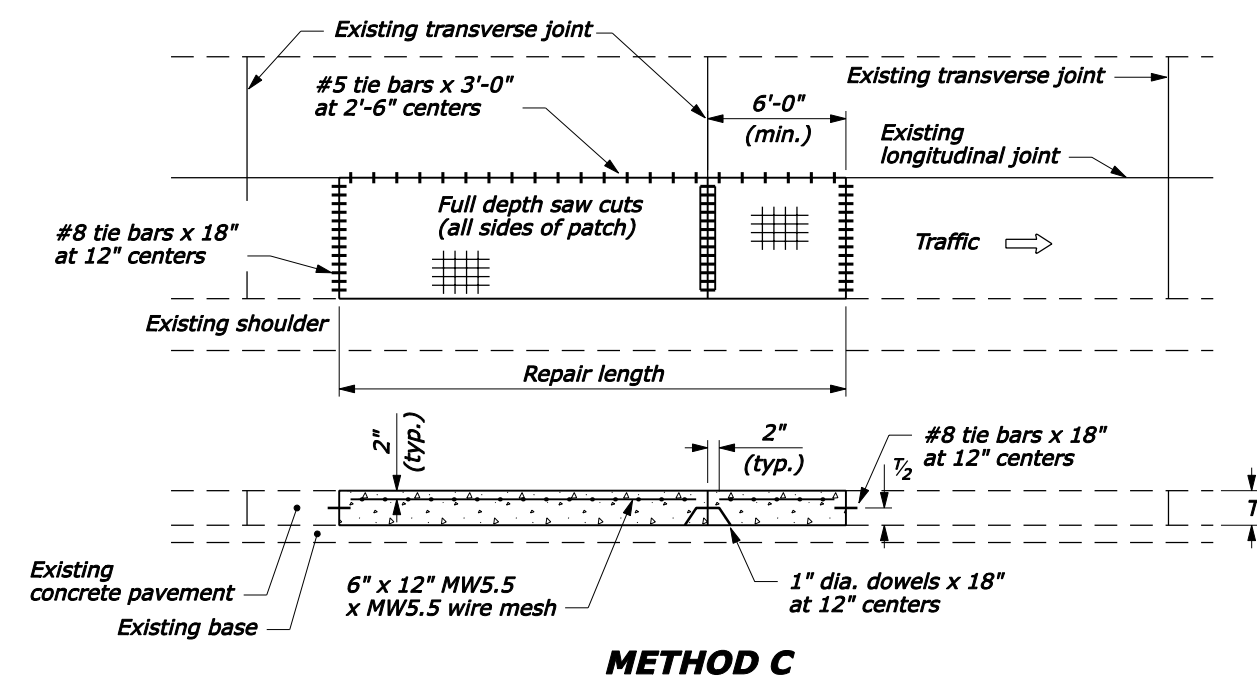
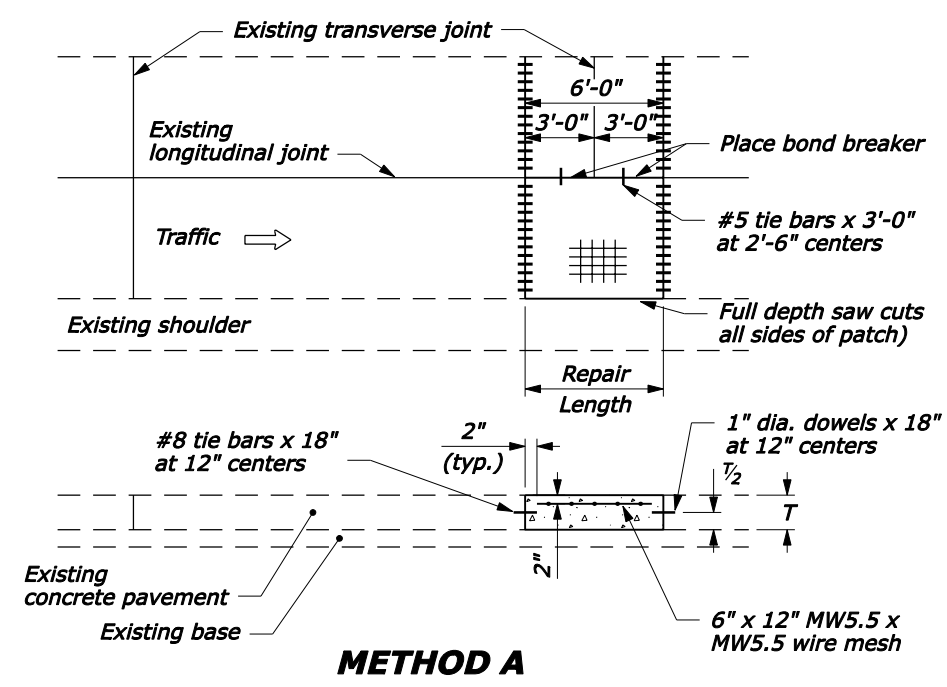
REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT JOINT SEALING DETAILS

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
METRIC STANDARD	
PORTLAND CEMENT CONCRETE PAVEMENT JOINTS	
STANDARD APPROVED FOR USE 3/1996	STANDARD
REVISED: 6/1997 DRAFT: 9/2004	M501-2

FOR COMMENT

- NOTE:**
1. Drill holes for the dowels and tie bars simultaneously to the required depth using frame mounted drills which will maintain the drills parallel to profile and longitudinal joint.
 2. See Standard 501-4 for pavement repair saw cuts for lift-out method.
 3. Orient wire mesh so that the 12-inch dimension parallels the existing longitudinal joint.
 4. An approved two-piece longitudinal tie device may be used in lieu of the #5 tie bars.
 5. See Standard 501-1 for reinforcement for full depth concrete pavement repair.



NO SCALE

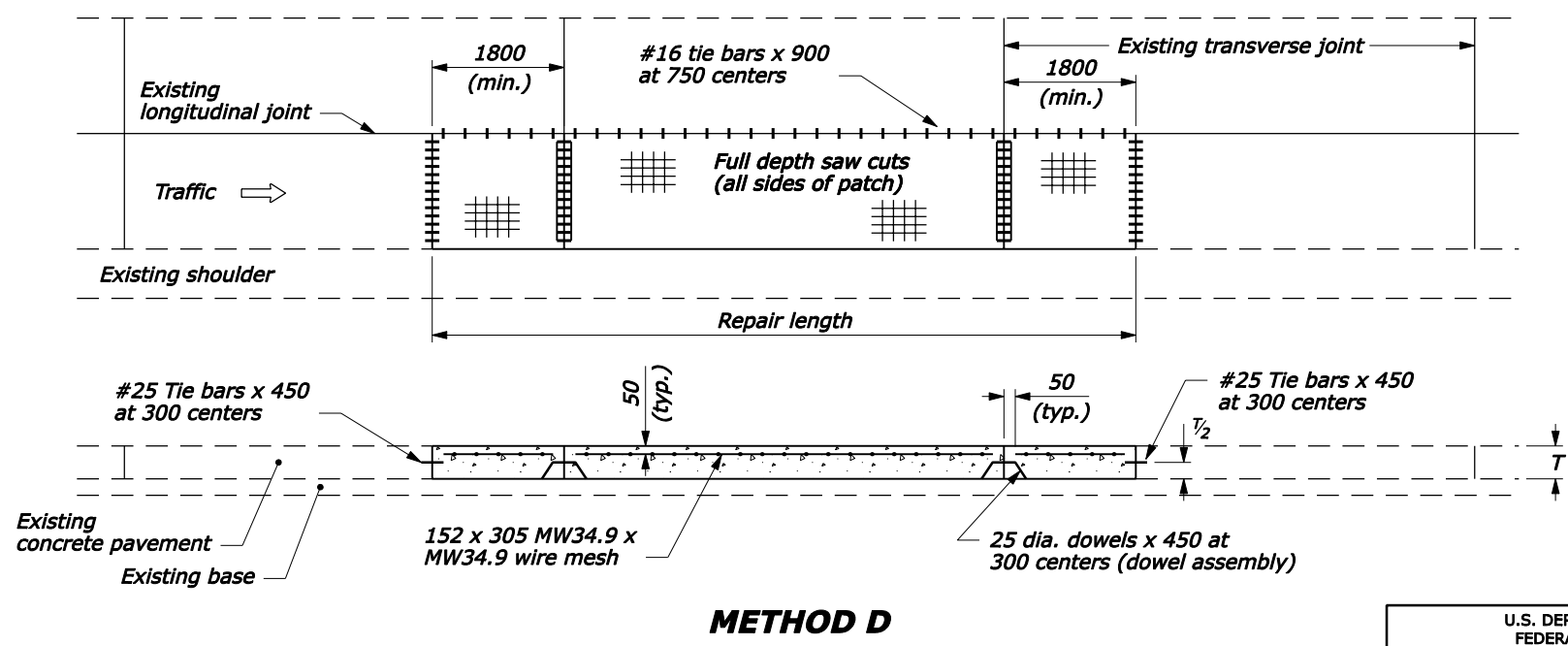
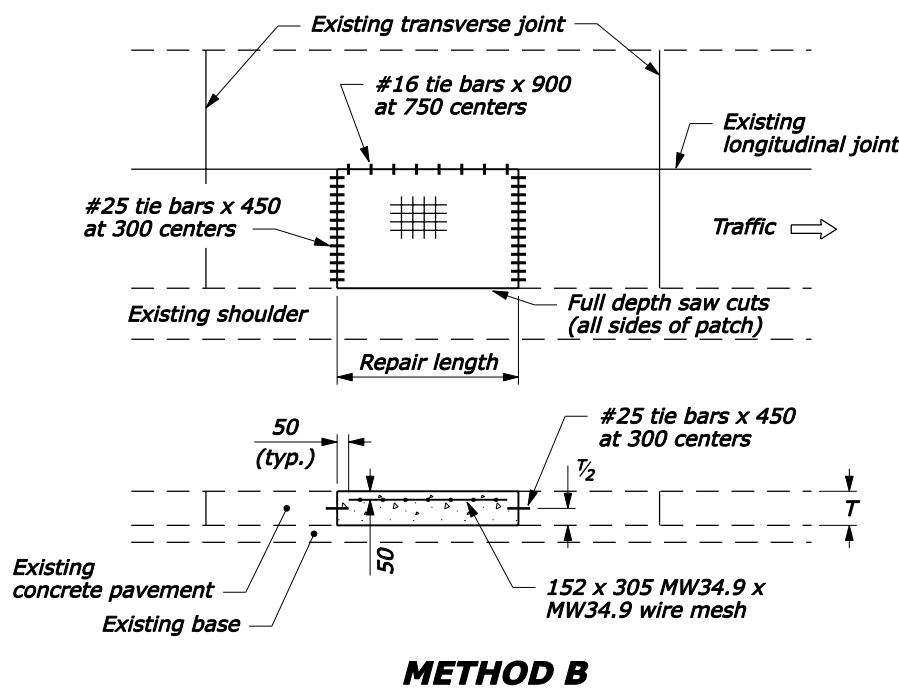
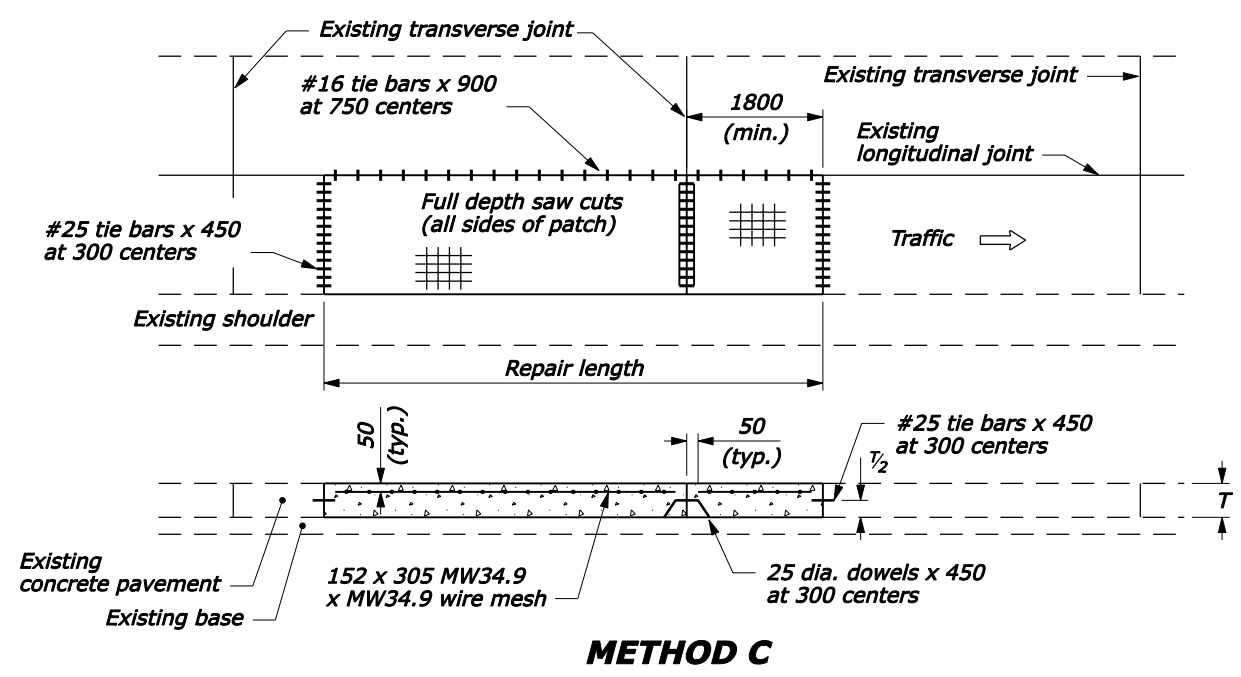
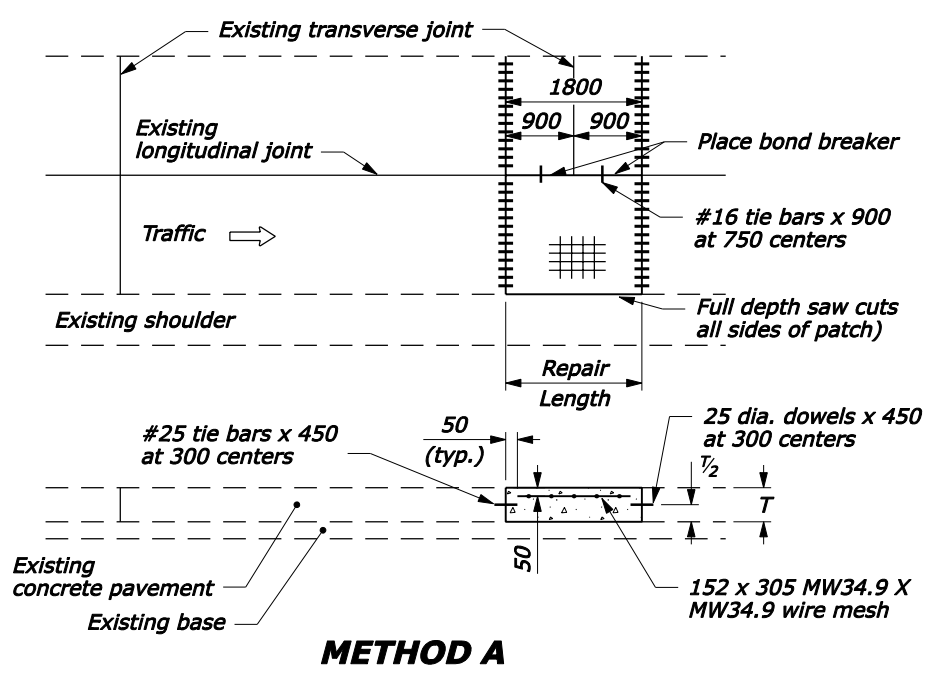
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
U.S. CUSTOMARY STANDARD	
CONCRETE PAVEMENT PATCHING	
STANDARD APPROVED FOR USE --/----	STANDARD
REVISED: DRAFT: 9/2004	501-3

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FOR COMMENT

NOTE:

1. Drill holes for the dowels and tie bars simultaneously to the required depth using frame mounted drills which will maintain the drills parallel to profile and longitudinal joint.
2. See Standard M501-4 for pavement repair saw cuts for lift-out method.
3. Orient wire mesh so that the 300 mm dimension parallels the existing longitudinal joint.
4. An approved two-piece longitudinal tie device may be used in lieu of the #16 tie bars.
5. See Standard M501-1 for reinforcement for full depth concrete pavement repair.
6. Dimensions without units are millimeters.



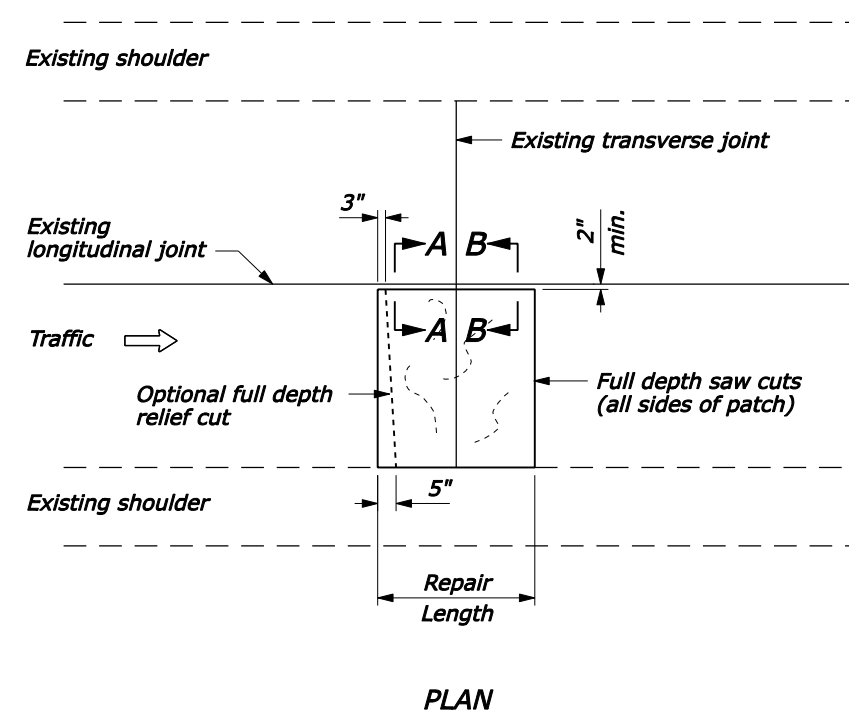
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
METRIC STANDARD	
CONCRETE PAVEMENT PATCHING	
STANDARD APPROVED FOR USE 3/1996	STANDARD M501-3
REVISED: 5/1997 DRAFT: 9/2004	

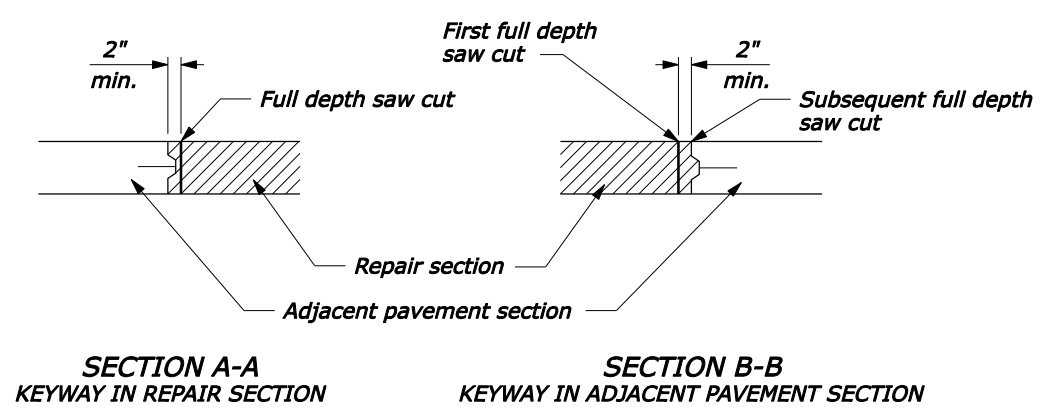
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NOTE:

1. Shoulder joints may be cut directly into the existing joint.
2. Make cuts running parallel and adjacent to a lane of traffic a minimum of 2 inches from the existing joint.
3. Saw cuts may be made into the shoulder.
4. If it is determined that the keyway is formed in the adjacent pavement section, the subsequent full depth saw cut may be made on the longitudinal joint.



FOR COMMENT



**REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
SAW CUTS FOR LIFT OUT METHOD**

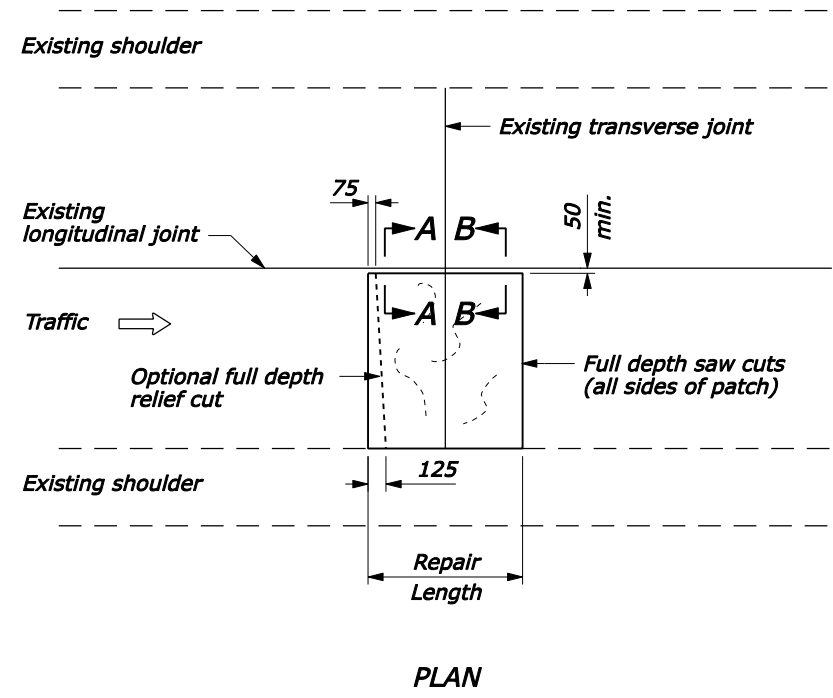
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U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
U.S. CUSTOMARY STANDARD	
CONCRETE PAVEMENT REMOVAL METHODS	
STANDARD APPROVED FOR USE --/----	STANDARD
REVISED: DRAFT: 9/2004	501-4

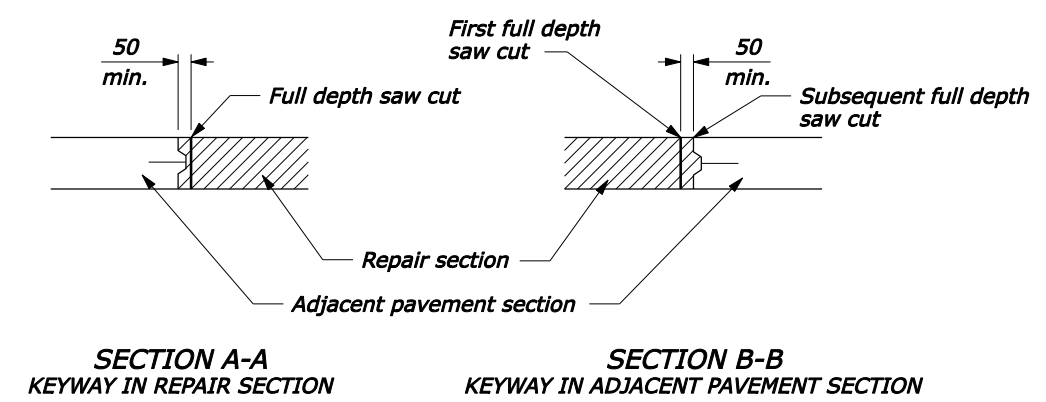
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NOTE:

- Shoulder joints may be cut directly into the existing joint.
- Make cuts running parallel and adjacent to a lane of traffic a minimum of 50 mm from the existing joint.
- Saw cuts may be made into the shoulder.
- If it is determined that the keyway is formed in the adjacent pavement section, the subsequent full depth saw cut may be made on the longitudinal joint.
- Dimensions without units are millimeters.



FOR COMMENT



**REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
SAW CUTS FOR LIFT OUT METHOD**

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
METRIC STANDARD	
CONCRETE PAVEMENT REMOVAL METHODS	
STANDARD APPROVED FOR USE 3/1996	STANDARD
REVISED: DRAFT: 9/2004	M501-4

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