
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index
(Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: June 22, 2021
Originator: Richard Stepp
Phone: (850) 414-4313
Email: richard.stepp@dot.state.fl.us

Standard Plans:

Index Number: 521-610
Sheet Number (s): 1
Index Title: Concrete Barrier/Junction Slab - Wall Coping

Summary of the changes:

Sheet 1, Note 15: Added reference to Index 630-001 (Conduit Details - Embedded) for information on embedded junction boxes and conduits.

Commentary / Background:

Added reference to provide continuity between Standards and improve understanding for designers and contractors wanting to verify that these Indexes share details. This particular topic received designer questions. This is consistent with the Traffic Railing standards.



Other Affected Offices / Documents: (Provide name of person contacted)

- | Yes | No | |
|--------------------------|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Standard Plans – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FDOT Design Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Basis of Estimates Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard Specifications – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Approved Product List – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Construction – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Maintenance – |

Origination Package Includes:

(Email or hand deliver package to Rick Jenkins)

- | Yes | N/A | |
|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Proposed Standard Plan Instruction (SPI) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Revised SPI |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Support Documents |

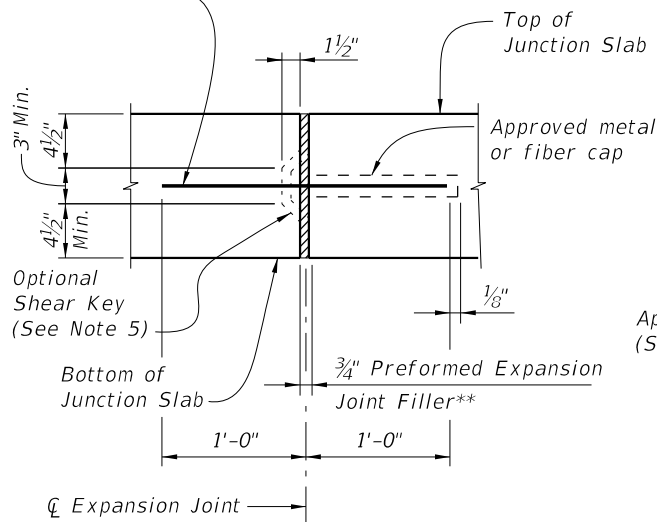
Implementation:

- Design Bulletin (Interim)
- DCE Memo
- Program Mgmt. Bulletin
- FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

Email to: Rick Jenkins rick.jenkins@dot.state.fl.us and Darren Martin darren.martin@dot.state.fl.us

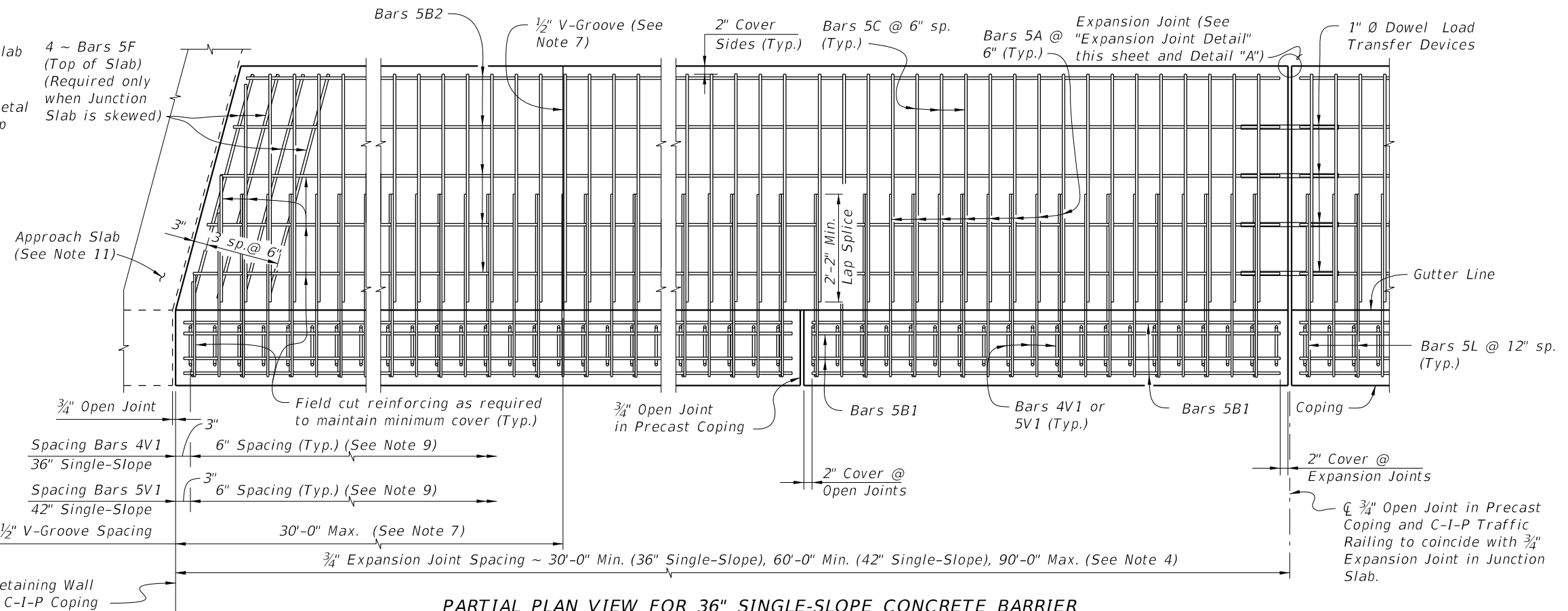
1" Ø Dowel Load Transfer Devices (See Typical Sections for details)



EXPANSION JOINT DETAIL

(Junction Slab expansion joints are to coincide with 3/4" open joints in Concrete Barrier)

** Stay-In-Place Plastic Preformed Bond Breakers are permitted to form joints.



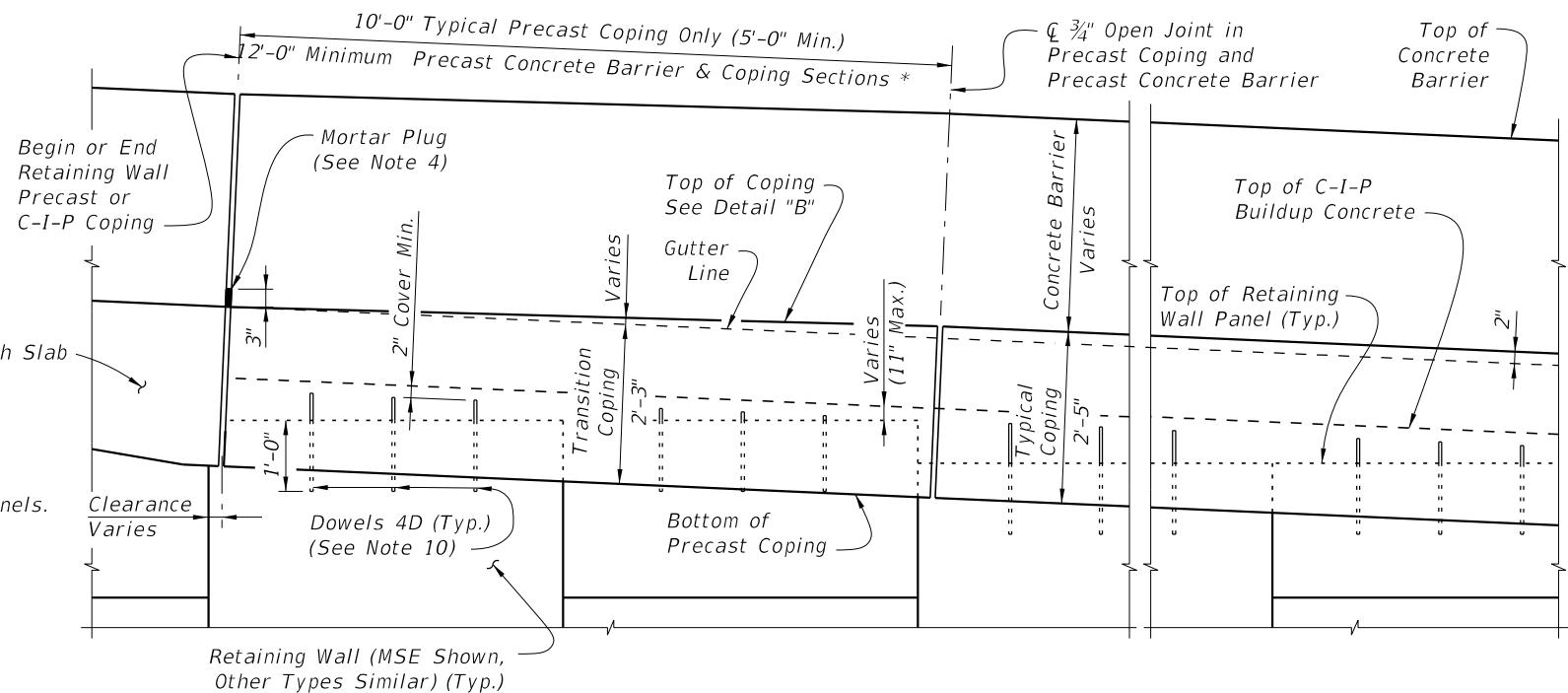
PARTIAL PLAN VIEW FOR 36" SINGLE-SLOPE CONCRETE BARRIER
(Skewed Approach Slab Shown, Perpendicular Approach Slab Similar)
(Precast Coping Shown, C-I-P Coping Similar) (Concrete Barrier not Shown for Clarity)

CROSS REFERENCE: For Detail "A", see Sheet 2.
For Detail "B", see Sheet 3.

JUNCTION SLAB NOTES:

1. Construct the expansion joints, V-Grooves and face of coping plumb.
2. Provide Class II concrete for slightly aggressive environments or Class IV for moderate or extremely aggressive environments.
3. Dowel Load Transfer Devices will be hot-dip galvanized ASTM A 36 smooth round bar, or GFRP smooth round bars with a minimum shear strength of 22 ksi in accordance with ASTM D7617. Install Dowel Load Transfer Devices in accordance with Specification Section 350.
4. Construct 3/4" Expansion Joints in junction slabs and C-I-P copings plumb and perpendicular or radial to the Gutter Line. Provide at 90'-0" maximum intervals as shown. Provide 3"x3" Mortar plugs in open joints at the base of Concrete Barriers to contain runoff.
5. Shear Keys in Junction Slab are required when GFRP bars are used for Dowel Transfer Devices and are optional with steel dowel bars. Tongue Slope on Shear Key must be constant and between 5° to 45° from horizontal.
6. Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.
7. Construct 1/2" V-Grooves in junction slabs and C-I-P copings at 30'-0" maximum intervals as shown. Space V-Grooves equally between 3/4" Expansion Joints and/or Begin or End Junction Slab. V-Groove locations are to coincide with V-Groove locations in the Concrete Barrier.
8. Shoulder or Roadway Pavement is required on top of the junction slab for its entire length on the traffic side of the Concrete Barrier. See Typical Sections on Sheets 2 and 3 for details.
9. Spacing shown is along the Gutter Line.
10. For Precast Coping only, provide Dowel Bars 4D embedded 1'-0" and extended 9" above the top of MSE wall panels. Field cut as necessary to maintain 2" minimum cover to the top of the buildup concrete. See Wall Company Drawings for number and spacing of Dowel Bars 4D.
11. The following Indexes contain details of the intersection of the retaining wall at approach slabs:
Index 400-090 - Approach Slabs (Flexible Pavement Approaches)
Index 400-091 - Approach Slabs (Rigid Pavement Approaches)
12. Junction slabs with rigid pavement: the two inch increase in concrete barrier height is not required.
13. There are two options to accommodate the 2" height transitions :
A. Raise the top of coping elevation 2" and mount either a 36" or 42" standard barrier on top
B. Transition the height of the concrete barrier by gradually extending the toe and back of the barrier 2" while keeping the top of coping elevation even with the gutterline elevation.
14. The barrier construction joint must be at the interface of the coping and the barrier base. Embed the V bars a minimum of 9" below the construction joint.

15. For embedded conduit and junction boxes, see Index 630-010.



PARTIAL ELEVATION VIEW
(Precast Coping and Junction Slab Reinforcing not Shown for Clarity)
(Precast Coping Shown, C-I-P Coping Similar)

* C-I-P End Section must be ≥ 12'-0".

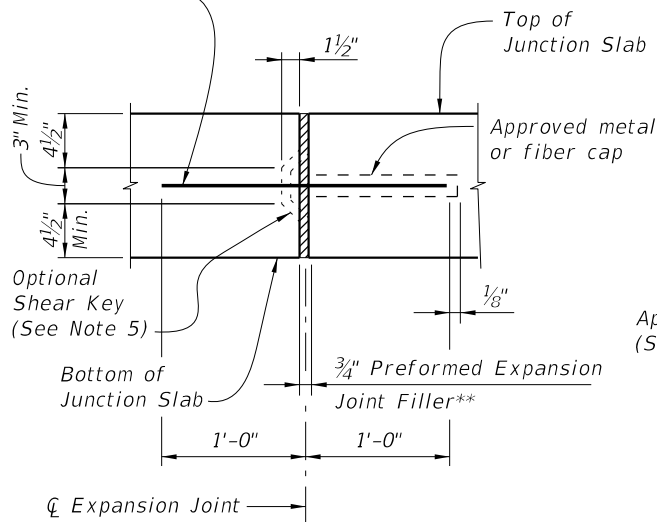
SINGLE-SLOPE CONCRETE BARRIERS

REVISION	DESCRIPTION	FY 2021-22	CONCRETE BARRIER/JUNCTION SLAB	INDEX	SHEET
11/01/20		STANDARD PLANS	- WALL COPING	521-610	1 of 3



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1" Ø Dowel Load Transfer Devices (See Typical Sections for details)

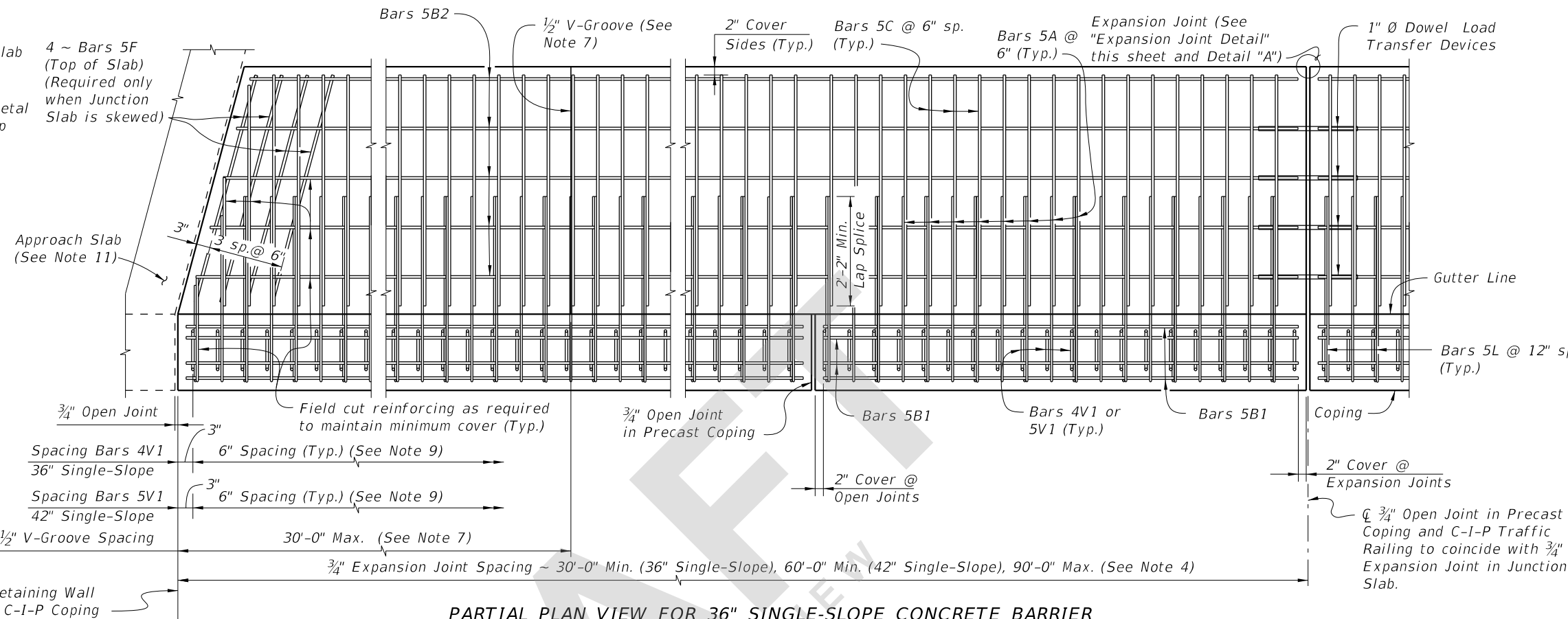


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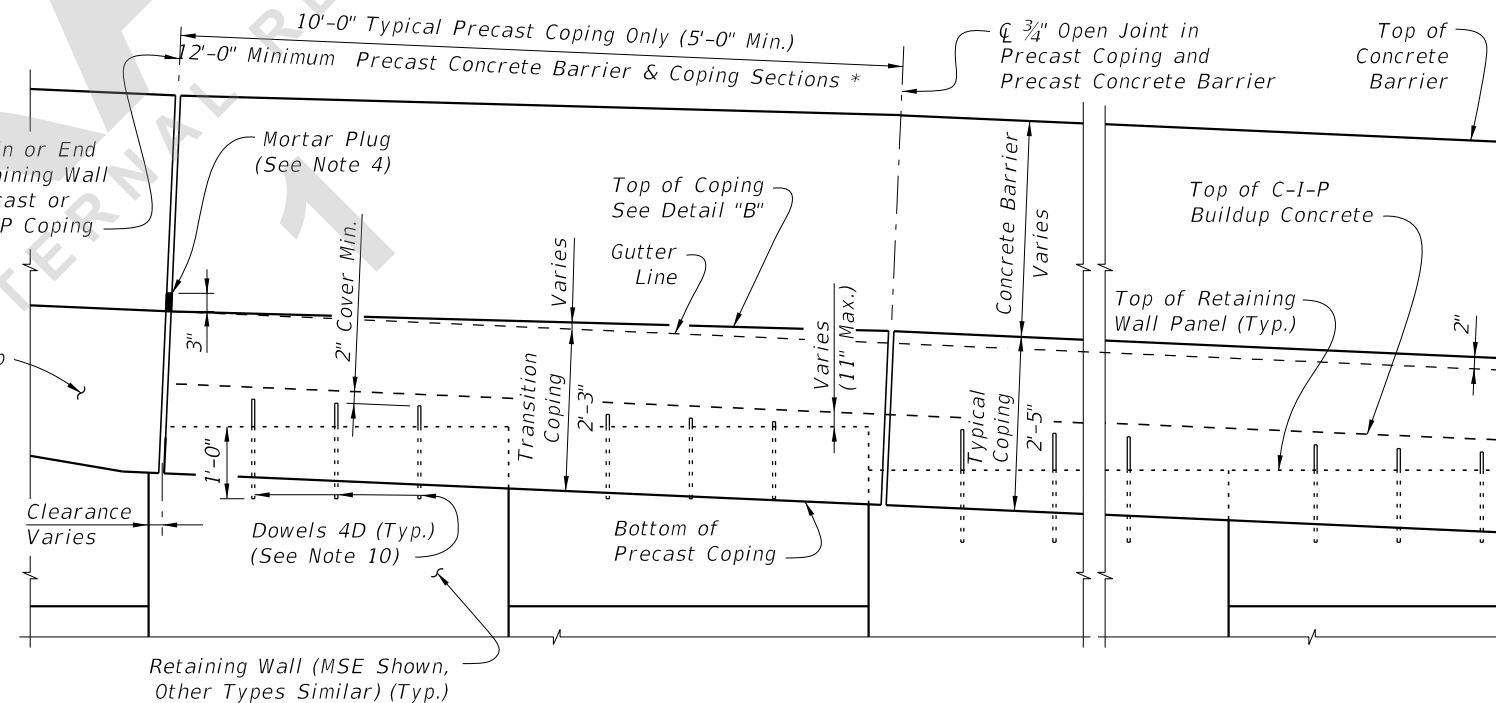
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PARTIAL PLAN VIEW FOR 36" SINGLE-SLOPE CONCRETE BARRIER
(Skewed Approach Slab Shown, Perpendicular Approach Slab Similar)
(Precast Coping Shown, C-I-P Coping Similar) (Concrete Barrier not Shown for Clarity)

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- Dowel Load Transfer Devices will be hot-dip galvanized ASTM A 36 smooth round bar, or GFRP smooth round bars with a minimum shear strength of 22 ksi in accordance with ASTM D7617. Install Dowel Load Transfer Devices in accordance with Specification Section 350.
- Construct 3/4" Expansion Joints in junction slabs and C-I-P copings plumb and perpendicular or radial to the Gutter Line. Provide at 90'-0" maximum intervals as shown. Provide 3"x3" Mortar plugs in open joints at the base of Concrete Barriers to contain runoff.
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- Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.
- Construct 1/2" V-Grooves in junction slabs and C-I-P copings at 30'-0" maximum intervals as shown. Space V-Grooves equally between 3/4" Expansion Joints and/or Begin or End Junction Slab. V-Groove locations are to coincide with V-Groove locations in the Concrete Barrier.
- Shoulder or Roadway Pavement is required on top of the junction slab for its entire length on the traffic side of the Concrete Barrier. See Typical Sections on Sheets 2 and 3 for details.
- Spacing shown is along the Gutter Line.
- For Precast Coping only, provide Dowel Bars 4D embedded 1'-0" and extended 9" above the top of MSE wall panels. Field cut as necessary to maintain 2" minimum cover to the top of the buildup concrete. See Wall Company Drawings for number and spacing of Dowel Bars 4D.
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SINGLE-SLOPE CONCRETE BARRIERS

SDATES

LAST REVISION 11/01/21	DESCRIPTION:	 FY 2022-23 STANDARD PLANS	CONCRETE BARRIER/JUNCTION SLAB - WALL COPING	INDEX 521-610	SHEET 1 of 3
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