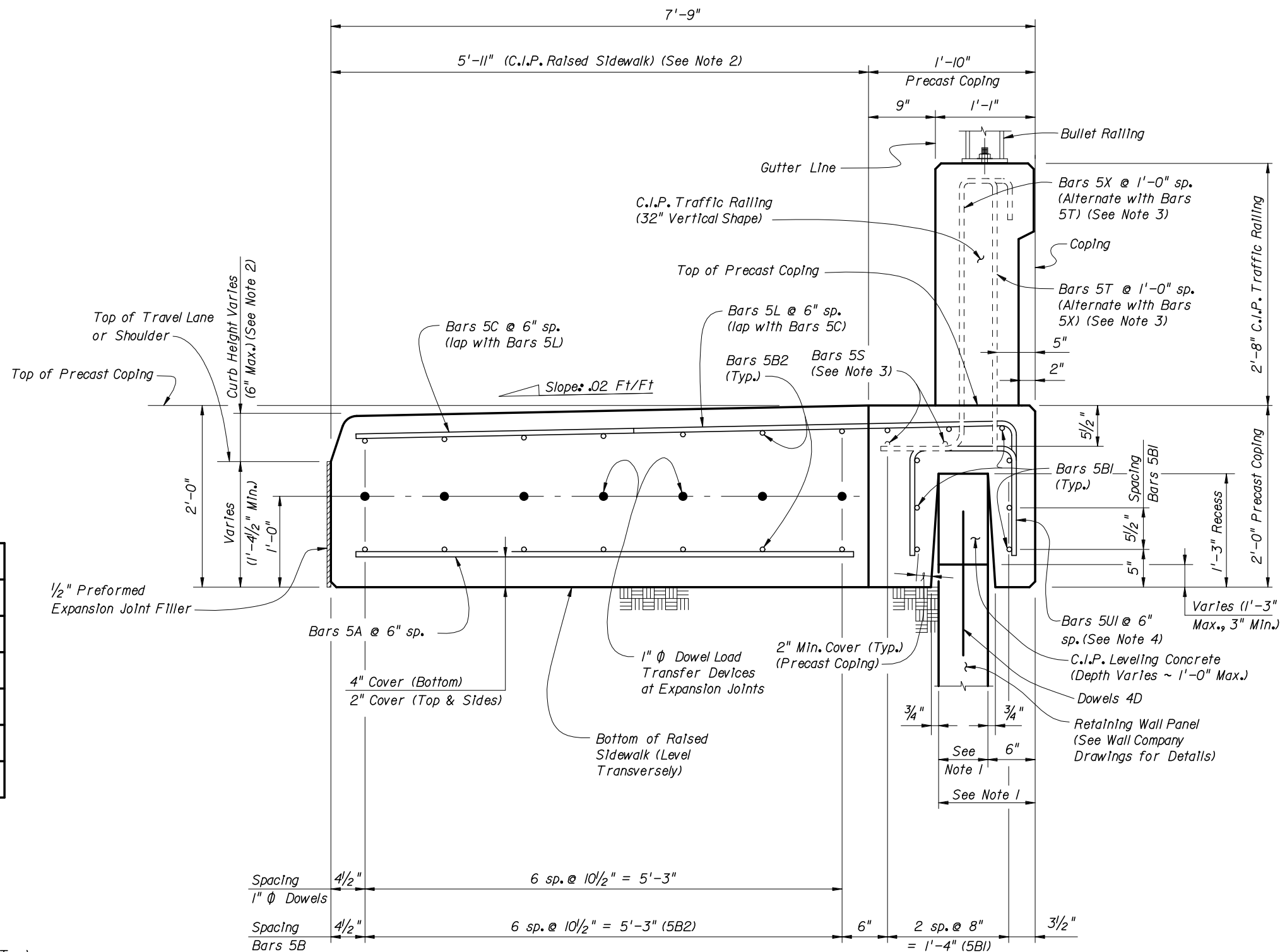


**PARTIAL END VIEW OF TRAFFIC RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT (Showing Bars 5S, Bars 5T and Bars 5X) (Precast Coping Shown, C.I.P. Coping Similar)**

NOTE: See Index No. 423, Railing End Detail for details.

ESTIMATED QUANTITIES FOR PRECAST COPING		
ITEM	UNIT	QUANTITY
Concrete (Precast Coping)	CY	1.66
Concrete (C.I.P. Raised Sidewalk)	CY/FT	0.424
Reinforcing Steel (Precast Coping) excluding Bars 5T, 5X and 5S (Typ.)	LB	269.96
Reinforcing Steel (C.I.P. Raised Sidewalk) (Typ.)	LB/FT	48.85
Additional Reinf. @ Expansion Joints	LB	37.38

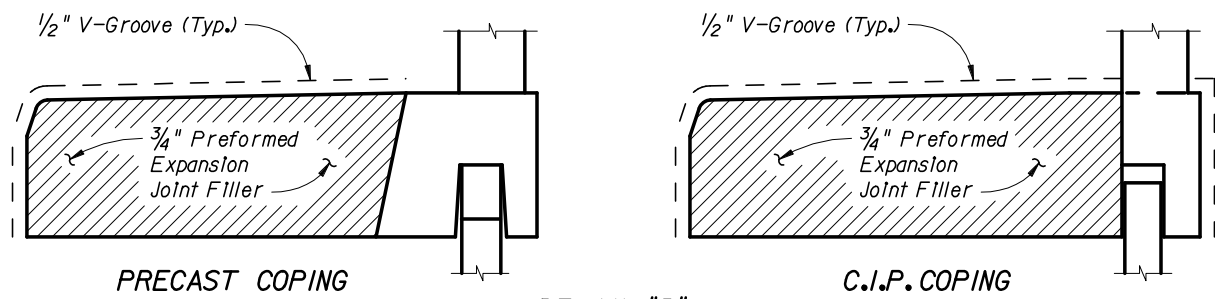
(The above concrete quantities are based on a 5" wide retaining wall panel and a Type D Concrete Curb (See Note 2). The above Precast Coping quantities are based on one 10'-0" Precast Coping segment.)



**TYPICAL SECTION THRU PRECAST COPING WITH C.I.P. RAISED SIDEWALK AND RETAINING WALL AT EXPANSION JOINTS**

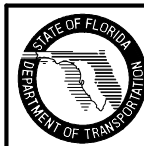
**RAISED SIDEWALK NOTES:**

- Actual width varies depending on type of Retaining Wall used.
- Match roadway curb shape (Type) and height. See Roadway Plans and Index No. 300. 5'-11" dimension is based on a Type D curb adjacent to a 6'-0" wide sidewalk. Adjust this dimension as required for other curb types.
- See Index No. 423 for Bars 5S, 5T & 5X and Bullet Railing details.
- Increase the width (1'-2 1/2") of Bars 5U as required to maintain 2" minimum cover when recess width exceeds 8".
- At the Contractor's option, mechanical couplers may be used to splice reinforcing. Complete details, including reinforcement lengths are required in the Shop Drawings. Mechanical couplers shall develop 125% of the bar yield strength.



(Showing Locations of 1/2" V-Grooves and 3/4" Preformed Expansion Joint Filler)

**PRECAST OR C.I.P. COPING WITH C.I.P. RAISED SIDEWALK DETAILS**



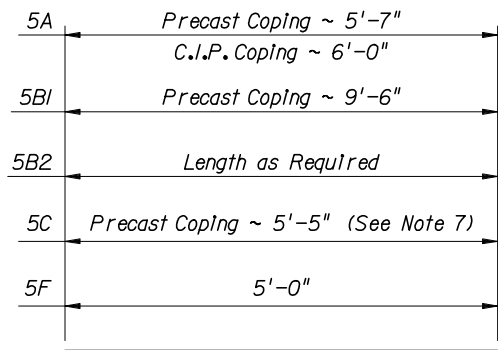
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**PERMANENT RETAINING WALL SYSTEMS**

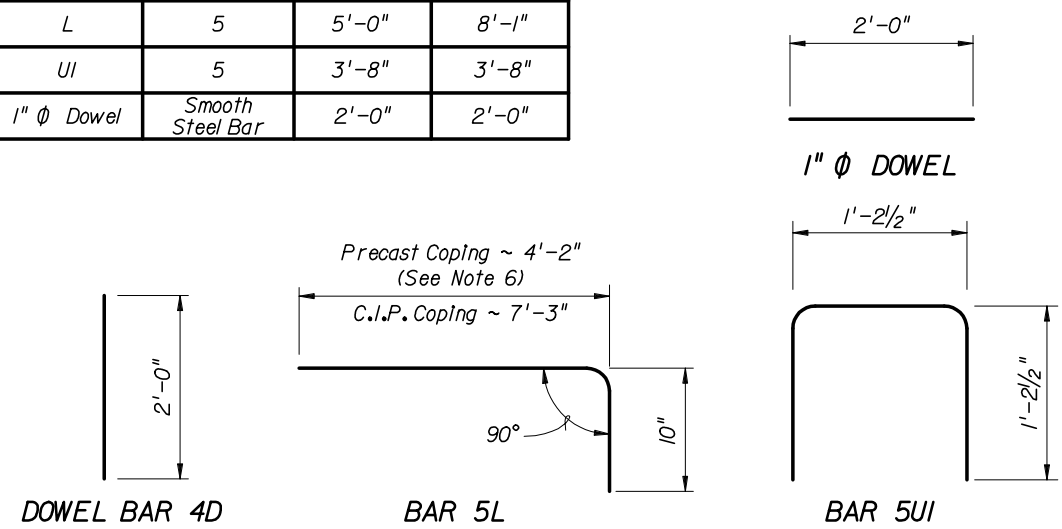
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REINFORCING STEEL BENDING DIAGRAMS - RAISED SIDEWALK

BILL OF REINFORCING STEEL			
MARK	SIZE	LENGTH	
		PRECAST COPING	C.I.P. COPING
A	5	5'-7"	6'-0"
B1	5	9'-6"	N/A
B2	5	AS REQD.	AS REQD.
C	5	5'-5"	N/A
D	4	2'-0"	N/A
F	5	5'-0"	5'-0"
L	5	5'-0"	8'-1"
UI	5	3'-8"	3'-8"
1" $\phi$ Dowel	Smooth Steel Bar	2'-0"	2'-0"



BARS 5A, 5B1, 5B2, 5C & 5F



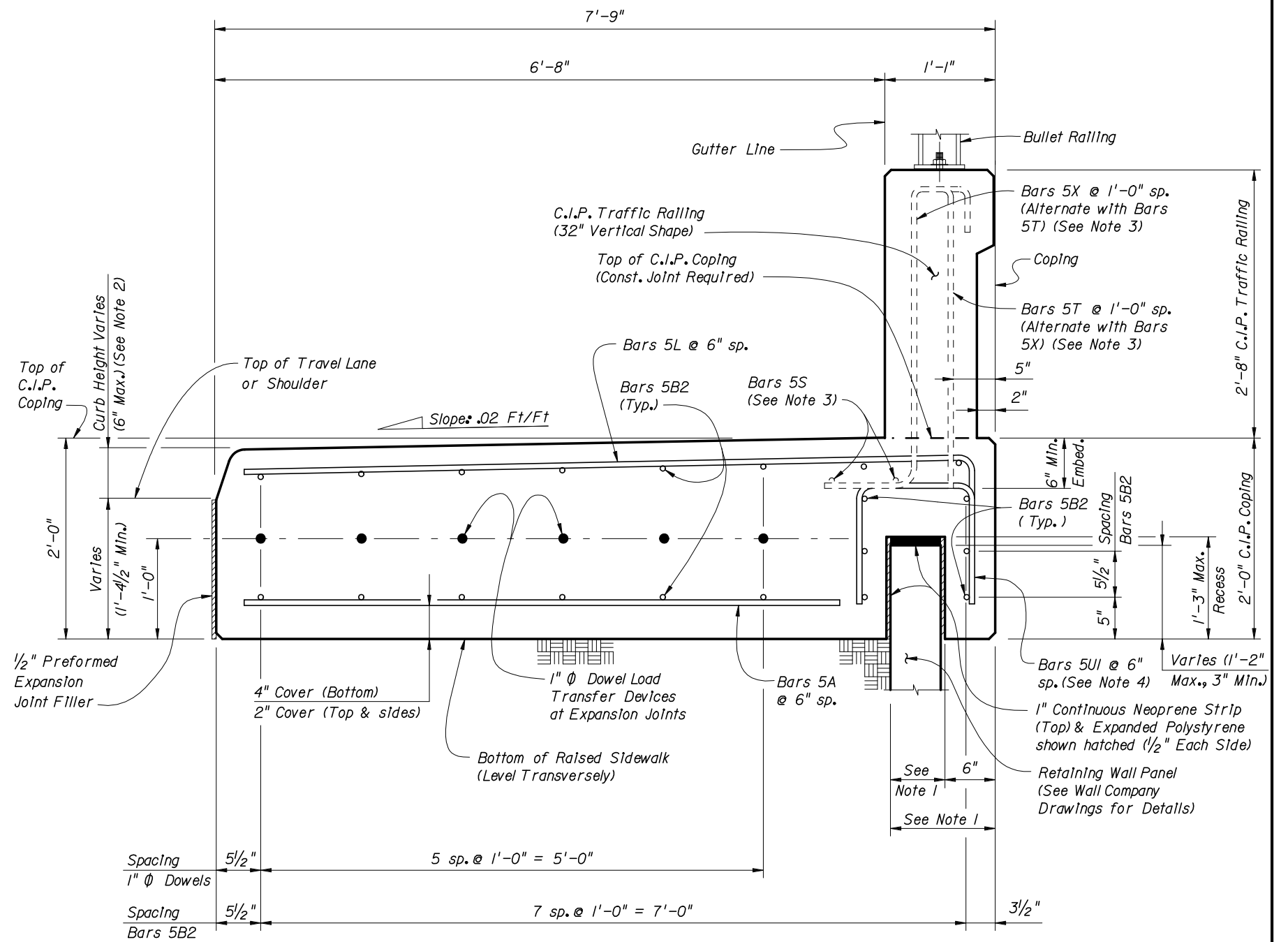
REINFORCING STEEL NOTES:

- All bar dimensions in the bending diagrams are out to out.
- All reinforcing steel at expansion joints will have a 2" minimum cover.
- Lap splices for Bars 5B will be a minimum of 2'-2".
- Lap splice Bars 5L with Bars 5C. Lap splices will be a minimum of 2'-2".
- See Index No. 423 for Bars 5S, 5T and 5X. Adjust vertical dimensions of Stirrup Bars 5T and 5X as required to account for shorter embedment into the raised sidewalk.
- Dimension shown is for lap splice option. For mechanical coupler option, this dimension is 1'-7".
- Dimension shown is for lap splice option. For mechanical coupler option, this dimension is 5'-8".
- The Contractor may use Welded Wire Fabric when approved by the Engineer. Welded Wire Fabric will conform to ASTM A 497.

ESTIMATED QUANTITIES FOR C.I.P. COPING

ITEM	UNIT	QUANTITY
Concrete	CY/FT	0.538
Reinforcing Steel (Typical) excluding Bars 5T, 5X and 5S (Typ.)	LB/FT	50.24
Additional Reinf. @ Expansion Joints	LB	32.04

The above concrete quantities are based on a 5" wide retaining wall panel and a Type D Concrete Curb (See Note 2).



TYPICAL SECTION THRU C.I.P. COPING AND RAISED SIDEWALK AND RETAINING WALL AT EXPANSION JOINTS

RAISED SIDEWALK NOTES:

- Actual width varies depending on type of Retaining Wall used.
- Match roadway curb shape (Type) and height. See Roadway Plans and Index No. 300. 6'-8" dimension is based on a Type D curb adjacent to a 6'-0" wide sidewalk. Adjust this dimension as required for other curb types.
- See Index No. 423 for Bars 5S, 5T & 5X and Bullet Railing details.
- Increase the width (1'-2 1/2") of Bars 5UI as required to maintain 2" minimum cover when recess width exceeds 8".

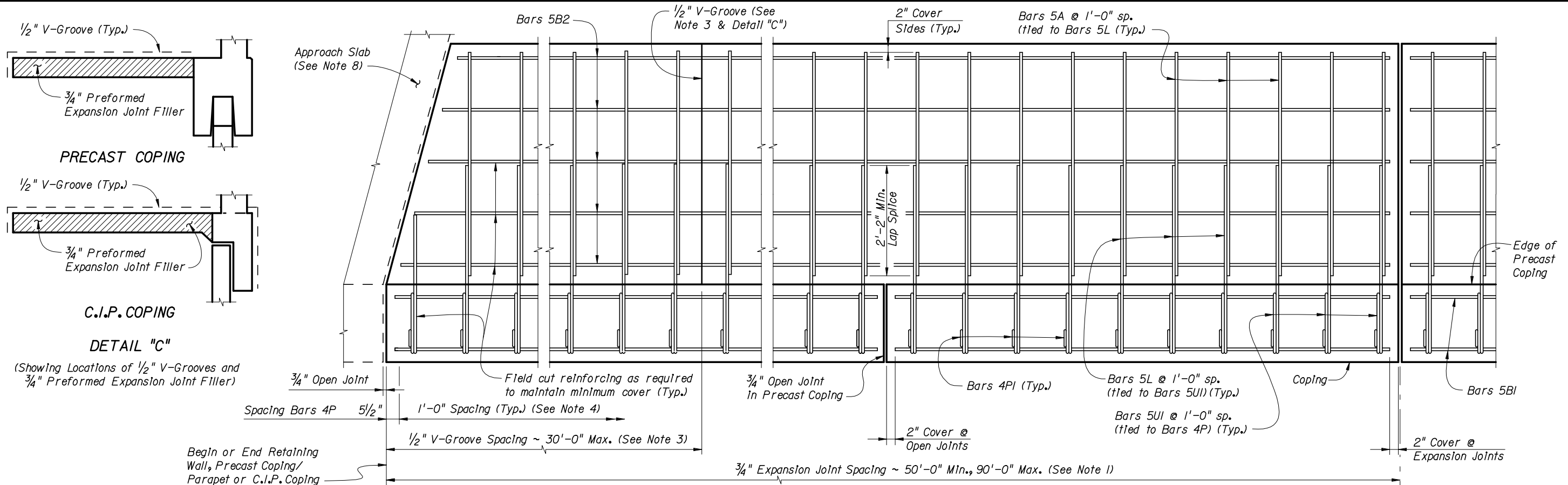
PRECAST OR C.I.P. COPING WITH C.I.P. RAISED SIDEWALK DETAILS



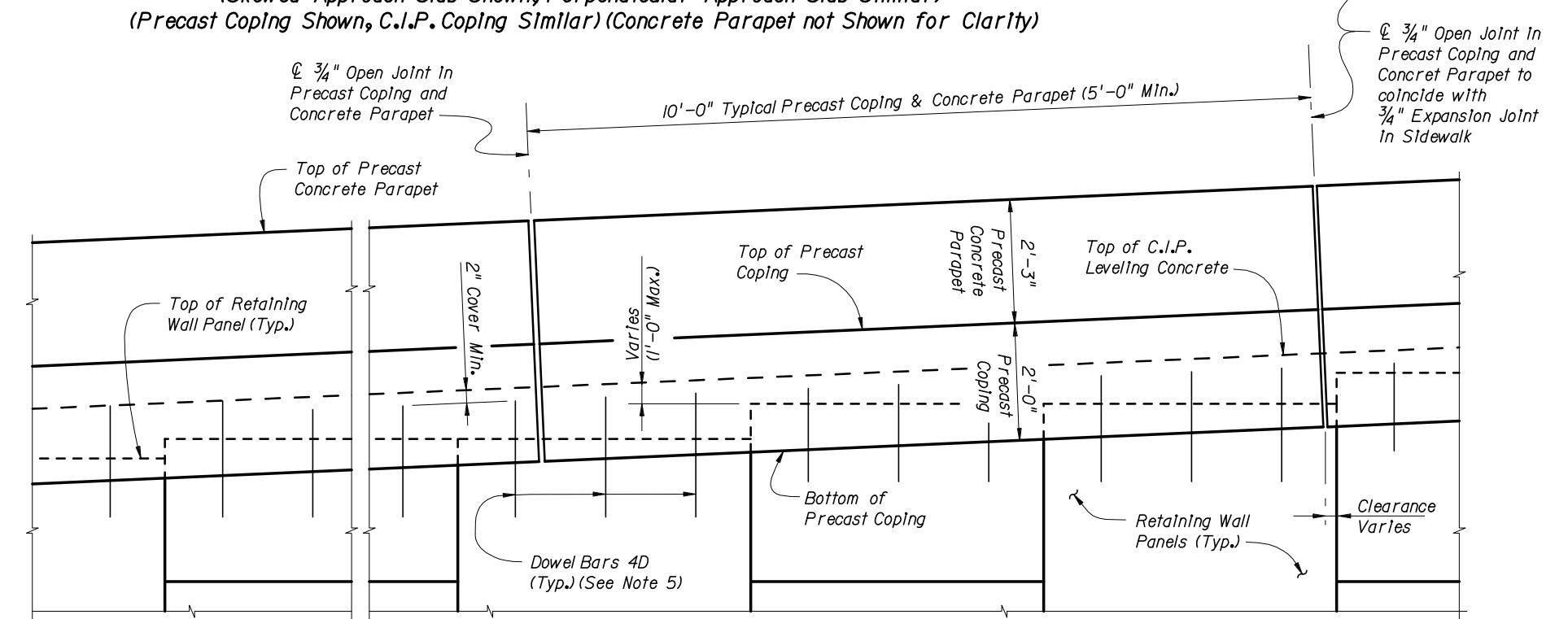
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**PARTIAL PLAN VIEW**  
 (Skewed Approach Slab Shown, Perpendicular Approach Slab Similar)  
 (Precast Coping Shown, C.I.P. Coping Similar) (Concrete Parapet not Shown for Clarity)



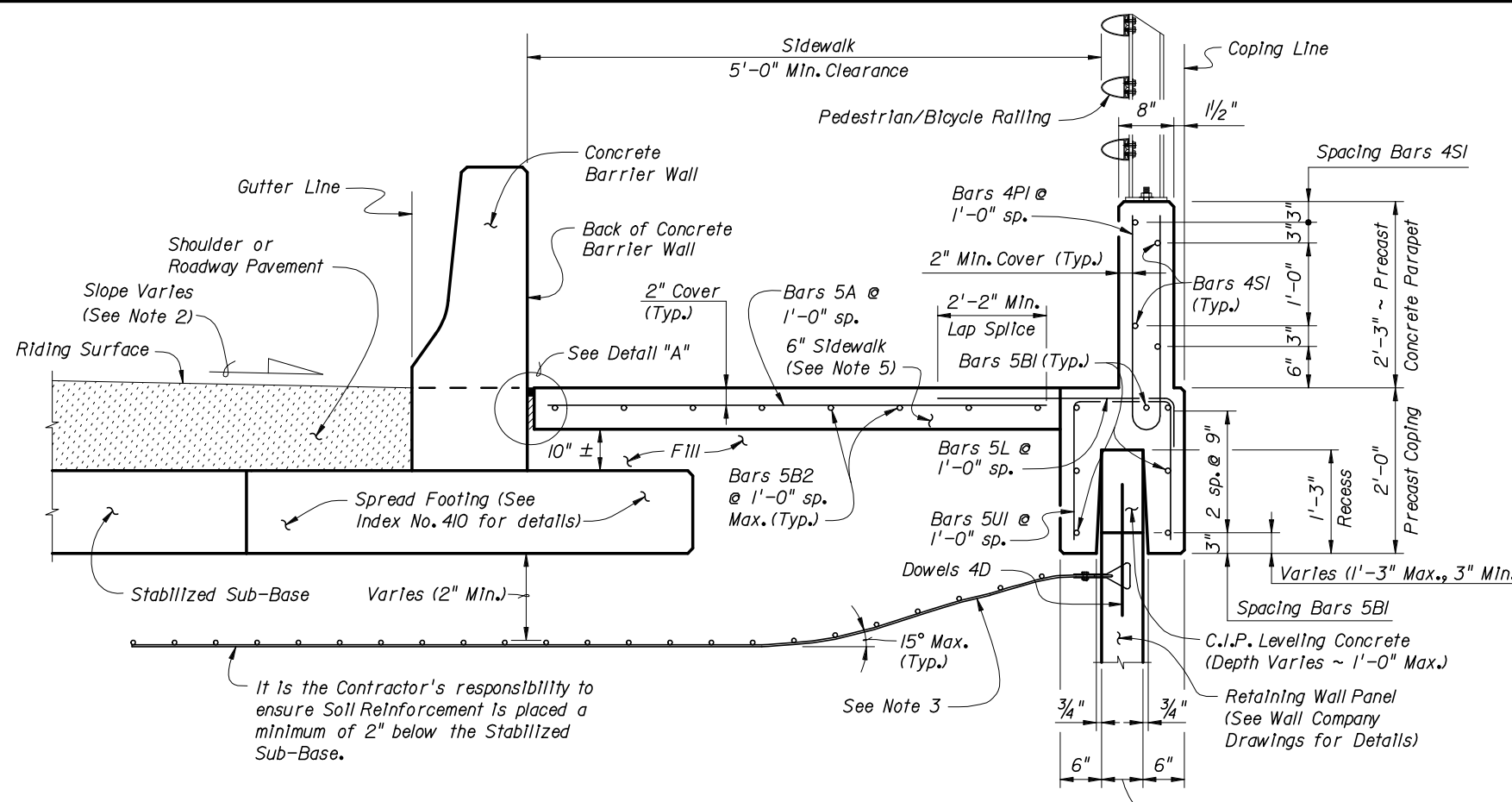
**PARTIAL ELEVATION VIEW**  
 (Precast Coping and Sidewalk Reinforcing not Shown for Clarity)  
 (Precast Coping Shown, C.I.P. Coping Similar)

**PRECAST COPING/PARAPET OR C.I.P. COPING WITH C.I.P. SIDEWALK DETAILS**

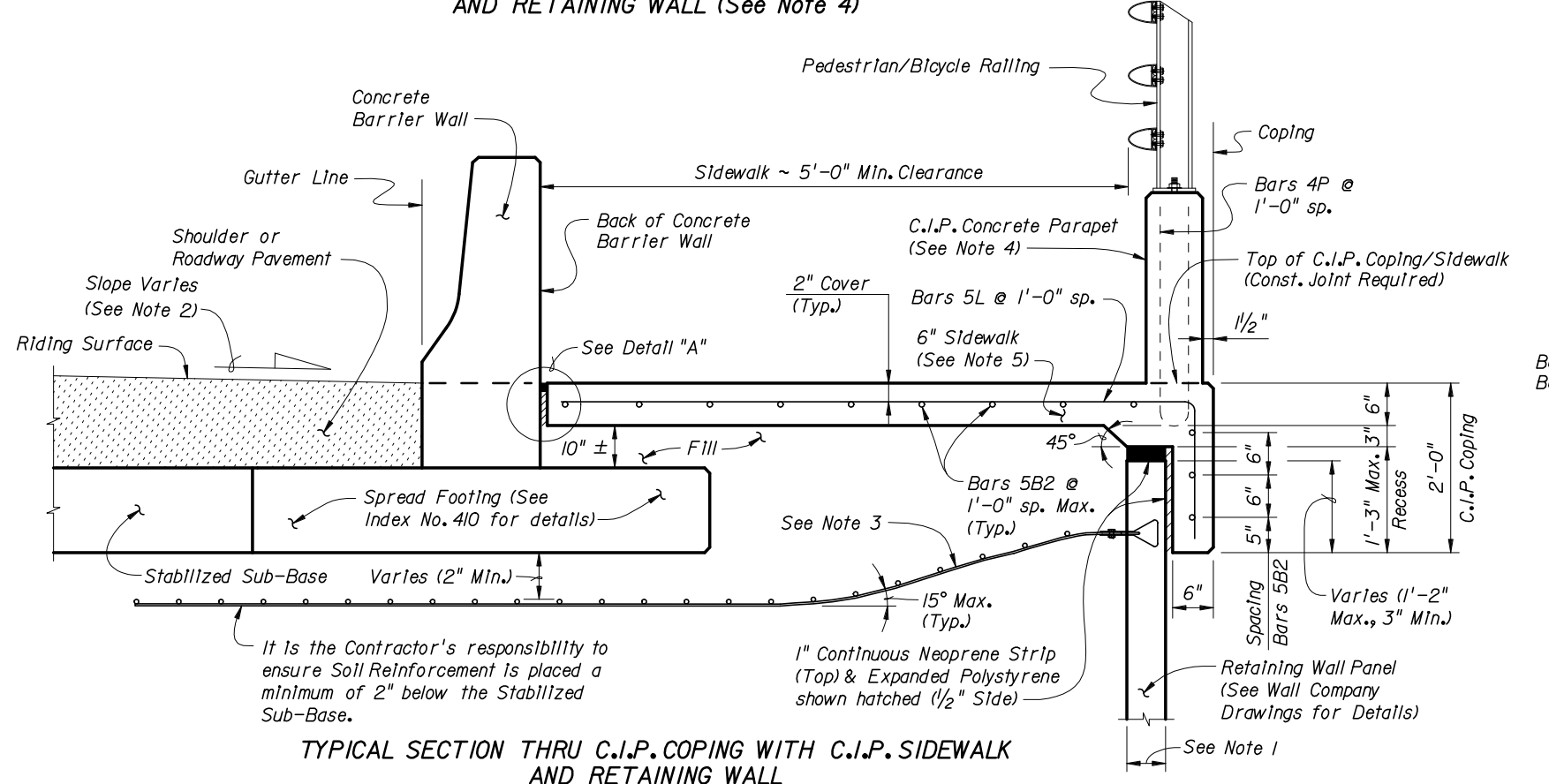
**PRECAST COPING/PARAPET AND SIDEWALK NOTES:**

1. Construct  $\frac{3}{4}$ " Expansion Joints in sidewalk and C.I.P. coping plumb and perpendicular or radial to the Gutter Line. Provide at 90'-0" maximum intervals as shown.
2. Provide and Install Preformed Expansion Joint Filler in accordance with Specification Section 932.
3. Construct  $\frac{1}{2}$ " V-Grooves in sidewalk and C.I.P. coping plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between  $\frac{3}{4}$ " Expansion Joints and/or Begin or End Sidewalk. For C.I.P. Coping only, V-Groove locations are to coincide with V-Groove locations in the Concrete Parapet.
4. Spacing shown is along the Gutter Line.
5. For Precast Coping only, Dowel Bars 4D are to extend 1'-0" above the top of retaining wall panel. Field cut as necessary to maintain 2" minimum cover to the top of the leveling concrete. See Wall Company Drawings for number and spacing of Dowel Bars 4D.
6. Work this Index with the following:  
 Index No. 410 - Concrete Barrier Wall
7. For C.I.P. Coping only, work this Index with the following:  
 Index No. 820 - Pedestrian/Bicycle Railing.
8. The following indexes contain details of the intersection of the retaining wall at approach slabs:  
 Index No. 20900 - Approach Slabs (Flexible Pavement Approaches)  
 Index No. 20910 - Approach Slabs (Rigid Pavement Approaches)

CROSS REFERENCE: For Detail "C", see Sheet 11 of 15.



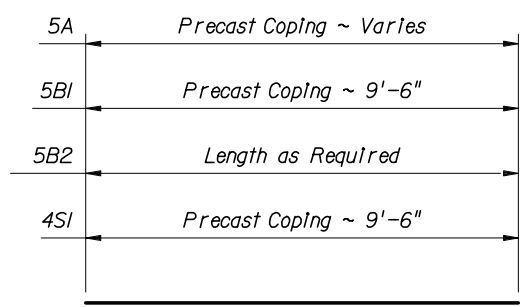
TYPICAL SECTION THRU PRECAST COPING/PARAPET WITH C.I.P. SIDEWALK AND RETAINING WALL (See Note 4)



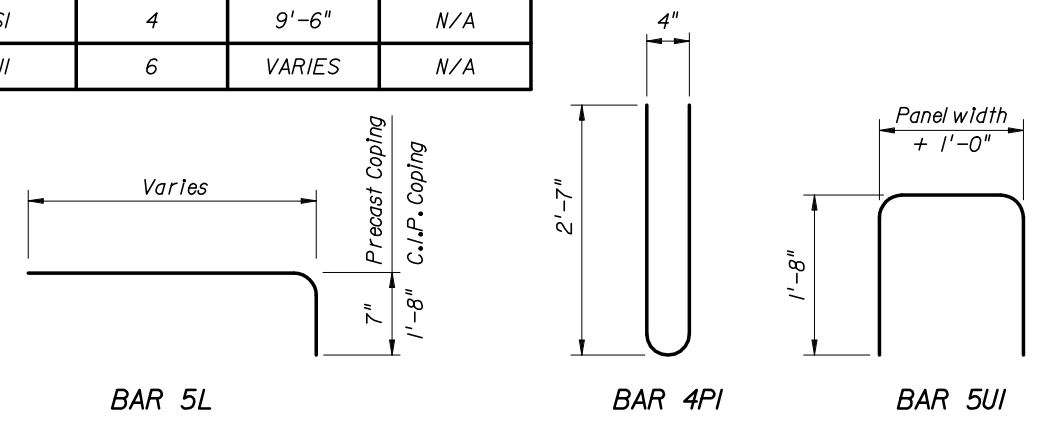
TYPICAL SECTION THRU C.I.P. COPING WITH C.I.P. SIDEWALK AND RETAINING WALL

REINFORCING STEEL BENDING DIAGRAMS - COPING/PARAPET AND SIDEWALK

BILL OF REINFORCING STEEL			
MARK	SIZE	LENGTH	
		PRECAST COPING	C.I.P. COPING
A	5	VARIES	N/A
B1	5	9'-6"	N/A
B2	5	AS REQD.	AS REQD.
D	4	2'-0"	N/A
L	5	VARIES	VARIES
PI	4	5'-5"	N/A
SI	4	9'-6"	N/A
UI	6	VARIES	N/A



BARS 5A, 5B1, 5B2 & 4SI

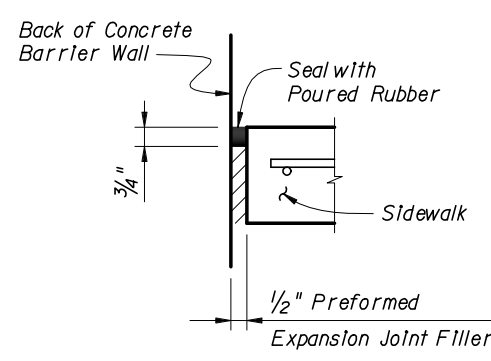


REINFORCING STEEL NOTES:

1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at expansion joints will have a 2" minimum cover.
3. Lap splices for Bars 5B2 will be a minimum of 2'-2".
4. For Precast Coping only, lap splice Bars 5L with Bars 5A. Lap splices will be a minimum of 2'-2".
5. For C.I.P. only, see Index No. 820 for Bars 4P and 4S.
6. The Contractor may use Welded Wire Fabric when approved by the Engineer. Welded Wire Fabric will conform to ASTM A 497.

PRECAST COPING/PARAPET AND SIDEWALK NOTES:

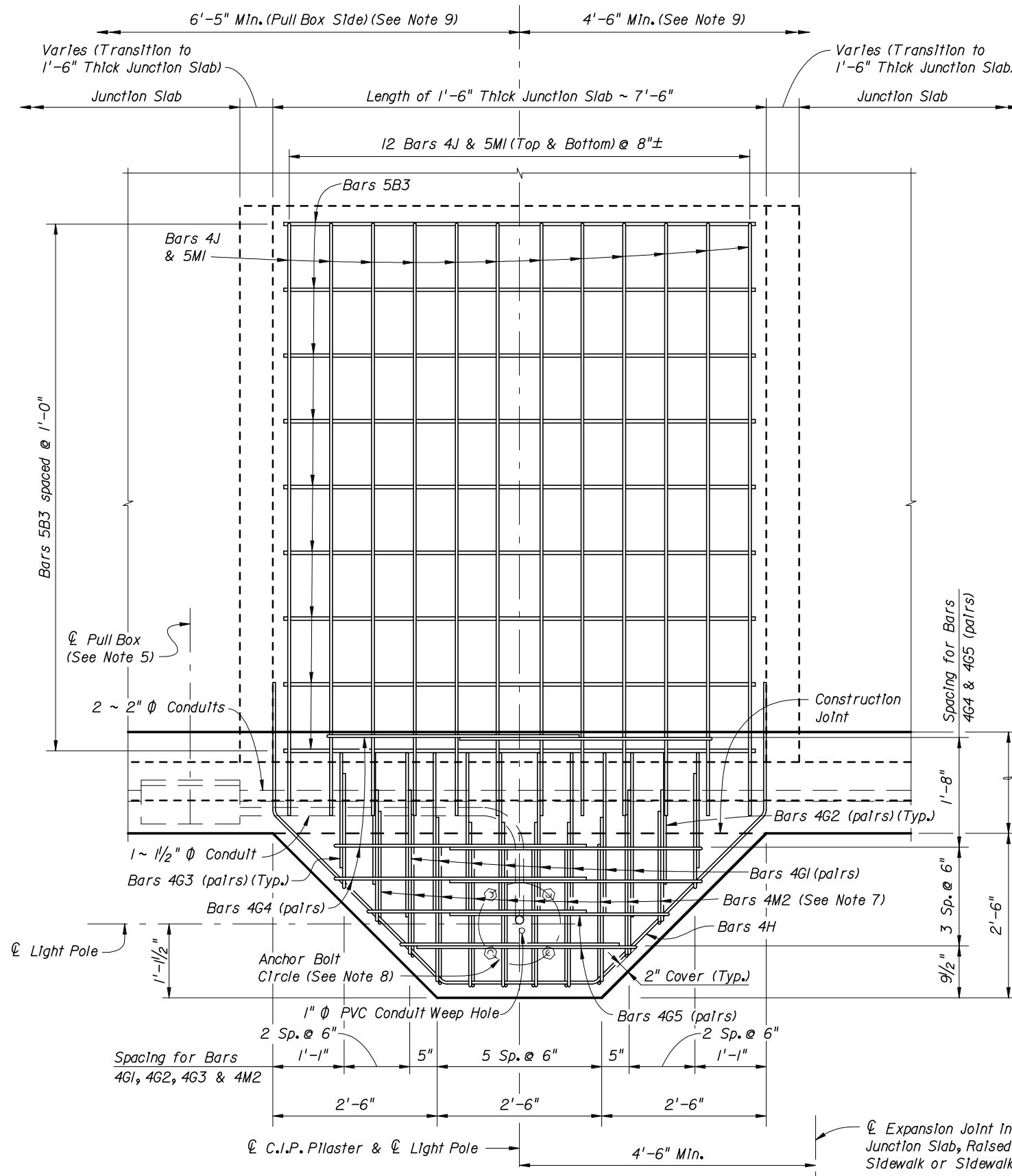
1. Actual width varies depending on type of Retaining Wall used.
2. Match Cross Slope of Travel Lane or Shoulder.
3. Gradually deflect/displace Soil Reinforcement downward as required. Soil Reinforcement is shown deflected downward for illustrative purposes only and is not to scale. See Wall Company Drawings for details.
4. C.I.P. Concrete Parapet shown, Vertical Shape Traffic Railing similar. Complete details and dimensions of Vertical Traffic Railings are required in the Shop Drawings.
5. Match cross slope of connecting sidewalk or as shown in the Wall Control Drawings.



DETAIL "A"

PRECAST COPING/PARAPET OR C.I.P. COPING WITH C.I.P. SIDEWALK DETAILS





PLAN VIEW  
 (Junction Slab reinforcing not shown for clarity)  
 (Junction Slab Shown, Raised Sidewalk or Sidewalk Similar)

LIGHT PILASTER NOTES:

- The pilaster and junction slab are designed to resist the following working loads from the light pole applied at the top of the Pilaster:
 

Axial Deadload	=	1,560 kip
(*) Windload Moment about Transverse Axis	=	40.60 kip-ft
(*) Windload Moment about Longitudinal Axis	=	28.30 kip-ft
(*) Deadload Moment about Longitudinal Axis	=	1,690 kip-ft
Maximum Shear	=	1,380 kip
Torsion about Pole Axis	=	3,560 kip-ft

 (\*) - Axis refers to Bridge Axis.
- Provide grout in accordance with Specification Section 934.
- It is the Contractor's responsibility to provide anchor bolts, nuts, washers and anchor plates that effectively transmit the light pole loads to the pilaster and fit the reinforcing cage. Submit calculations for anchor bolt design and embedment depth, signed and sealed by a Professional Engineer registered in the State of Florida to the Engineer for review and approval prior to construction.
- Install Anchor Bolts plumb.
- For conduit, pull box and expansion/deflection fitting details, see Utility Conduit Detail Drawings.
- The cost of all labor, concrete and reinforcing steel required for construction of the pilasters, grout pads, pull boxes and miscellaneous hardware required for the completion of the electrical system in the bid price for either the Traffic Railing or Concrete Parapet that the pilaster is behind.
- Field Cut Bars 4M2 as required to maintain clearance.
- Anchor Bolt pattern orientation will be as shown.
- Slip Forming Method of construction is not allowed within the limits shown.
- Reinforcing shown for light pole pilasters is in addition to typical reinforcing for C.I.P. Junction Slabs (Bars 6A & 5B2) and Raised Sidewalks (Bars 5A and 5B2). Omit Junction Slab Bars 6U1 and Raised Sidewalk Bars 5U1 within light pole pilaster limits.
- Work this Sheet with the following as appropriate:
  - Sheet Nos. 4, 5, and 6 of 15 - Precast or C.I.P. Coping with C.I.P. Junction Slab Details
  - Sheet Nos. 7, 8, and 9 of 15 - Precast or C.I.P. Coping with C.I.P. Raised Sidewalk Details
  - Sheet Nos. 10 and 11 of 15 - Precast Coping/Parapet or C.I.P. Coping with C.I.P. Sidewalk Details

CROSS REFERENCE: For Estimated Quantities, see Sheet No. 14 of 15.

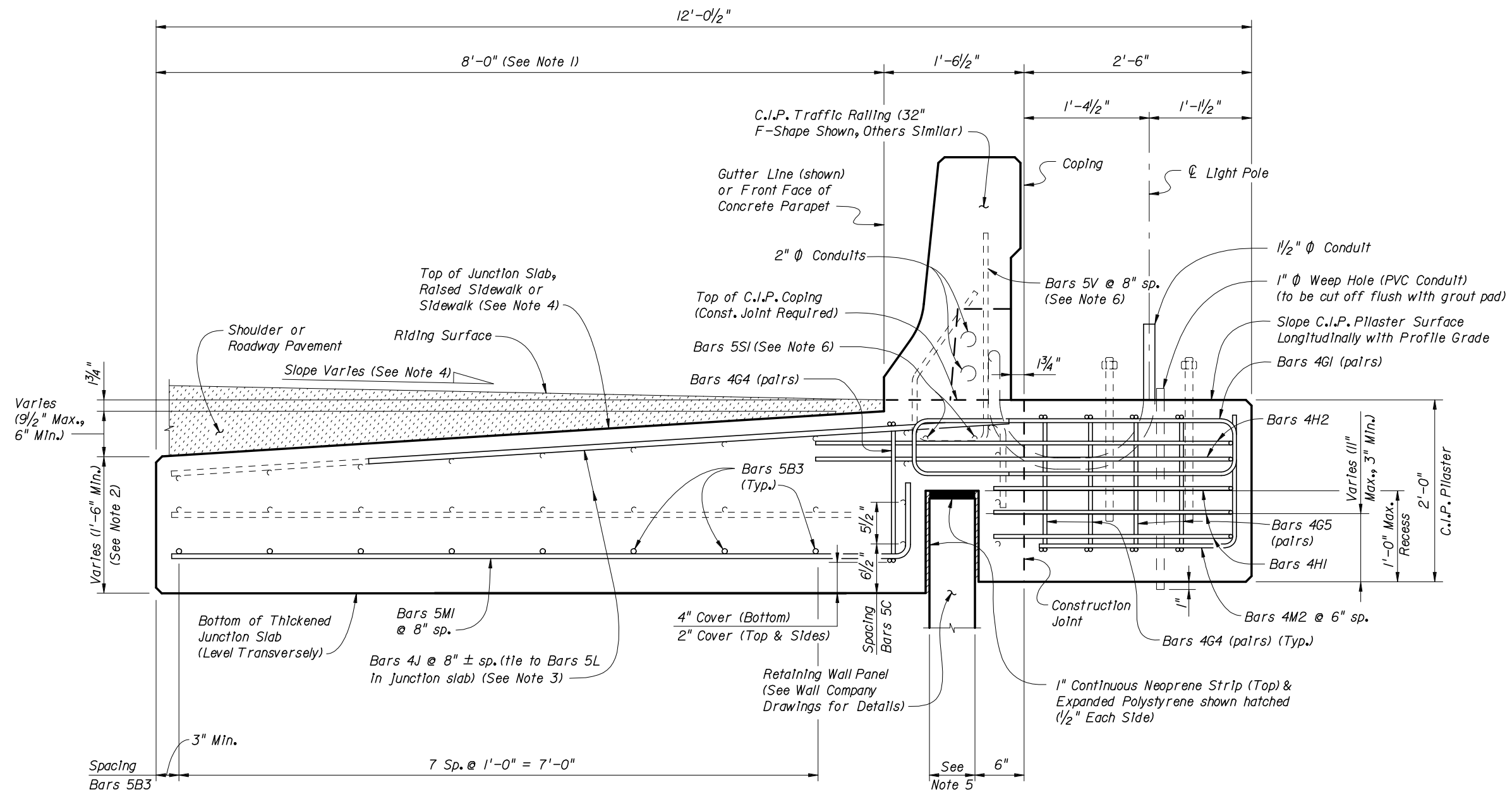
C.I.P. LIGHT POLE PILASTER DETAILS



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**TYPICAL SECTION AT LIGHT POLE PILASTER**  
 (Traffic Railing Shown, Concrete Parapet Similar)  
 (Junction Slab Shown, Raised Sidewalk or Sidewalk Similar)

**NOTES:**

1. The 8'-0" dimension shown is for Junction Slabs. This dimension must be a minimum of 5'-0" for all applications.
2. For junction slabs, increase the 1'-0" depth dimension to 1'-6". For raised sidewalks, increase the 2'-0" depth dimension to 2'-6". For sidewalks, increase 6" depth dimension to 1'-6". The minimum length of the Junction Slabs, Raised sidewalks and Sidewalks is 50'-0", measured along the Gutter Line.
3. Bars 4J are only required when pilasters are behind a Traffic Railing.
4. Match the slope of the adjoining junction slab and shoulder or roadway pavement, raised sidewalk or sidewalk.
5. Actual width varies depending on type of Retaining Wall used.
6. See Index No. 420 for Bars 5V and 5SI.

C.I.P. LIGHT POLE PILASTER DETAILS



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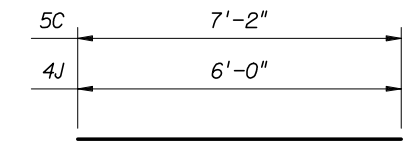
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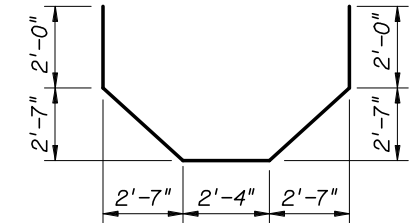
REINFORCING STEEL BENDING DIAGRAMS - LIGHT PILASTER

BILL OF REINFORCING STEEL

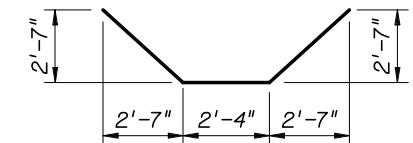
MARK	SIZE	NO. REQ'D	LENGTH
B3	5	8	7'-2"
G1	4	16	5'-8"
G2	4	4	4'-8"
G3	4	4	4'-2"
G4	4	6	9'-2"
G5	4	4	8'-2"
H1	4	3	9'-8"
H2	4	2	13'-8"
J	4	24	6'-0"
M1	5	12	8'-10"
M2	4	10	3'-8"



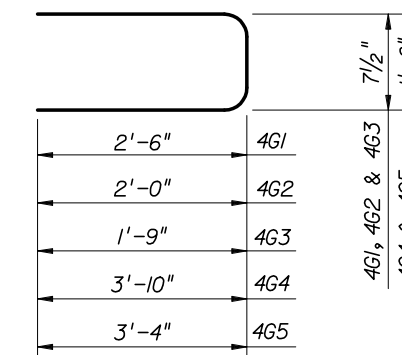
BARS 5B3 & 4J



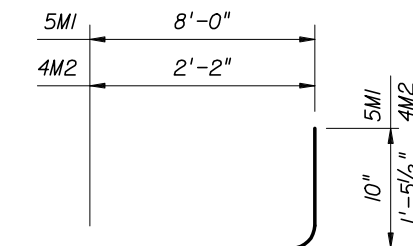
BAR 4H2



BAR 4H1



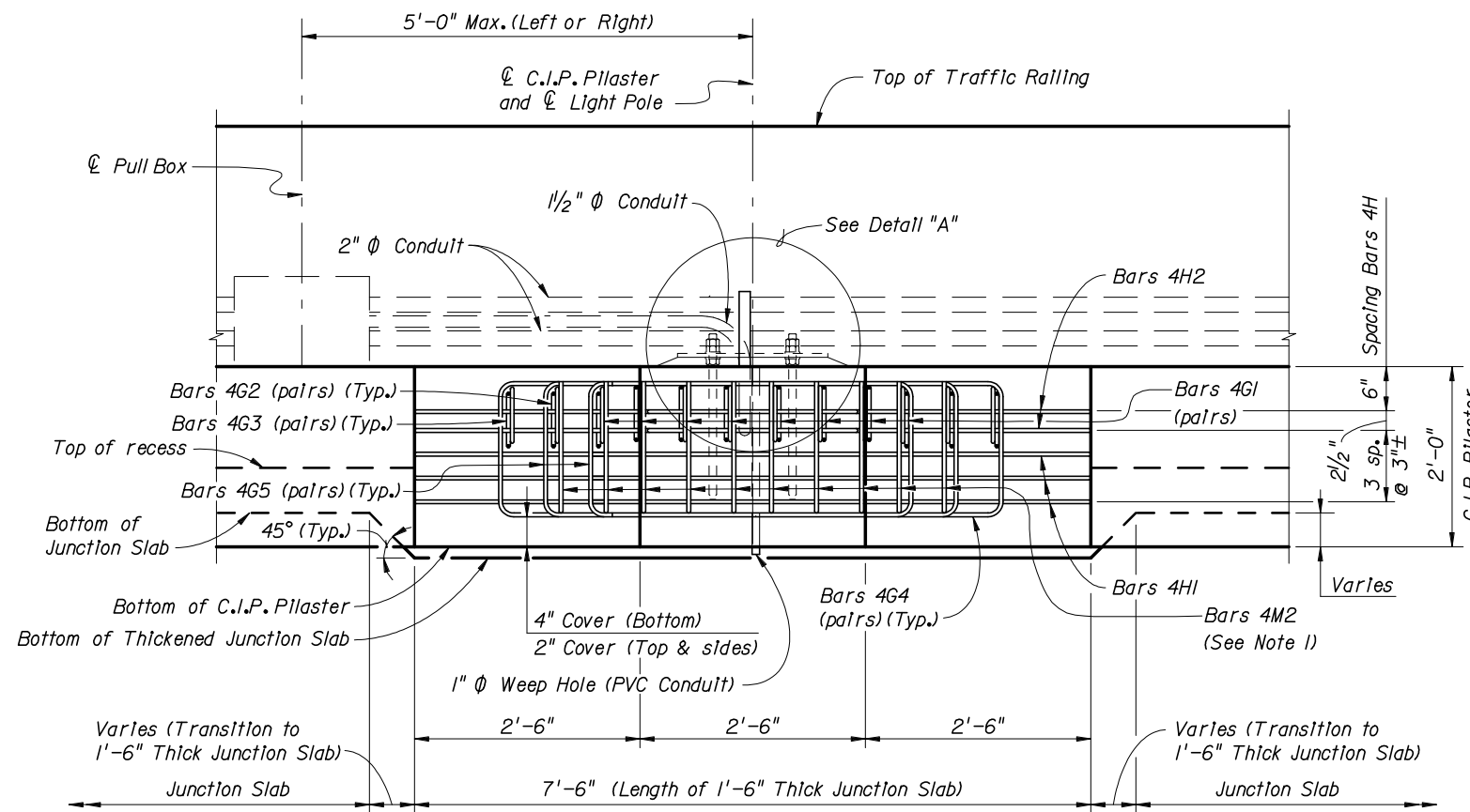
BARS 4G1, 4G2, 4G3, 4G4 & 4G5



BAR 5M1 & 4M2

REINFORCING STEEL NOTES:

- All bar dimensions in the bending diagrams are out to out.
- Lap splices for Bars 4G1, 4G2 & 4G3 will be a minimum of 1'-4". Lap splices for Bars 4G4 & 4G5 will be a minimum of 1'-8".
- The Contractor may use Welded Wire Fabric when approved by the Engineer. Welded Wire Fabric will conform to ASTM A 497.



ELEVATION VIEW  
(Junction Slab Reinforcing & Bars 4J not Shown for Clarity)  
(Traffic Railing Shown, Concrete Parapet Similar)  
(Junction Slab Shown, Raised Sidewalk or Sidewalk Similar)

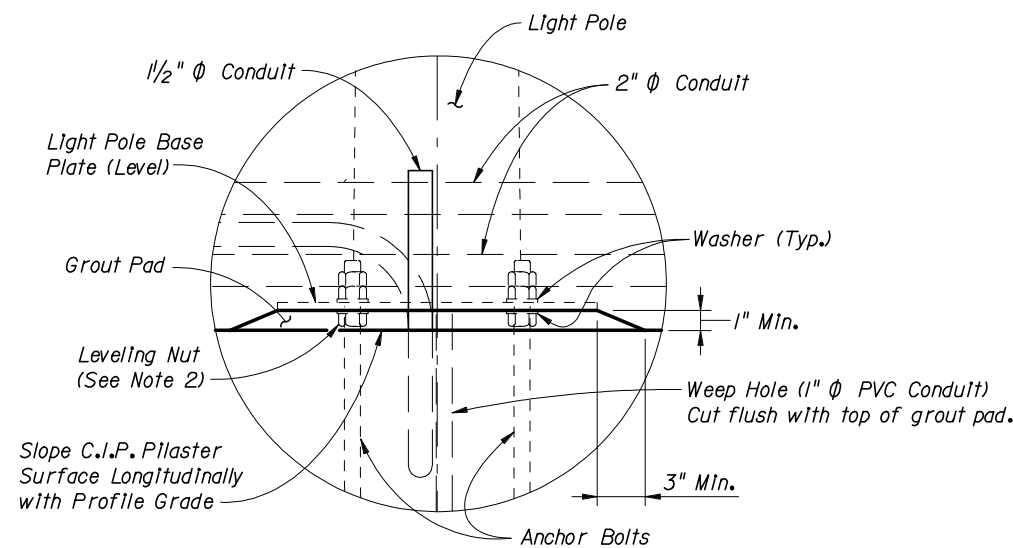
NOTES:

- Field Cut Bars 4M2 as required to maintain minimum cover.
- Maximum clearance between leveling nut and top of pilaster will not exceed anchor bolt diameter.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Concrete (Pilaster)	C.Y.	0.926
Concrete (Thickened Junction Slab)	C.Y.	1.180
Reinforcing Steel	LB.	471.40

(The quantities above are for one C.I.P. Light Pole Pilaster. The concrete quantity at left for the thickened junction slab is based on a 6" increase in thickness and a 5" wide retaining wall panel. Adjust thickened concrete quantity as required for raised sidewalks and sidewalks.)



DETAIL "A"

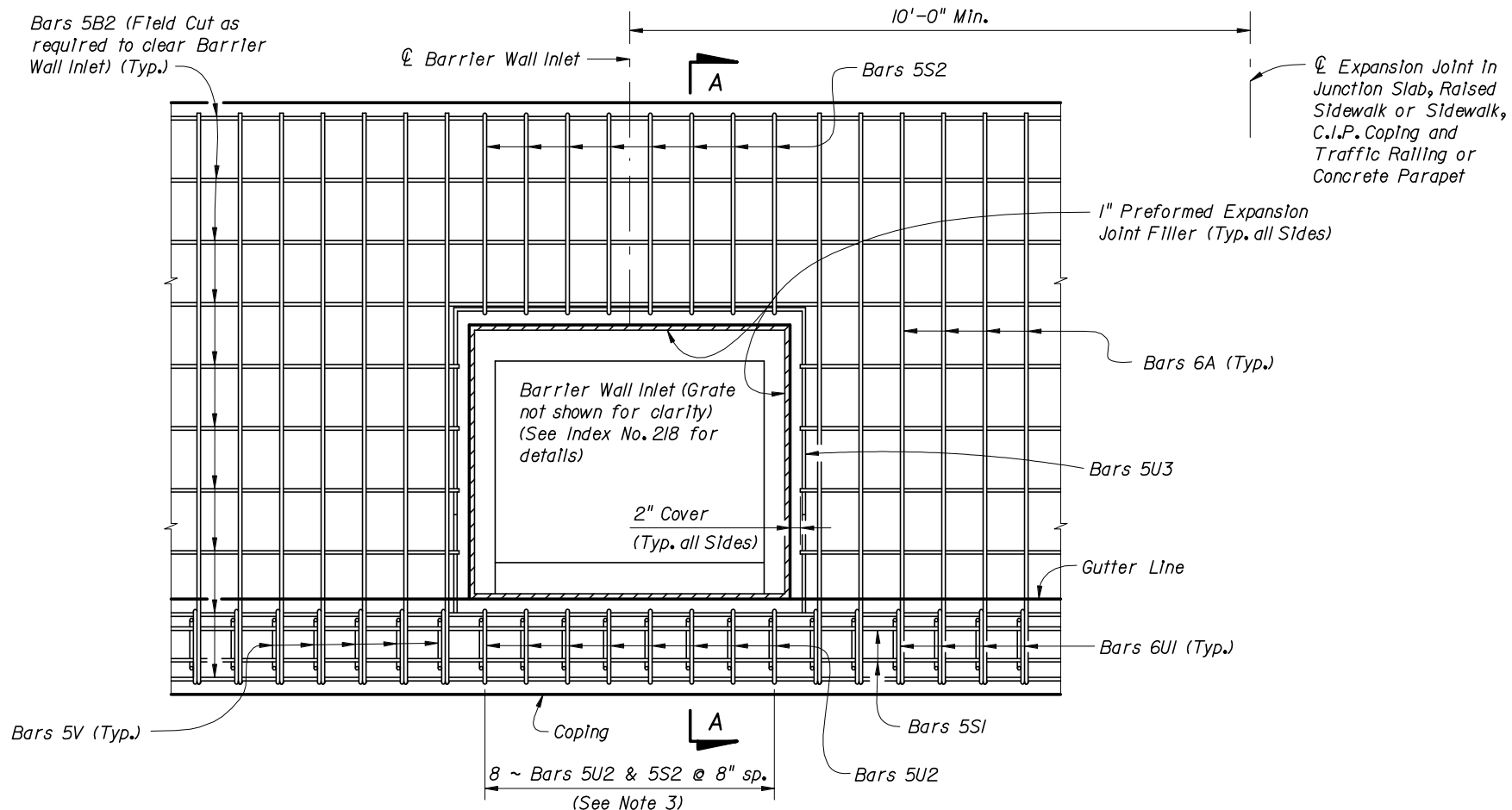
C.I.P. LIGHT POLE PILASTER DETAILS



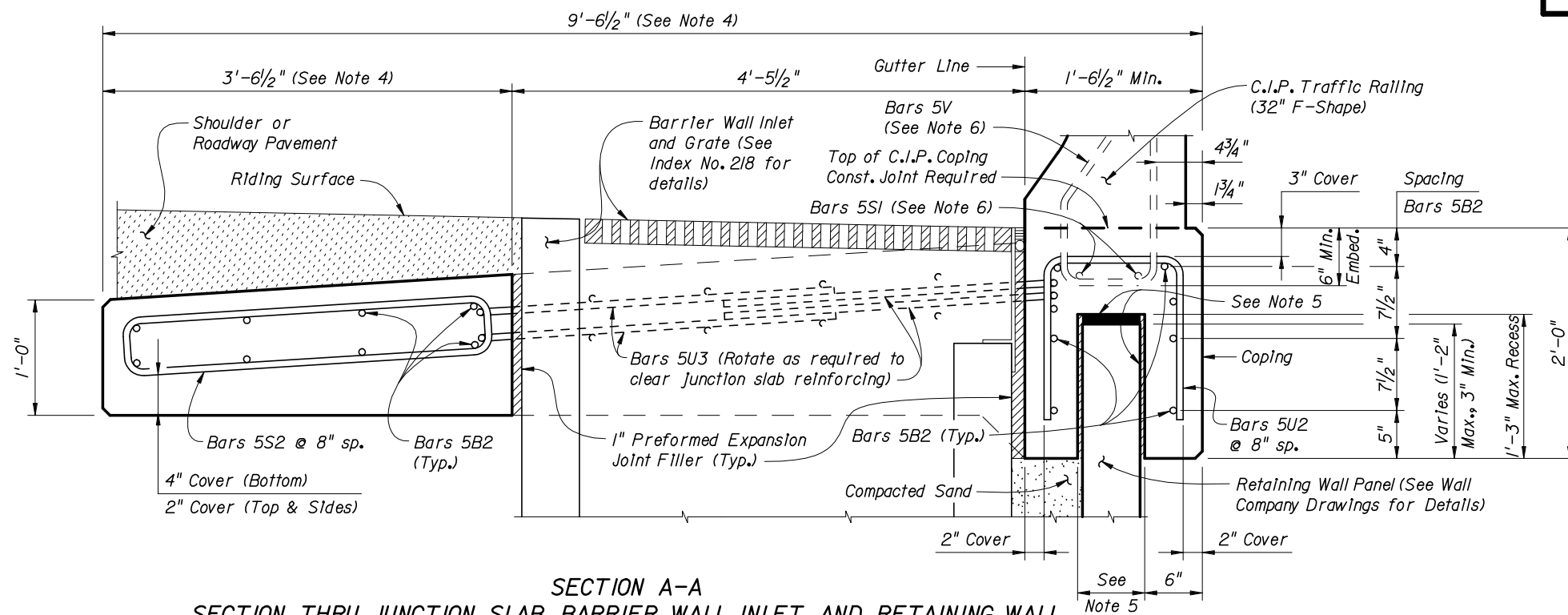
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**PLAN VIEW**  
(Junction Slab Shown, Raised Sidewalk Similar)

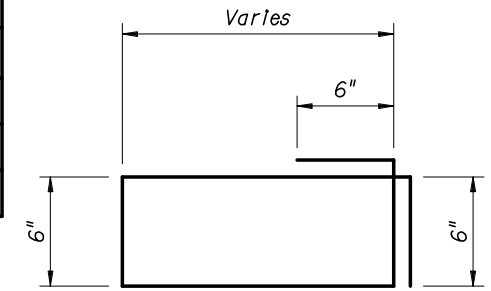


**SECTION A-A**  
SECTION THRU JUNCTION SLAB, BARRIER WALL INLET AND RETAINING WALL  
(Junction Slab Shown, Raised Sidewalk Similar)

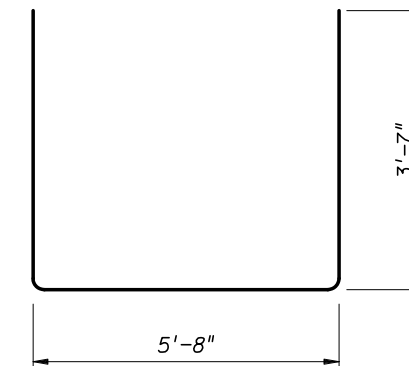
**REINFORCING STEEL BENDING DIAGRAMS - DRAINAGE**

**BILL OF REINFORCING STEEL**

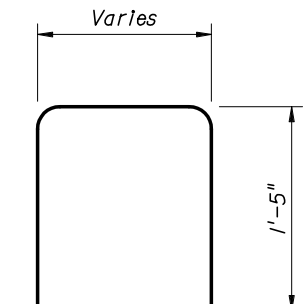
MARK	SIZE	LENGTH
S2	5	VARIABLES
U2	5	VARIABLES
U3	5	14'-2"



**BAR 5S2**



**BAR 5U3**



**BAR 5U2**

**REINFORCING STEEL NOTES:**

1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at open joints will have a 2" minimum cover.
3. See Sheet Nos. 3 thru 10 of 14 for Bars 6A (or 5A), 5B2 and 6U1 (or 5U1).
4. The Contractor may use Welded Wire Fabric when approved by the Engineer. Welded Wire Fabric will conform to ASTM A 497.

**NOTES:**

1. Spacing shown is along the Gutter Line. Spacing shown is for C.I.P. Junction Slab. For C.I.P. Raised Sidewalks or Sidewalks, match bar spacing shown in Typical Sections (i.e., 11 ~ Bars 5U2 and 5S2 @ 8" sp. for Raised Sidewalks).
2. Dimensions shown are for junction slabs. The 3'-6 1/2" dimension must be a minimum of 1'-0" for raised sidewalks.
3. Actual location & width vary depending on type of Retaining Wall used.
4. See Index No. 20700 for Bars 5V and 5S1.
5. 1" Continuous Neoprene Strip (Top) & Expanded Polystyrene shown hatched (1/2" Each Side).
6. Locate  $\bar{C}$  Barrier Wall Inlet a minimum of 10'-0" away from  $\bar{C}$  Expansion Joints in Junction Slab, Raised Sidewalk or Sidewalk, C.I.P. Coping and Traffic Railing or Concrete Parapet.
7. Work this Sheet with the following as appropriate:  
 Sheet Nos. 4, 5, and 6 of 15 - Precast or C.I.P. Coping with C.I.P. Junction Slab Details  
 Sheet Nos. 7, 8, and 9 of 15 - Precast or C.I.P. Coping with C.I.P. Raised Sidewalk Details  
 Sheet Nos. 10 and 11 of 15 - Precast Coping/Parapet or C.I.P. Coping with C.I.P. Sidewalk Details

**C.I.P. DRAINAGE DETAILS**



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