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GENERAL NOTES:

1. GENERAL: Construct barriers in accordance with Specification 521. Use Class II concrete for all barriers constructed in slightly aggressive environments, and use Class IV Concrete for all barriers constructed in moderately or extremely aggressive environments. On all exposed surfaces, apply a General Surface Finish in accordance with Specification 400. See Index 521-001 for barrier details not addressed herein.

2. GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCEMENT: Use GFRP reinforcement for all bars shown within the Toll Site Barrier limits. This GFRP requirement excludes the project-specific steel reinforcing design required for overhead gantry supports and foundations; see Sheet 12 for limits of project-specific steel reinforcing.

   Construct GFRP bars in accordance with Specification 932. See Sheets 12 thru 14 for additional information.

3. CONSTRUCTION JOINTS: Install Transverse Joints only as-needed for discontinuous concrete casting or cold joints. Maintain continuity of reinforcement across Construction Joints. Transverse Joints are permitted at 20-foot or greater intervals along the barrier. Do not place Transverse Joints within 6 inches of Pull Box locations.

4. CRACK CONTROL V-GROOVES: At 20-foot maximum intervals, place ⅜" depth V-grooves that run vertically and transversely in the front, top, and back faces of barriers. The V-grooves can be either molded or scored while the concrete is still plastic. Do not place V-grooves within 6 inches of Pull Box locations.

5. SUBGRADE: Compact the top 12 inches of the subgrade to at least 98% of the maximum density determined by FM 1-T 180, Method D.

6. BOTTOM CONCRETE COVER: At the bottom face of barriers shown throughout this Index, up to 3 inches of additional concrete cover is permitted beyond what is shown herein to accommodate soil grade irregularities.

7. FINISH GRADE ELEVATION: At the barrier face location, the finish grade pavement has a vertical position tolerance of ± ½" from the locations shown herein, relative to the barrier elevation. Maintain visually smooth and even pavement at the barrier face, per the approval of the Engineer.

8. MINOR GRADE SEPARATION: Where called for in the Plans, the nominal pavement surface elevation may be placed up to 3" below the location shown herein on one side of the barrier. Extend the barrier's concrete lower across its entire section such that the barrier's concrete bottom remains embedded at least 1" below the lowered pavement surface.

9. SINGLE-SIDED TAPER: Where called for in the Plans, the horizontal taper shown herein may be removed on one side of the barrier. Instead, the gutter line on one side of the barrier will remain parallel to the roadway throughout the entire Toll Site Barrier segment. As a result, the tapering Width Transition and tapering Split Sections segments will increase in length, as shown in the Plans.

10. PROJECT-SPECIFIC GANTRIES: The gantries and gantry supports pictured herein are schematic only and require project-specific structural designs. See Sheet 12 for more information. Gantry designs are integral with the barriers, but materials and construction are not included with the barrier schemes shown herein. Gantry sizes and supports may vary. For full details, see the project-specific Plans.

11. PULL BOXES: The Pull Boxes shown herein are schematic only. See Sheets 12 & 13 for more information. For full details, including conduit runs through the concrete barriers, see the governing project-specific Plans or the applicable General Tolling Requirements (GTR) version. Pull Boxes are integral with the barrier, but materials and construction are not included with the barrier schemes shown herein.

12. GENERAL TOLL SITE EQUIPMENT: Toll site equipment and electronics are not shown herein. For full details, see the governing project-specific Plans or the applicable GTR version. Toll site equipment may be integral with the barrier, but materials and construction are not included with the barrier schemes shown herein.

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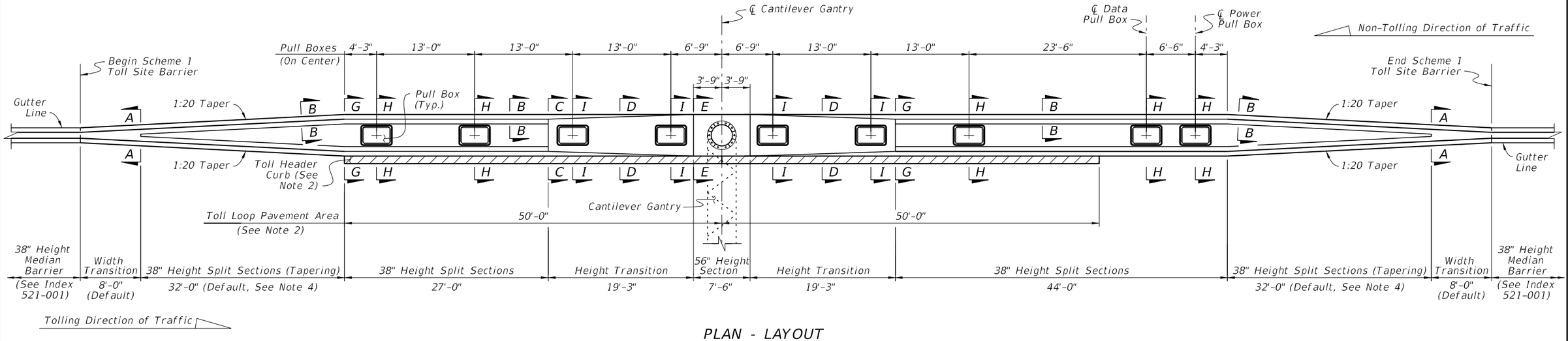
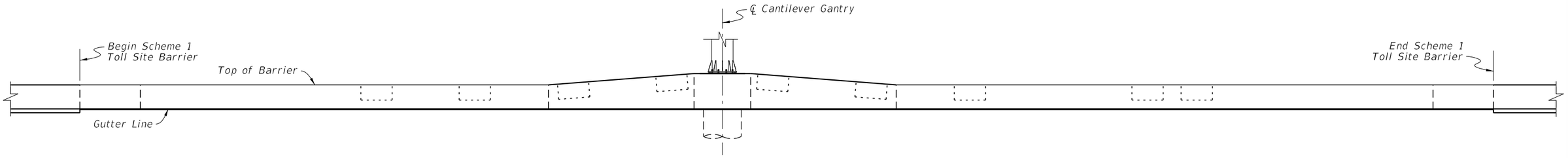


PLAN - LAYOUT



ELEVATION

NOTES:

1. GENERAL: Use Scheme 1 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantry and foundation shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 1, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 1 - SINGLE MOVEMENT - CANTILEVER GANTRY ON MEDIAN BARRIER

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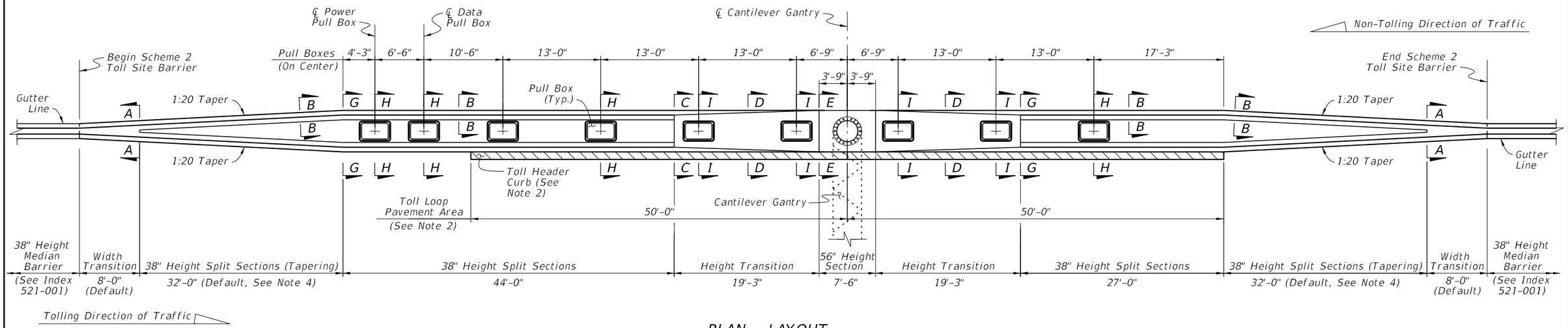

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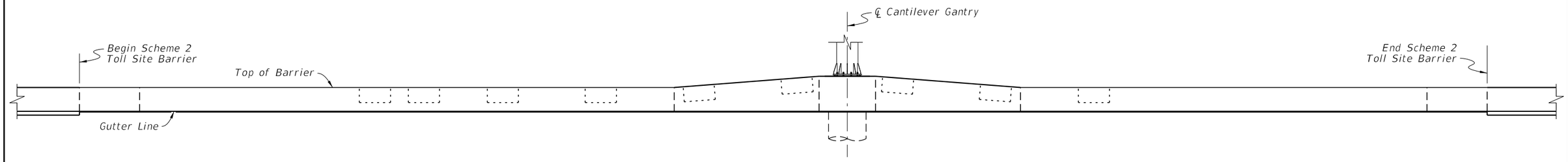

ELEVATION

NOTES:

1. GENERAL: Use Scheme 2 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantry and foundation shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 2, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 2 - SINGLE MOVEMENT - CANTILEVER GANTRY ON MEDIAN BARRIER

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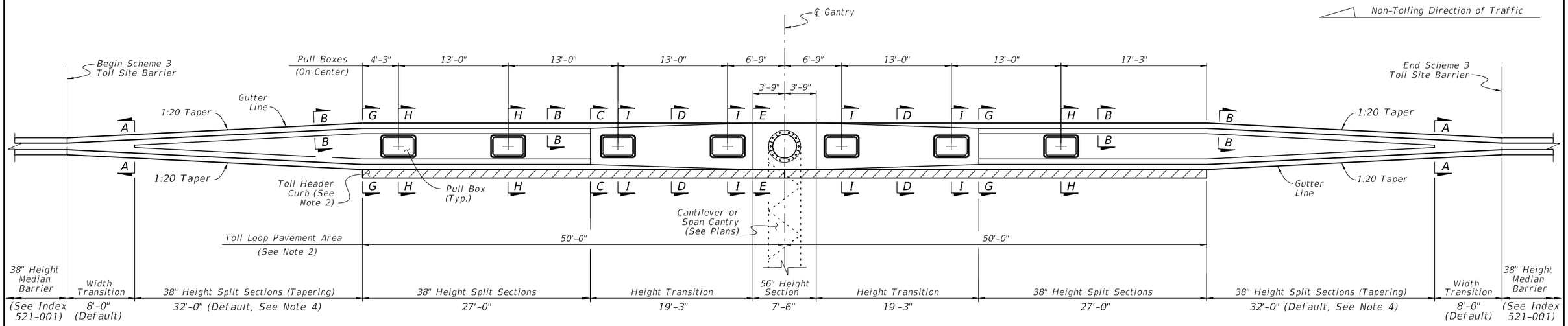
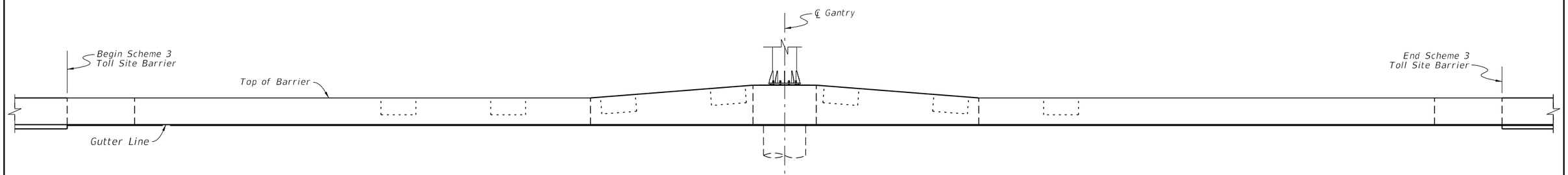
11/01/24			FY 2025-26 STANDARD PLANS	CONCRETE BARRIER AT TOLL SITES	521-005	3 of 14



PLAN - LAYOUT



ELEVATION

NOTES:

1. GENERAL: Use Scheme 3 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantry and foundation shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 3, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 3 - SINGLE MOVEMENT - CANTILEVER OR SPAN GANTRY ON MEDIAN BARRIER

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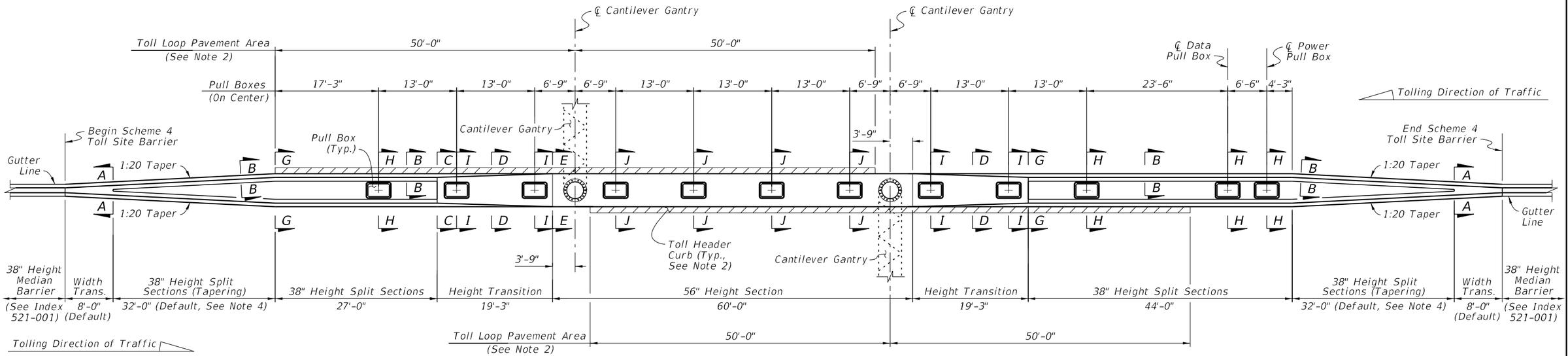
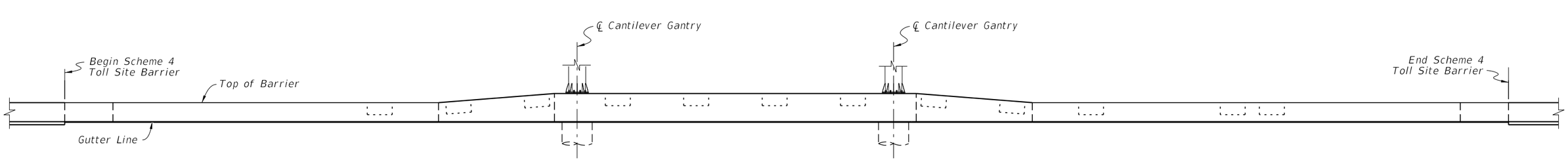


PLAN - LAYOUT



ELEVATION

NOTES:

1. GENERAL: Use Scheme 4 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantries and foundations shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 4, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 4 - DUAL MOVEMENT - CANTILEVER GANTRIES ON MEDIAN BARRIER

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LAST REVISION	REVISION	DESCRIPTION:	FY 2025-26 STANDARD PLANS	CONCRETE BARRIER AT TOLL SITES	INDEX	SHEET
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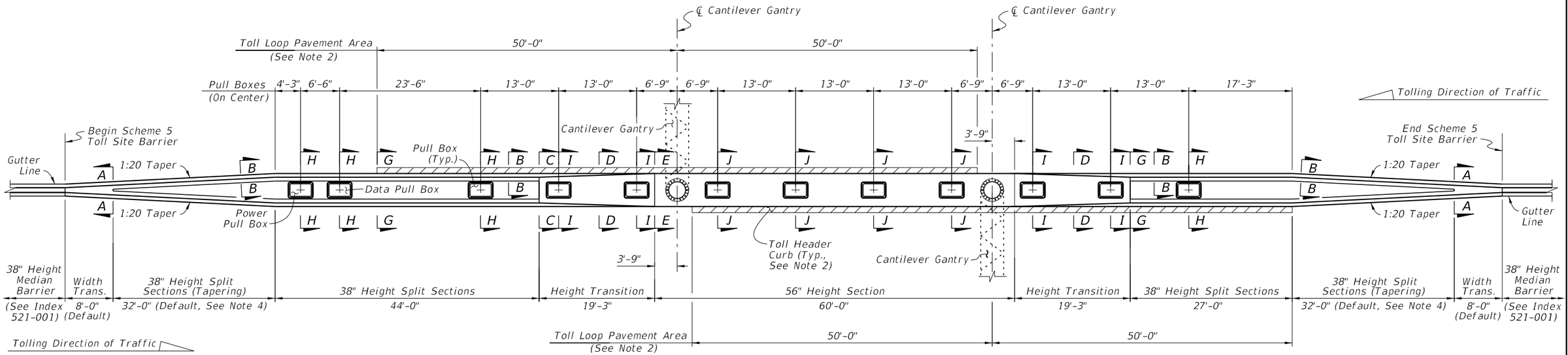

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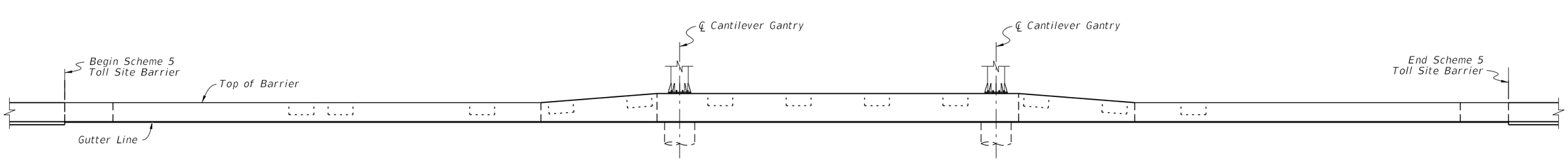

ELEVATION

NOTES:

1. GENERAL: Use Scheme 5 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantries and foundations shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 5, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 5 - DUAL MOVEMENT - CANTILEVER GANTRIES ON MEDIAN BARRIER

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LAST REVISION	REVISION	DESCRIPTION:	FY 2025-26 STANDARD PLANS	CONCRETE BARRIER AT TOLL SITES	INDEX	SHEET
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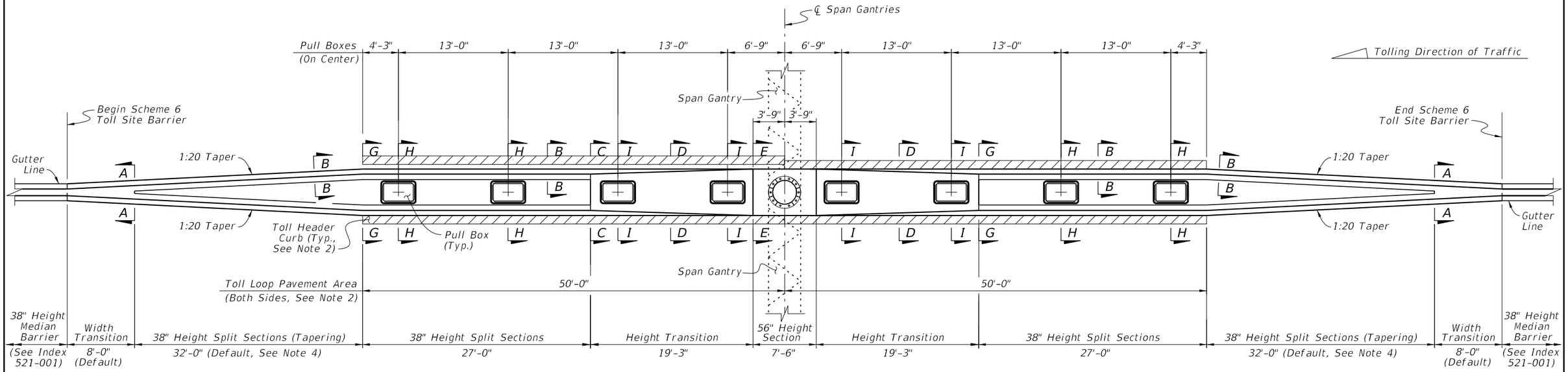
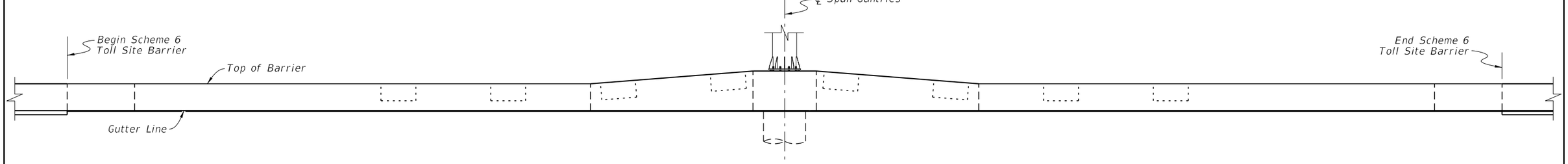


PLAN - LAYOUT



ELEVATION

NOTES:

1. GENERAL: Use Scheme 6 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantries and foundation shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 6, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 6 - DUAL MOVEMENT - SPAN GANTRIES ON MEDIAN BARRIER

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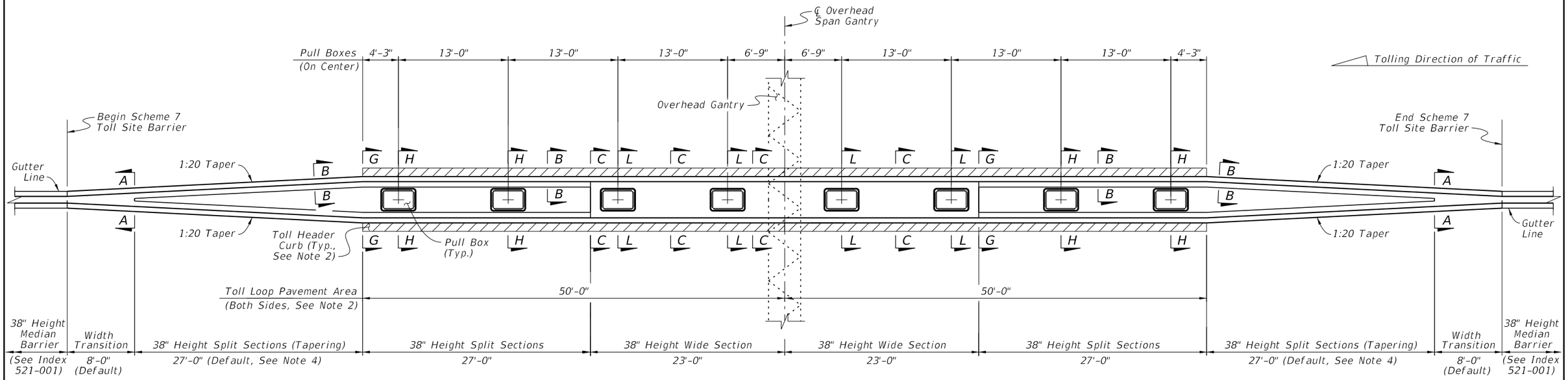
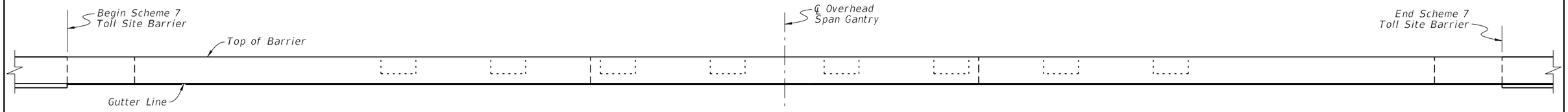


PLAN - LAYOUT



ELEVATION

NOTES:

1. GENERAL: Use Scheme 7 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantry shown is schematic only; the size may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 7, the default segment length is 27'-0" and the default Full Width is 5'-6" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 7 - DUAL MOVEMENT - SPAN GANTRIES OVER MEDIAN BARRIER

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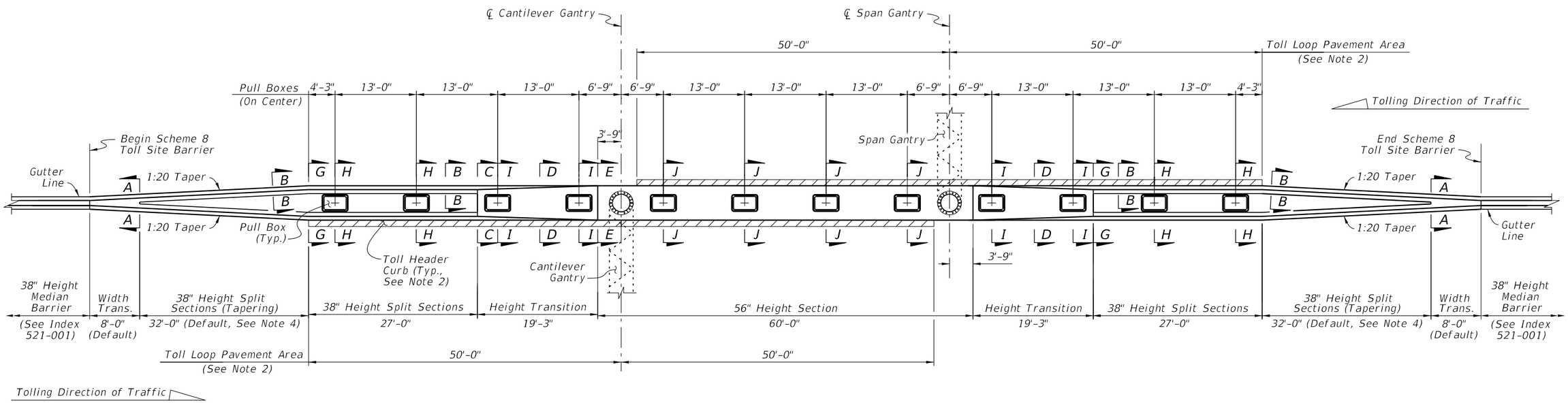
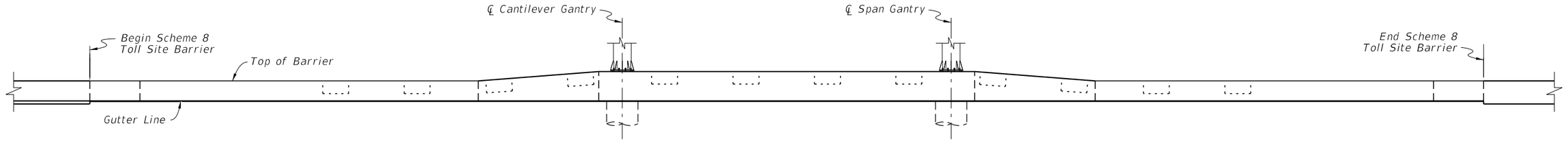


PLAN - LAYOUT



ELEVATION

NOTES:

1. GENERAL: Use Scheme 8 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantries and foundations shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 8, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 8 - DUAL MOVEMENT - SPAN & CANTILEVER GANTRIES ON MEDIAN BARRIER

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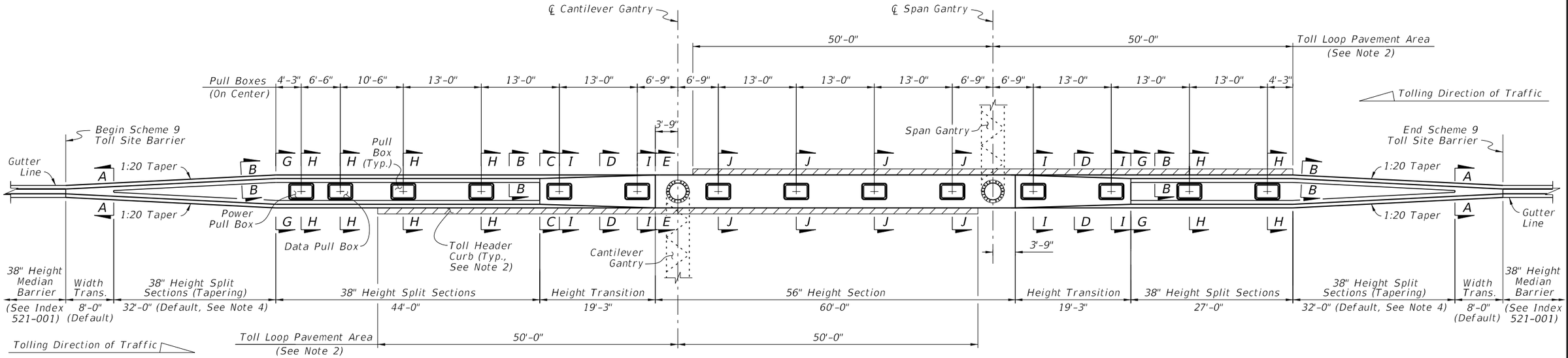

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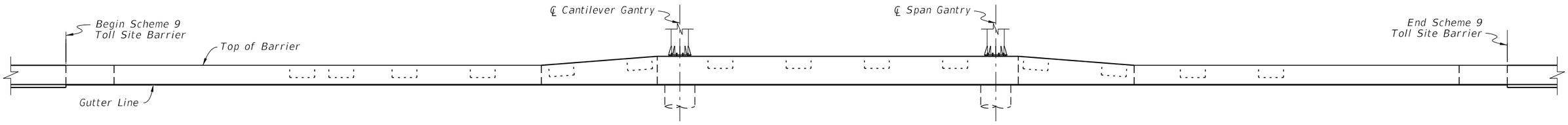

ELEVATION

NOTES:

1. GENERAL: Use Scheme 9 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantries and foundations shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 9, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 9 - DUAL MOVEMENT - SPAN & CANTILEVER GANTRIES ON MEDIAN BARRIER

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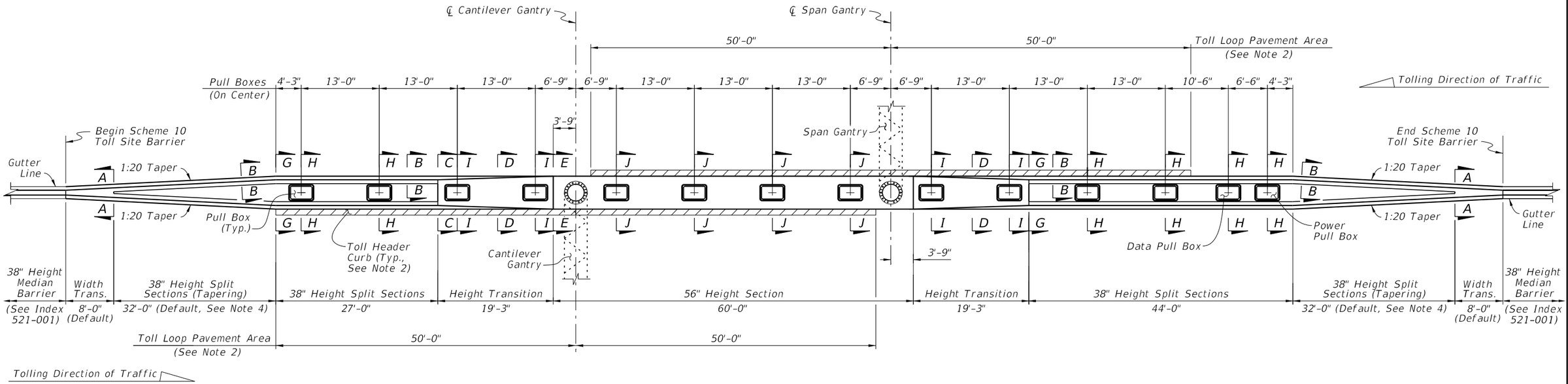

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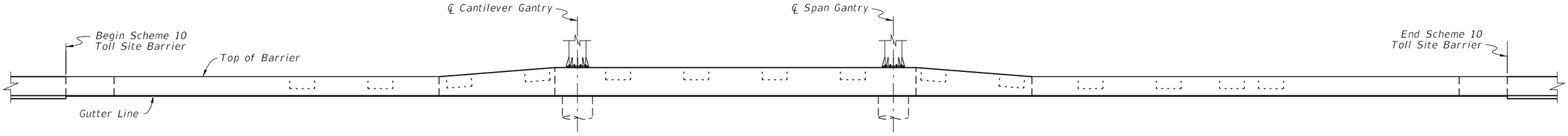

ELEVATION

NOTES:

1. GENERAL: Use Scheme 10 where called for in the Plans. Work with the reinforcing and construction details on Sheets 12 & 13. The gantries and foundations shown are schematic only; the sizes may vary.

2. TOLL HEADER CURB: Install Toll Header Curb for installations adjacent to flexible pavement and where called for in the Plans. For installations with concrete pavement, Toll Header Curb is not required. For more information, see Sheet 13.

3. PULL BOXES: For more information, see General Note 11 and Sheets 12 & 13.

4. FULL WIDTH: The length of the tapering 38" Height Split Section segment is governed by the Full Width dimension on Sheet 13. For Scheme 10, the default segment length is 32'-0" and the default Full Width is 6'-0" unless otherwise shown in the Plans.

   For barriers with a single-sided taper, the tapering Width Transition and tapering Split Sections length will be increased to achieve the Full Width. See General Note 9 and the layout in the Plans.

SCHEME 10 - DUAL MOVEMENT - SPAN & CANTILEVER GANTRIES ON MEDIAN BARRIER

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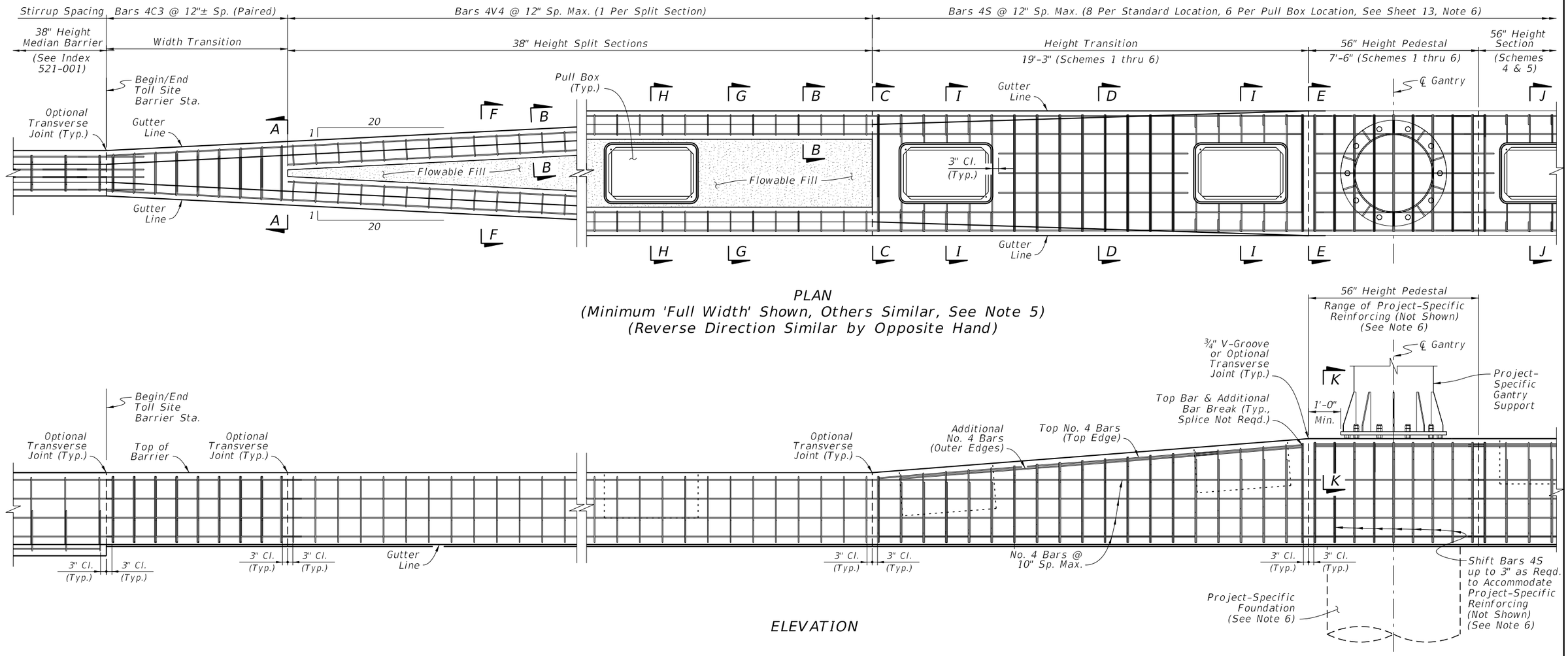
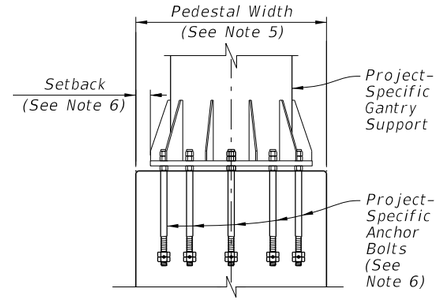


PLAN
(Minimum 'Full Width' Shown, Others Similar, See Note 5)
(Reverse Direction Similar by Opposite Hand)

ELEVATION



SECTION K-K
(Reinforcing Not Shown for Clarity)

NOTES:

1. GENERAL: The layout shown is an example for providing reinforcing details at common barrier features. For complete barrier layouts, see Sheets 2 thru 11. Work with the Sections on Sheet 13.

2. PLAN VIEW: Only outermost longitudinal reinforcing is shown for clarity. For all longitudinal reinforcing locations, see the Sections on Sheet 13.

3. LONGITUDINAL REINFORCING: Maintain the 38" Height Median Barrier's longitudinal reinforcing bar pattern continuously through the side faces of the Toll Site Barrier. Provide the Top and Additional No. 4 Bars; taper bars upward as required to maintain position relative to the barrier's top face. Add No. 4 Bars on the back face of the Split Sections as shown on Sheet 13.

   For discontinuous longitudinal bars, provide minimum lap splices of 18 inches.

   For additional reinforcing information, See General Note 2 and Sheet 13.

4. FLOWABLE FILL: Use Non-Excavatable Flowable Fill in accordance with Specification 121. Alternatively, Use Class NS Concrete in accordance with Specification 347.

5. PEDESTAL WIDTH: The Pedestal Width equals the Full Width shown on Sheet 13. The default Pedestal Width is 6'-0" unless otherwise shown in the Plans. Where called for in the Plans, the Pedestal Width may be larger or reduced to a minimum of 5'-6".

6. GANTRY SUPPORT, PROJECT-SPECIFIC REINFORCING: The gantry support details shown herein are examples only. For full gantry support details, including reinforcing requirements for the pedestal and foundation, see the project-specific Plans. The Setback and corresponding Pedestal Width may be governed by project-specific anchor bolt cover requirements. Steel materials may only be used for project-specific reinforcing bars and anchor bolts that are located within the 56" Height Pedestal segment and foundation. See General Note 10.

7. PULL BOXES: Pull Box details and conduits are not shown for clarity of barrier details. If concrete cover is not violated, reinforcing bars shown may be shifted up to 3 inches to accommodate placement of conduit runs as needed. See General Note 11.

8. TOLL HEADER CURB: For toll header curb location requirements, see Sheets 2 thru 11.

REINFORCING DETAILS - BARRIER
PLAN AND ELEVATION - EXAMPLE FEATURES

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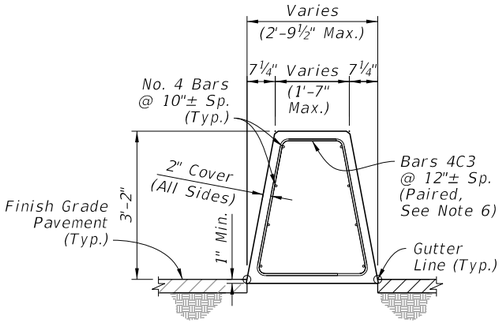
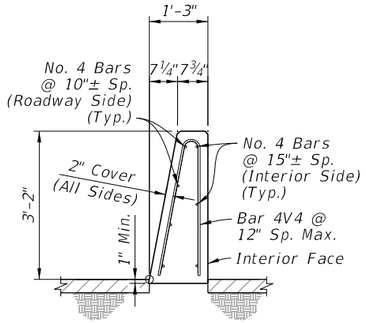
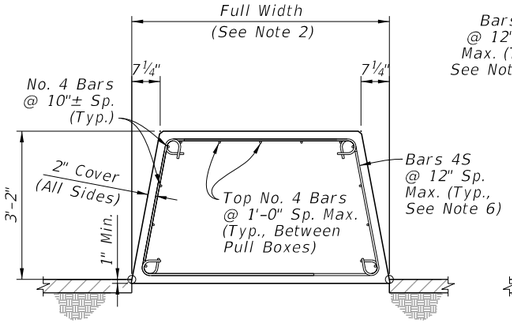
LAST REVISION	REVISION	DESCRIPTION:				
11/01/24			FDOT FY 2025-26 STANDARD PLANS	CONCRETE BARRIER AT TOLL SITES	INDEX 521-005	SHEET 12 of 14



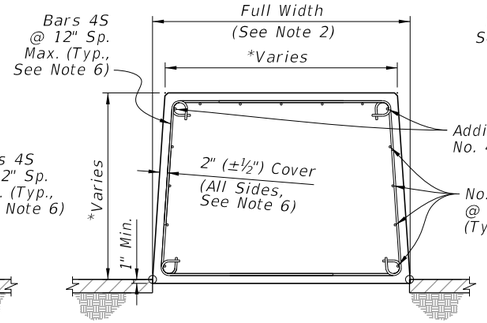
SECTION A-A
38" HEIGHT
END WIDTH TRANSITION
(At Begin Split Sections)



SECTION B-B
38" HEIGHT SPLIT SECTION
(Opposite Side Similar
by Opposite Hand)

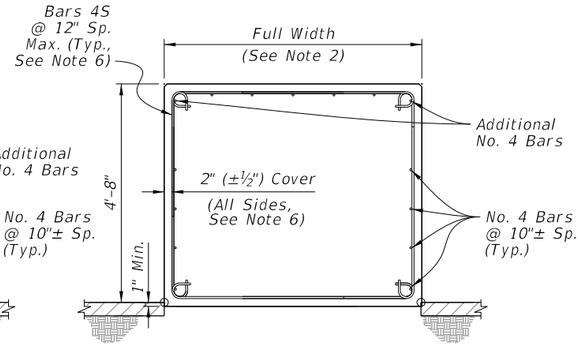


SECTION C-C
38" HEIGHT WIDE SECTION
(At End Split Sections &
Begin Height Transition,
Where Applicable)

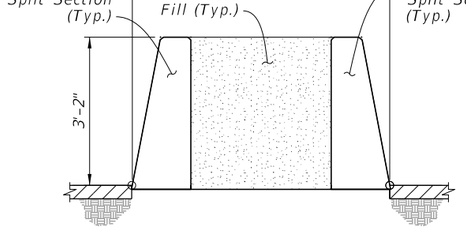


SECTION D-D
INTERMEDIATE
HEIGHT TRANSITION
(And Face Transition)

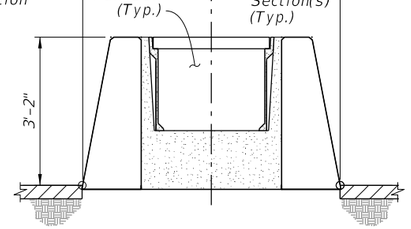
*Dimension Varies Linearly
Between Section C-C and E-E



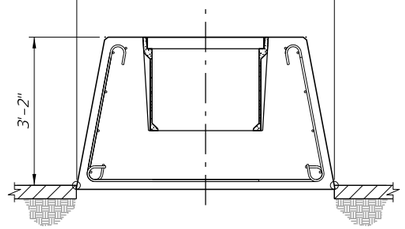
SECTION E-E
56" HEIGHT SECTION
(And Pedestal, See 'Gantry
Support' on Sheet 12)



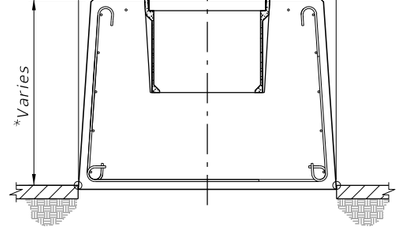
SECTION G-G
FILL SECTION
(Section F-F Similar,
Width Tapers)



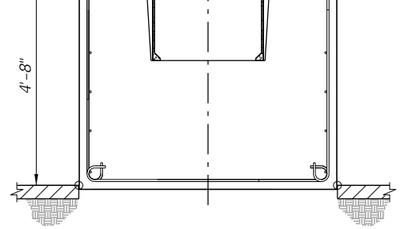
SECTION H-H
PULL BOX IN
FILL SECTIONS



SECTION L-L
PULL BOX IN 38" HEIGHT
WIDE SECTIONS
(See Above Section
For Reinforcing Details)



SECTION I-I
PULL BOX IN HEIGHT
TRANSITION SECTIONS
(See Above Section for
Reinforcing Details)



SECTION J-J
PULL BOX IN
56" HEIGHT SECTIONS
(See Above Section for
Reinforcing Details)

NOTES:

1. GENERAL: Work with the plan and elevation views on Sheets 2 thru 12.

2. FULL WIDTH: Unless otherwise shown in the Plans, the default Full Width is 6'-0" for Schemes 1 thru 6, 5'-6" for Scheme 7, and 6'-0" for Schemes 8 thru 10. If called for in the Plans, the Full Width may be larger or reduced to a minimum of 5'-6".

3. FLOWABLE FILL: See Sheet 12.

4. PULL BOX LOCATIONS: Provide a minimum 3" clearance between reinforcing bars and Pull Boxes.

   Pull Box details and conduits are not shown for clarity of barrier details. Reinforcing bars shown may be shifted up to 3 inches to accommodate placement of conduit runs as needed; maintain required concrete cover. See General Note 11.

5. TOLL HEADER CURB: Toll Header Curbs are not shown on this Sheet; see Sheets 2 thru 11 for required locations. For the Standard Plans section view and requirements, see Index 520-001. For full details, including any required conduit runs, see the governing project-specific Plans or General Tolling Requirements (GTR).

6. STIRRUP BARS: For the vertical and transverse reinforcement requirements shown, provide stirrup bars shown on Sheet 14. The following applies by section:

   SECTION A-A: Provide a pair of Bars 4C3 at each stirrup location; lap at the top and bottom face of the barrier. Provide the maximum lap splice that fits per location. Trim the ends of Bars 4C3 as required to maintain cover requirement in narrowing sections.

   SECTION B-B: Provide a single Bar 4V4 at each stirrup location.

   SECTIONS C-C thru E-E: Provide Bars 4S1 and 4S2 at each stirrup location (8 pieces per location). Maintain bar continuity around the barrier's perimeter using the following splices. Provide an overlapping hook splice as shown in the barrier's corners. Provide a minimum 18-inch lap splice at the straight ends of the bars (Use either Bar 4S1 or 4S2 based on bar length needed to provide this required splice length and cover). With the approval of the engineer, Bars 4S in Section E-E may be substituted with No. 4 bars having a 90-degree bar bend with 3" inner-diameter to maintain continuity in the barrier's corners (straight bars may also be added, 18-inch lap splice applies).

   SECTIONS L-L, I-I, and J-J: Provide the same reinforcing scheme as SECTIONS C-C thru E-E, except remove Bars 4S along the barrier's top face in order to fit the Pull Box.

REINFORCING DETAILS - BARRIER SECTIONS

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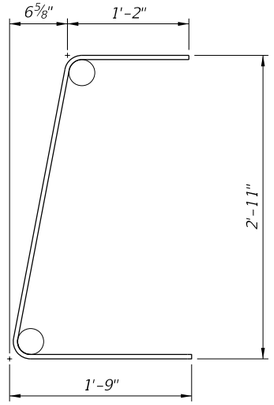
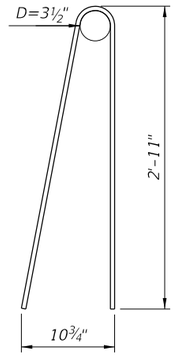
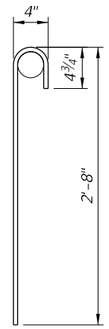
BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
C3	4	5'-8"
V4	4	6'-¼"
S1	4	3'-2¼"
S2	4	4'-2¼"



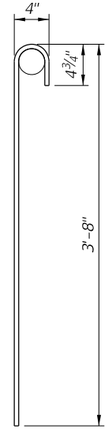
BAR 4C3



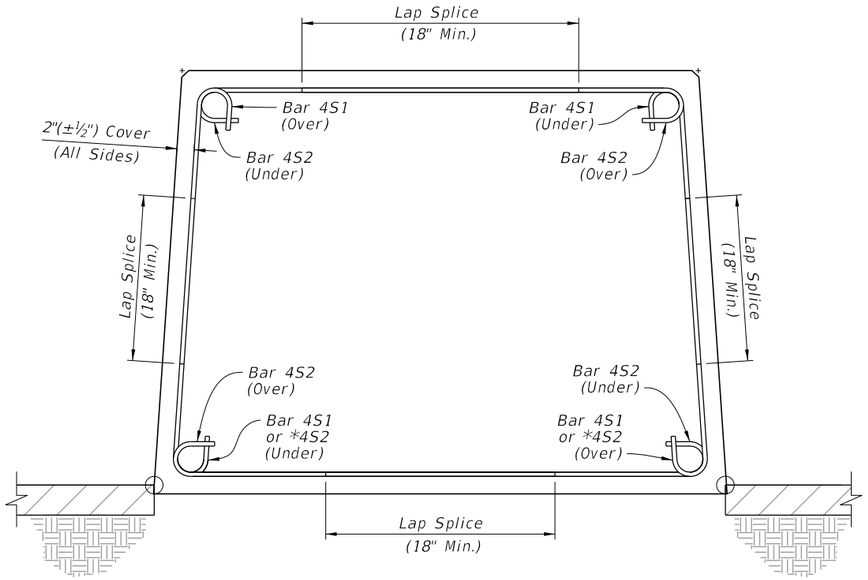
BAR 4V4



BAR 4S1



BAR 4S2



EXAMPLE STIRRUP LOCATION -
SECTIONS C-C THRU E-E
(Showing Only Bars 4S)

*Substitute Bars 4S2 Where Additional Bar Length
is Needed to Meet Minimum Lap Splice Requirement

NOTES:

1. GENERAL: Work with the Plan, Elevation, and Section views on Sheets 12 & 13. All bar dimensions shown are out-to-out.
2. BAR BEND RADIUS: Provide a 3-inch inner-diameter bar bend unless otherwise shown.
3. MATERIAL: All bars shown are GFRP material. See Sheet 1, General Note 2.

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BAR BEND DETAILS

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