

ORIGINATION FORM

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

Contact Information:

Date: July 31, 2019
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Standard Plans:

Index Number: 544-001
Sheet Number (s): 1,3
Index Title: Crash Cushions

Summary of the changes:

Sheet 1: added callout notes to rigid barrier connection detail to include traffic railing and concrete barrier standards
Sheet 3: NEW SHEET - Thrie Beam retrofit connection detail; Short guardrail extension options from crash cushion to rigid barrier.

Commentary / Background:

Added more options for crash cushion connections to bridge traffic railing. The new "short guardrail extensions" are used for the case where a barrier system lengthening is warranted, but where an "Approach Transition Connection to Rigid Barrier" per Index 536-001 is too long and won't fit project constraints.

Other Affected Offices / Documents: (Provide name of responsible personnel)

- | 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 Derwood Sheppard)

- | Yes | N/A | |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Proposed Standard Plan Instructions (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

GENERAL NOTES:

1. GENERAL: Work this Index in accordance with Specification 544 and the "Summary of Permanent Crash Cushions" table in the Plans.
2. TRANSITION PANEL: Where crash cushions are placed between two-way traffic or adjacent to two-way two-lane traffic, place a Transition Panel from the Concrete Barrier to the Crash Cushion on the downstream side of the barrier end (as shown). Follow the requirements of the APL drawing.
3. MANUFACTURER'S TRANSITION: Construct the proprietary guardrail transition only if shown in the applicable APL drawing. See Note 4 below.
4. STANDARD GUARDRAIL TRANSITION: If the APL drawing does not provide a guardrail transition to w-beam guardrail, construct the Standard Guardrail Transition segment from three-beam to w-beam as shown per Sheet 2. This 21'-10½" segment must remain parallel to the roadway.

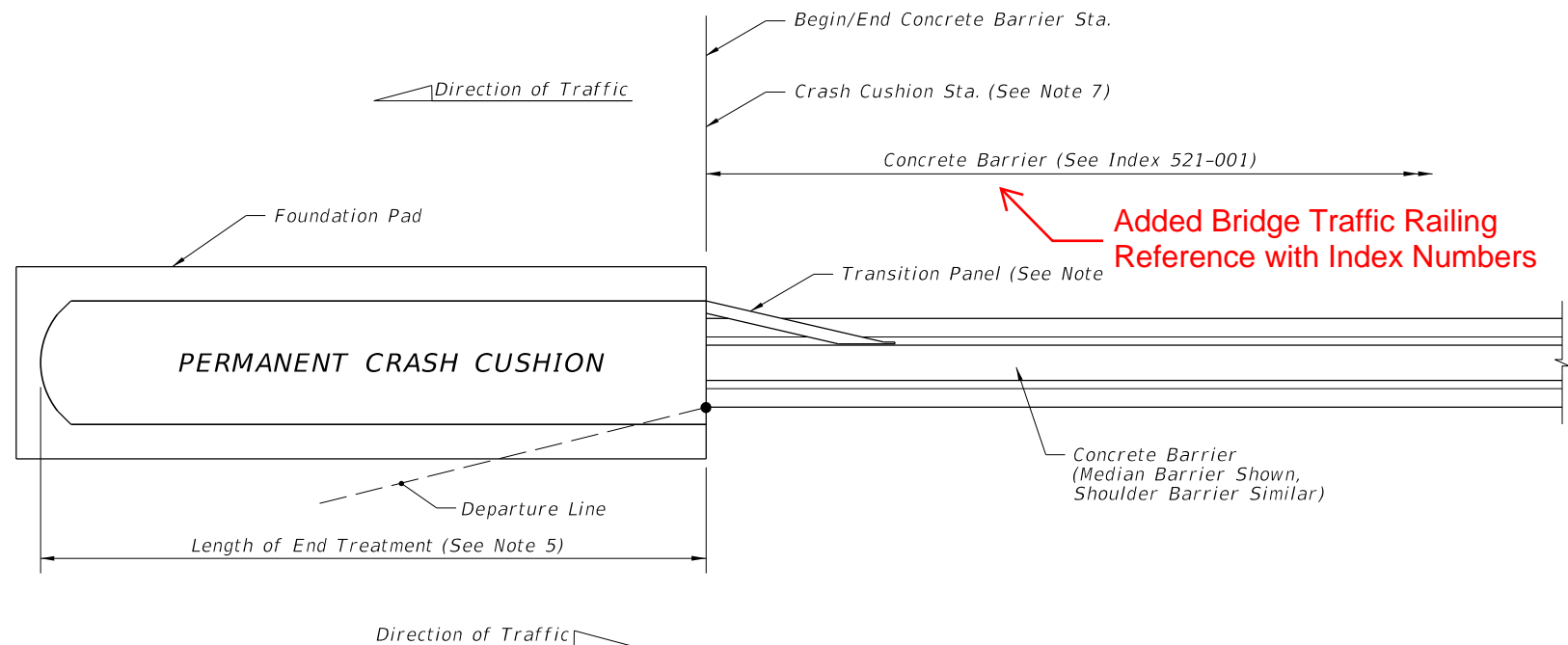
If the APL drawing does provide a guardrail transition to w-beam guardrail, replace the Standard Guardrail Transition segment with a w-beam guardrail segment at 6'-3" post spacing, except that Post (10) will remain where shown herein if it is located at a guardrail begin or end taper station callout per the Plans. This 21'-10½" segment must also remain parallel to the roadway.

5. LENGTH OF END TREATMENT: For Crash Cushions, the Length of End Treatment includes all proprietary elements of the design as shown in the APL drawing, including the manufacturer's transition of guardrail if applicable.

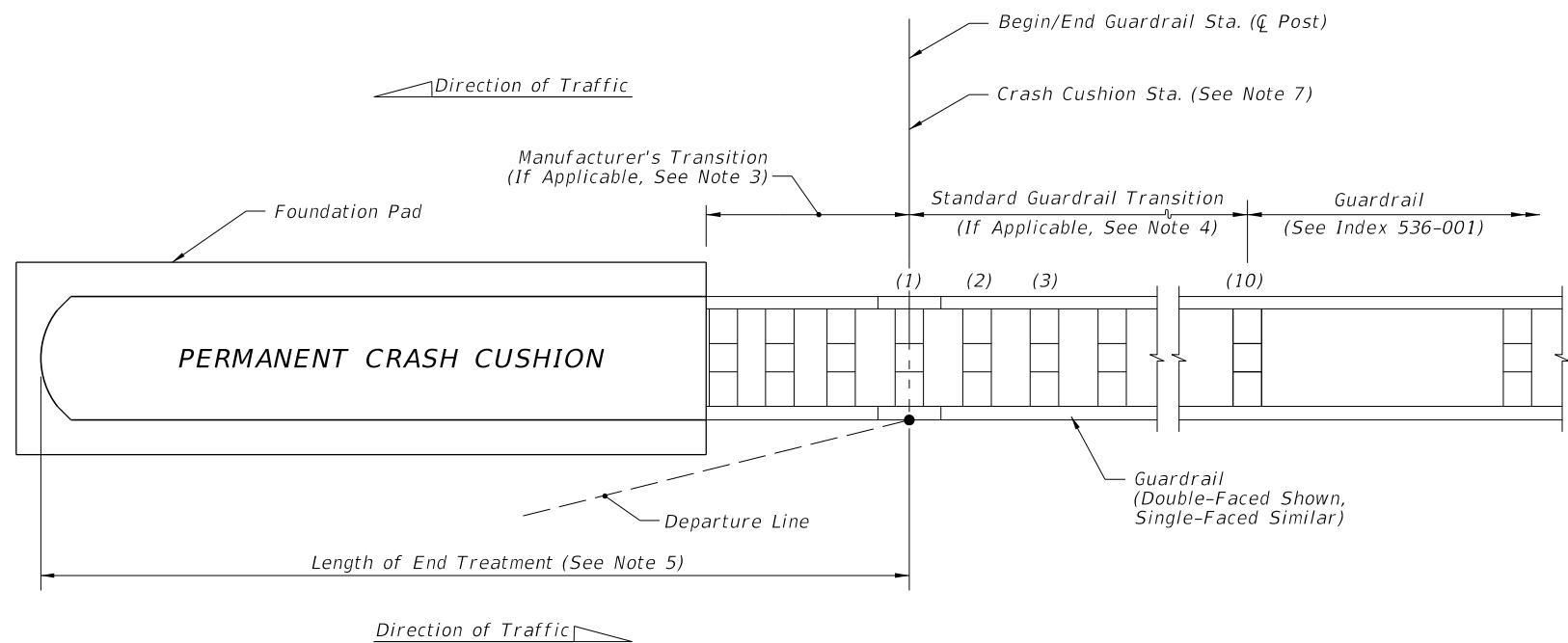
The actual Length of End Treatment varies per Crash Cushion type, but an estimated Length of End Treatment is generally shown in the Plans to provide sufficient space for the Contractor's option of differing Crash Cushion types.

6. LENGTH RESTRICTION: In the "Summary of Permanent Crash Cushions" table, if a value is provided in the Length Restriction column, then select a Crash Cushion from the APL which has a Length of End Treatment less than or equal to the value shown. If the table instead shows not applicable (N/A), then Crash Cushion selection is unrestricted regarding length.

7. CRASH CUSHION STATION: The Crash Cushion Station point shown herein corresponds to the station provided in the "Summary of Permanent Crash Cushions" table in the Plans.



CONCRETE BARRIER APPLICATION



GUARDRAIL APPLICATION

PERMANENT CRASH CUSHION APPLICATIONS

10/18/2018 11:31:43 AM

LAST REVISION	DESCRIPTION:
11/01/18	11/01/19

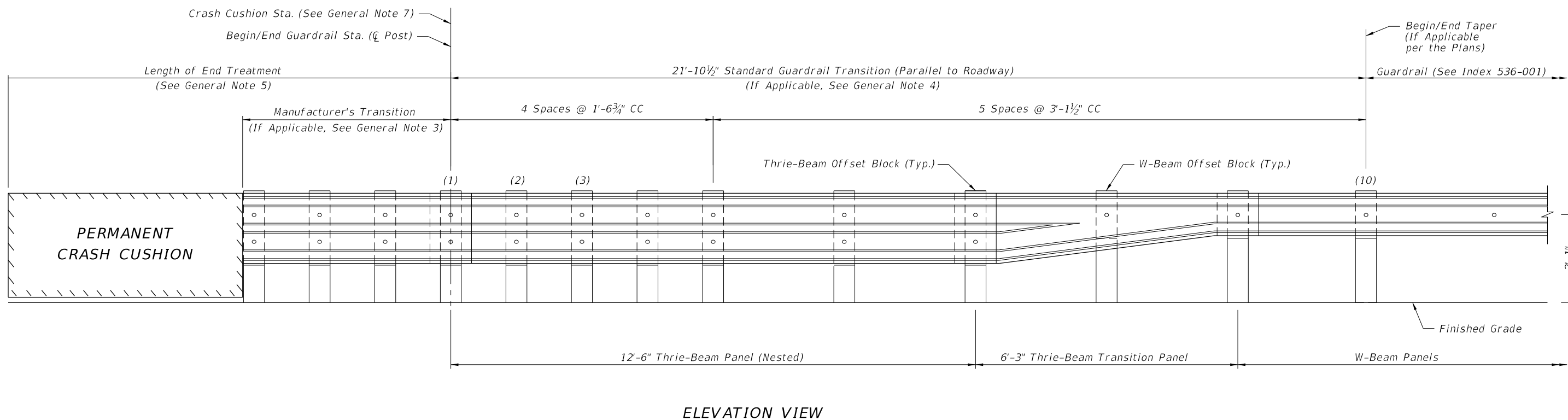
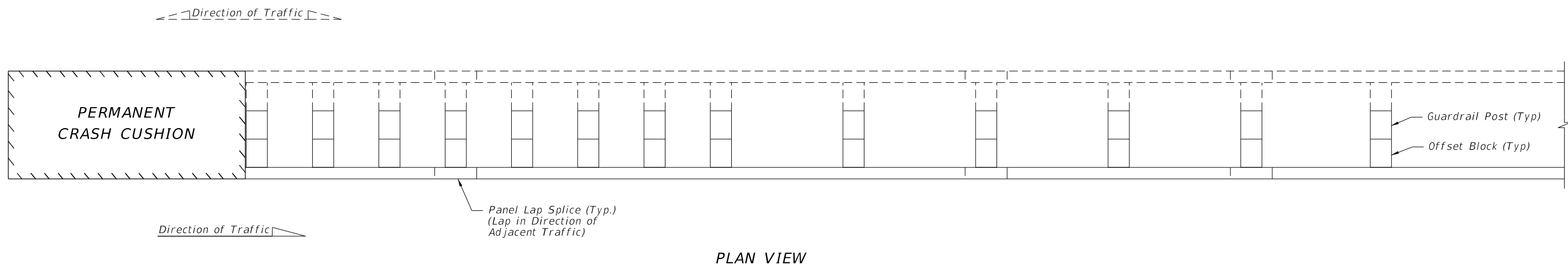


FY 2019-20
STANDARD PLANS

CRASH CUSHION DETAILS

INDEX
544-001

SHEET
1 of 2-3



NOTE:
Work this Sheet with the details and General Notes on Sheet 1.

STANDARD GUARDRAIL TRANSITION

10/18/2018 11:31:44 AM

LAST REVISION	DESCRIPTION:
11/01/18	← 11/01/19



FY 2019-20
STANDARD PLANS

CRASH CUSHION DETAILS

INDEX
544-001

SHEET
2 of 2 **3**

NEW SHEET

Crash Cushion Details

GENERAL NOTES:

1. GENERAL: Work this Index in accordance with Specification 544 and the "Summary of Permanent Crash Cushions" table in the Plans. Where applicable, use Guardrail components and panel lap splices in accordance with Index 536-001.
2. TRANSITION PANEL: Where crash cushions are placed between two-way traffic or adjacent to two-way two-lane traffic, place a Transition Panel from the Concrete Barrier to the Crash Cushion on the downstream side of the barrier end (as shown). Follow the requirements of the APL drawing.
3. MANUFACTURER'S TRANSITION: Construct the proprietary guardrail transition only if shown in the applicable APL drawing. See Note 4 below.
4. STANDARD GUARDRAIL TRANSITION: If the APL drawing does not provide a guardrail transition to w-beam guardrail, construct the Standard Guardrail Transition segment from three-beam to w-beam as shown per Sheet 2. This 21'-10 1/2" segment must remain parallel to the roadway.

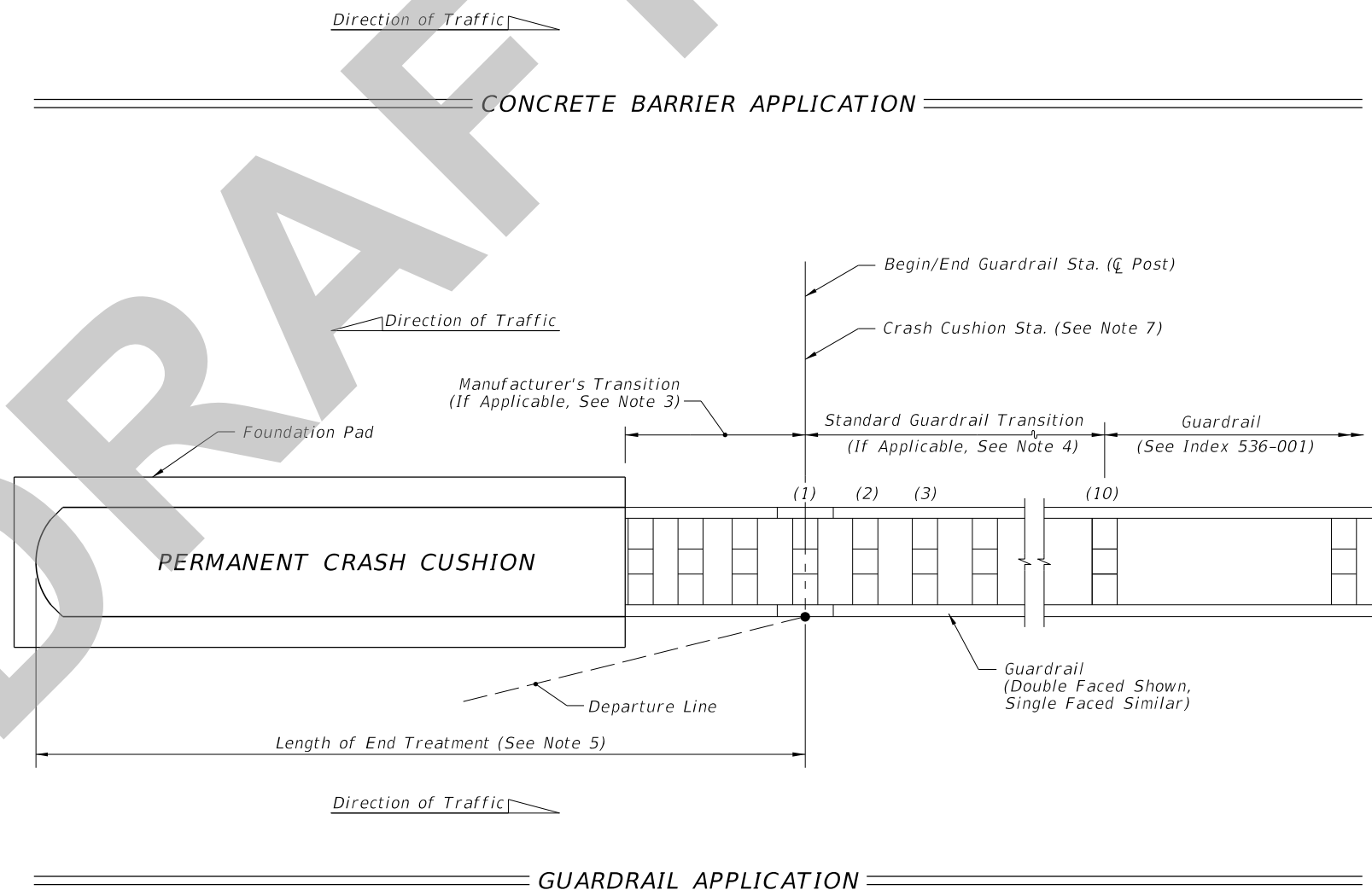
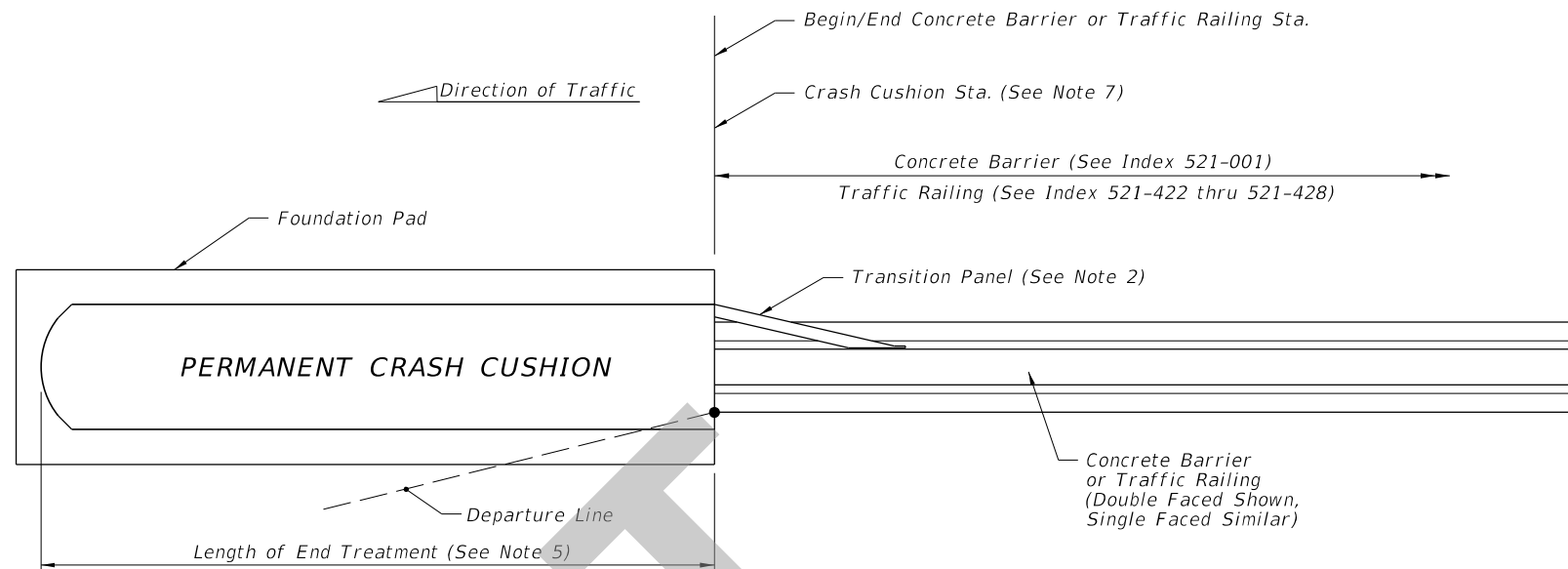
If the APL drawing does provide a guardrail transition to w-beam guardrail, replace the Standard Guardrail Transition segment with a w-beam guardrail segment at 6'-3" post spacing, except that Post (10) will remain where shown herein if it is located at a guardrail begin or end taper station callout per the Plans. This 21'-10 1/2" segment must also remain parallel to the roadway.

5. LENGTH OF END TREATMENT: For Crash Cushions, the Length of End Treatment includes all proprietary elements of the design as shown in the APL drawing, including the manufacturer's transition of guardrail if applicable.

The actual Length of End Treatment varies per Crash Cushion type, but an estimated Length of End Treatment is generally shown in the Plans to provide sufficient space for the Contractor's option of differing Crash Cushion types.


6. LENGTH RESTRICTION: In the "Summary of Permanent Crash Cushions" table, if a value is provided in the Length Restriction column, then select a Crash Cushion from the APL which has a Length of End Treatment less than or equal to the value shown. If the table instead shows not applicable (N/A), then Crash Cushion selection is unrestricted regarding length.

7. CRASH CUSHION STATION: The Crash Cushion Station point shown herein corresponds to the station provided in the "Summary of Permanent Crash Cushions" table in the Plans.

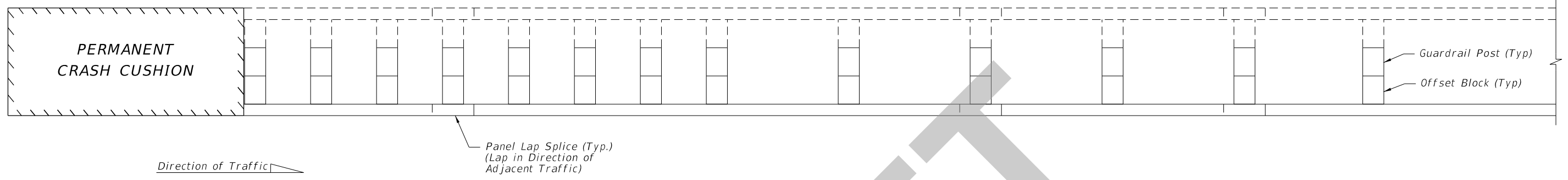


PERMANENT CRASH CUSHION APPLICATIONS

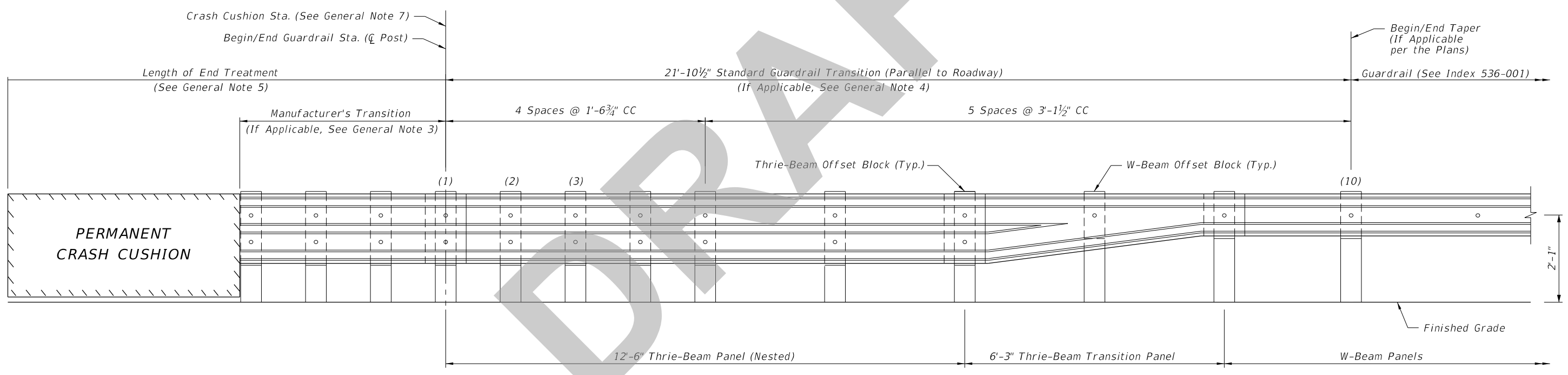
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LAST REVISION 11/01/19	REVISION	DESCRIPTION:	 FY 2020-21 STANDARD PLANS	CRASH CUSHION DETAILS	INDEX 544-001	SHEET 1 of 3
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Direction of Traffic



PLAN VIEW




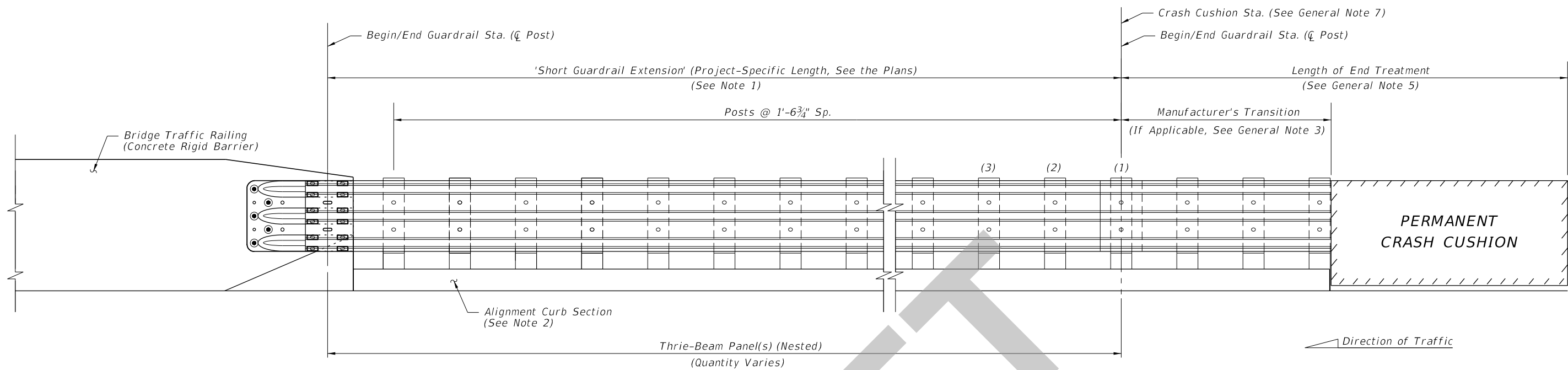
ELEVATION VIEW

NOTE:
Work this Sheet with the details and General Notes on Sheet 1.

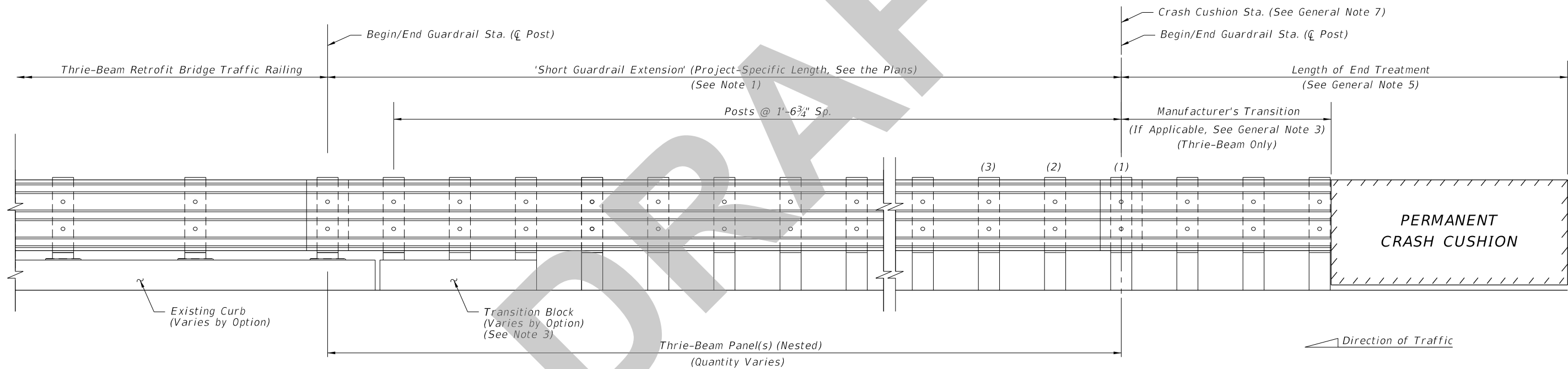
STANDARD GUARDRAIL TRANSITION

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ELEVATION - CONNECTION TO CONCRETE TRAFFIC RAILING (See Note 2)




ELEVATION - CONNECTION TO THRIE-BEAM RETROFIT (See Note 3)

NOTES:

1. GENERAL: Work this Sheet with the details and General Notes on Sheet 1.
Install short guardrail extension only where called for in the plans, using the project-specific length specified. Short guardrail extensions are typically used where adding length to a barrier system is warranted, but a full Approach Transition Connection to Rigid Barrier will not fit.
2. CONNECTION TO CONCRETE TRAFFIC RAILING: See Index 536-001 for connection details to rigid barrier, including the Thrie-Beam Terminal Connector and Alignment Curb details. Install the Alignment Curb section with no curb transition, and extend the curb to the crash cushion as shown. The crash cushion must laterally extend beyond the above-ground portion of the alignment curb to shield its end face from approaching traffic.
3. CONNECTION TO THRIE-BEAM RETROFIT: Provide Thrie-Beam Retrofit guardrail connection splice, curb, and Transition Block per Index 536-002 and the applicable Index 460-470 series.

**ADDITIONAL BRIDGE CONNECTION OPTIONS
SHORT GUARDRAIL EXTENSIONS**

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