
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

(Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: March 28, 2023

Originator: Joshua Turley

Phone: (850) 414-4475

Email: joshua.turley@dot.state.fl.us

Standard Plans:

Index Number: 400-289

Sheet Number (s): 5 of 8

Index Title: CONCRETE BOX CULVERT DETAILS

Summary of the changes:

Sheet 5: Changed the location of the main reinforcing in Detail J and K to be at the correct point of the radius to maximize the effectiveness of the reinforcing.

Commentary / Background:

Bars should be as close as possible to the extreme fiber of the cross section to maximize effectiveness. Therefore, at the stirrup they should be placed at a location of the bend that accomplishes this. This was not the case and was corrected.

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

Yes	No	
☐	☒	Other Standard Plans –
☐	☒	FDOT Design Manual –
☐	☒	Basis of Estimates Manual –
☐	☒	Standard Specifications –
☐	☒	Approved Product List –
☐	☒	Construction –
☐	☒	Maintenance –

Origination Package Includes: (Submit package to Rick Jenkins)

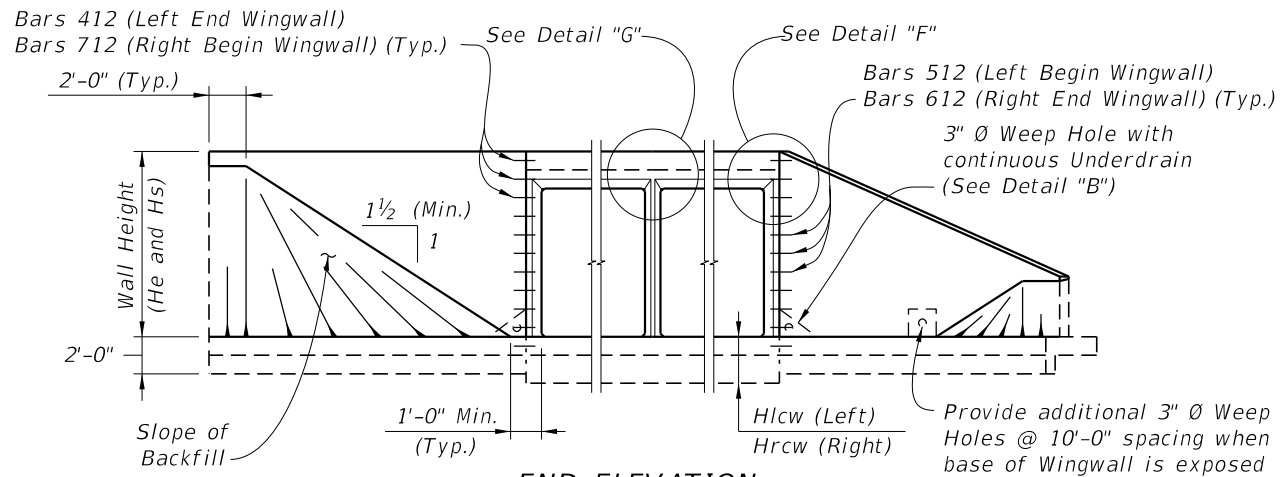
Yes	N/A	
☒	☐	Redline Mark-ups
☐	☐	Revised or Proposed Standard Plan Instruction (SPI)
☐	☐	Other Support Documents

Implementation:

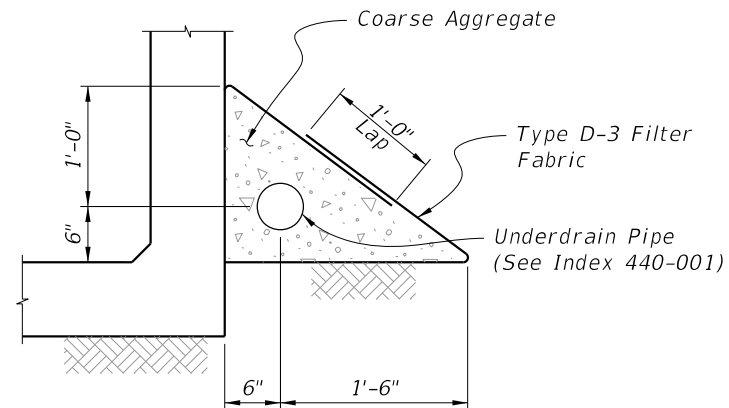
☐	Design Bulletin (Interim)
☐	DCE Memo
☐	Program Mgmt. Bulletin
☒	FY-Standard Plans (Next Release)

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



END ELEVATION
(Showing Constant Height And Variable Height Wingwalls)

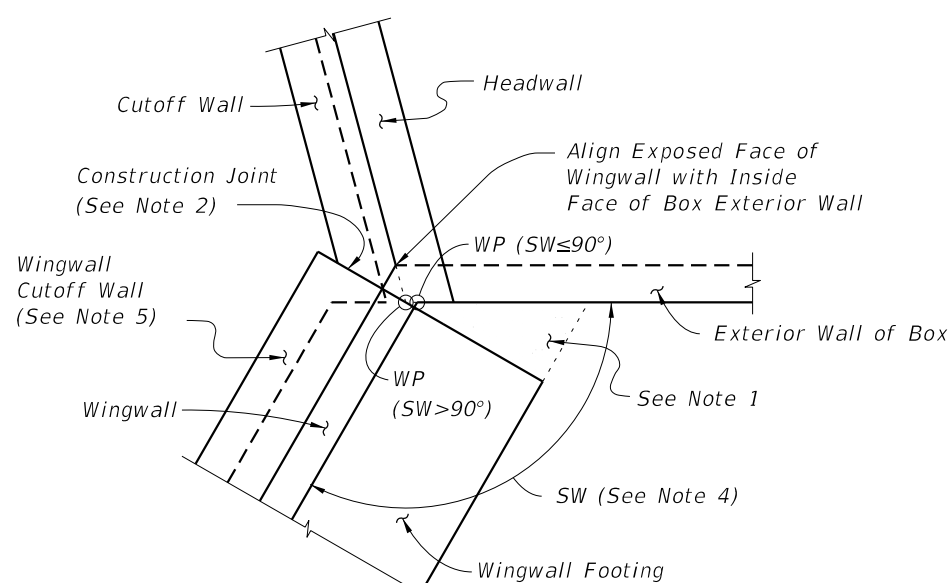


DETAIL "B"
UNDERDRAIN DETAIL
(Similar to Type II ~ Index 440-001)

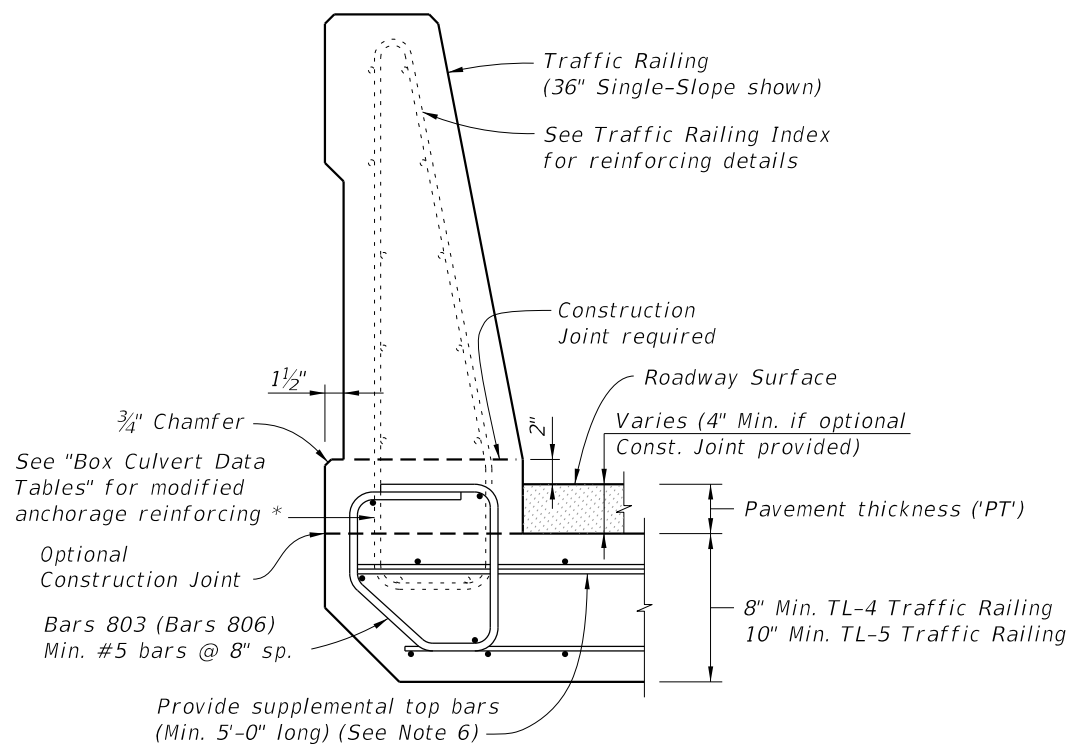
NOTES:

1. For small angles, the Contractor may elect to fill the area between the box and the wingwall footing with unreinforced concrete. For wingwall skew angles less than 90 degrees, field bend wingwall reinforcement as necessary while maintaining cover. No additional payment will be made for this work.
2. Location of Construction Joint determined by WP at theoretical intersection of:
- Soil side face of Headwall and outside face of Box Exterior Wall, for $SW \leq 90^\circ$;
- Outside face of Wingwall and outside face of Box Exterior Wall, for $SW > 90^\circ$.
3. Provide 6" chamfer when angle 'A' is greater than 45° . Maintain minimum wall thickness. Field adjust reinforcing to maintain cover.
4. Wingwall Skew Angles (SW) are measured from the adjacent box exterior wall to the wingwall.
5. Turn or extend Wingwall Cutoff Wall as necessary to meet Box Cutoff Wall.
6. Provide additional reinforcement in the top of the top slab below traffic railings to ensure a minimum area of 0.80 sq. in./ft. transverse reinforcing.

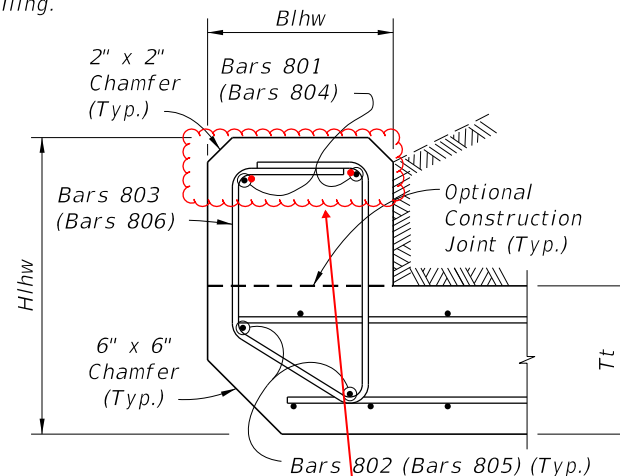
* Included in the cost of the Traffic Railing.



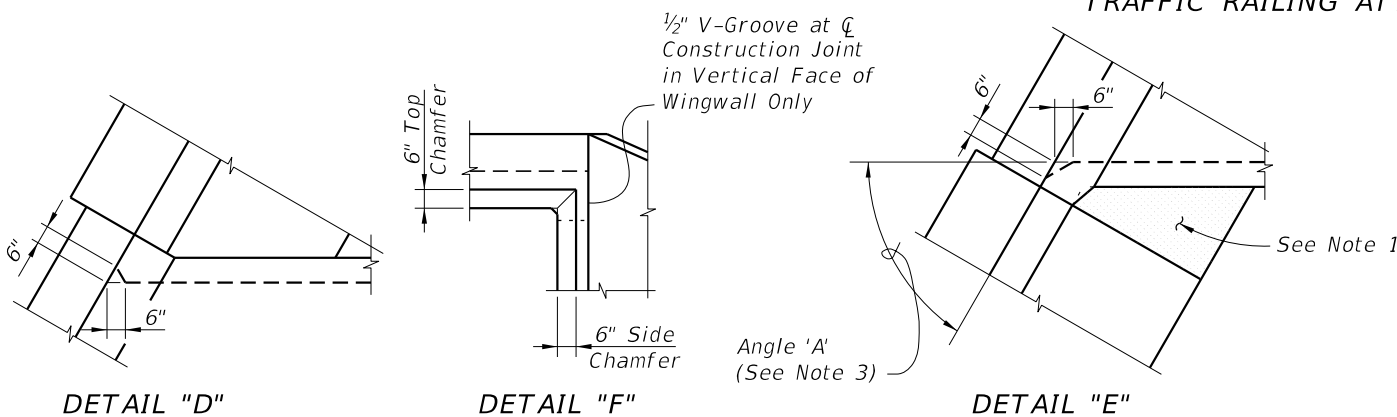
DETAIL "C" - PLAN VIEW
WINGWALL TO BOX CONNECTION
(Left Begin Corner Shown, Other Corners Similar)



DETAIL "I"
TRAFFIC RAILING ATTACHMENT TO HEADWALL



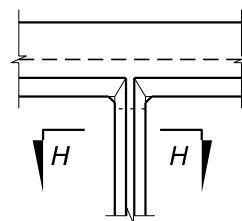
DETAIL "J"
LEFT HEADWALL SECTION
(Right Headwall similar)



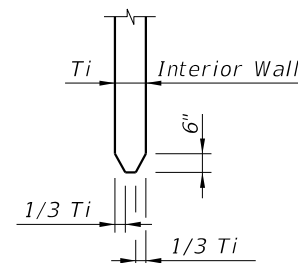
DETAIL "D"

DETAIL "F"

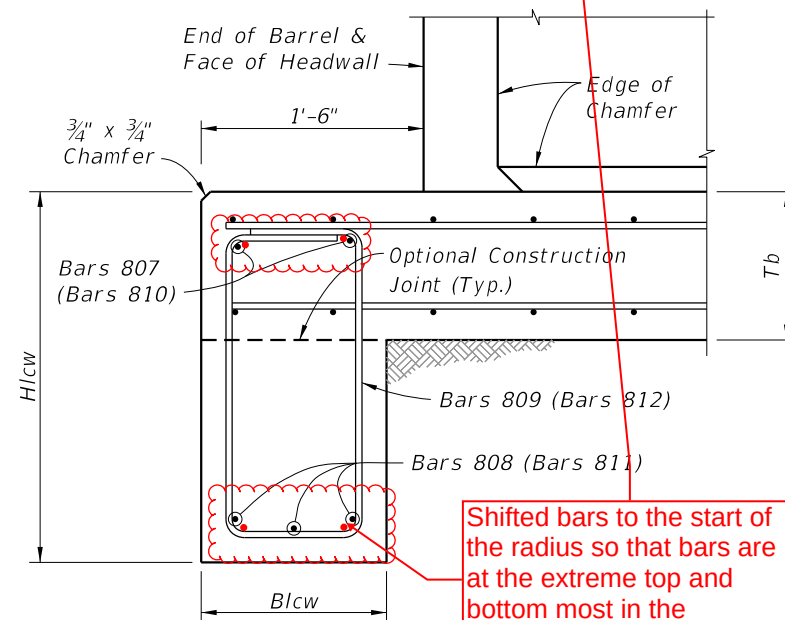
DETAIL "E"



DETAIL "G"



SECTION H-H



DETAIL "K"
LEFT CUTOFF WALL SECTION
(Right Cutoff Wall similar)

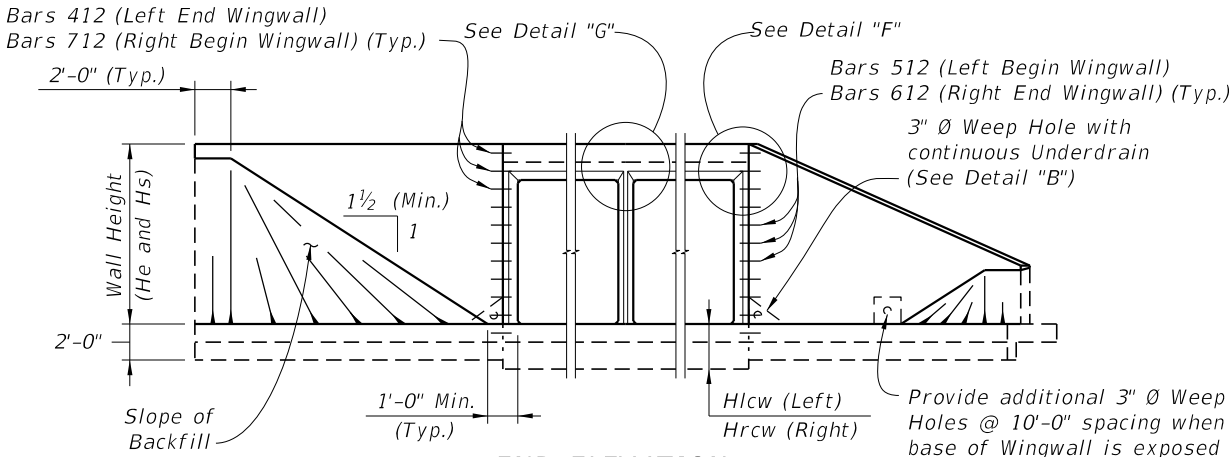
Shifted bars to the start of the radius so that bars are at the extreme top and bottom most in the members

CROSS REFERENCE:

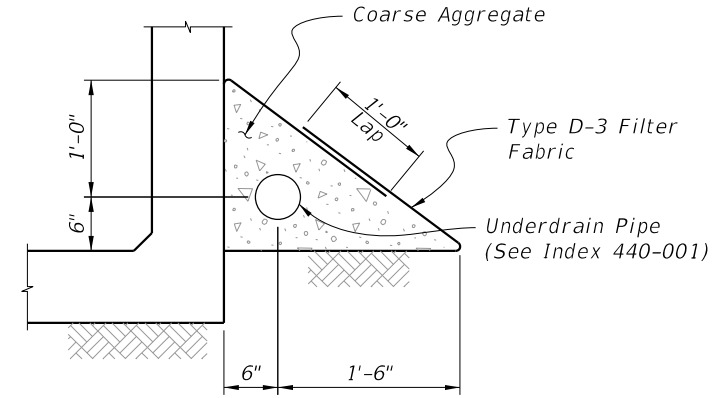
See Sheet 3 for locations of Details "D", "E", "J" & "K".
See Sheet 4 for locations of Detail "C".

10/6/2022 12:48:34 PM

LAST REVISION	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	CONCRETE BOX CULVERT DETAILS	INDEX	SHEET
11/01/17					400-289	5 of 8

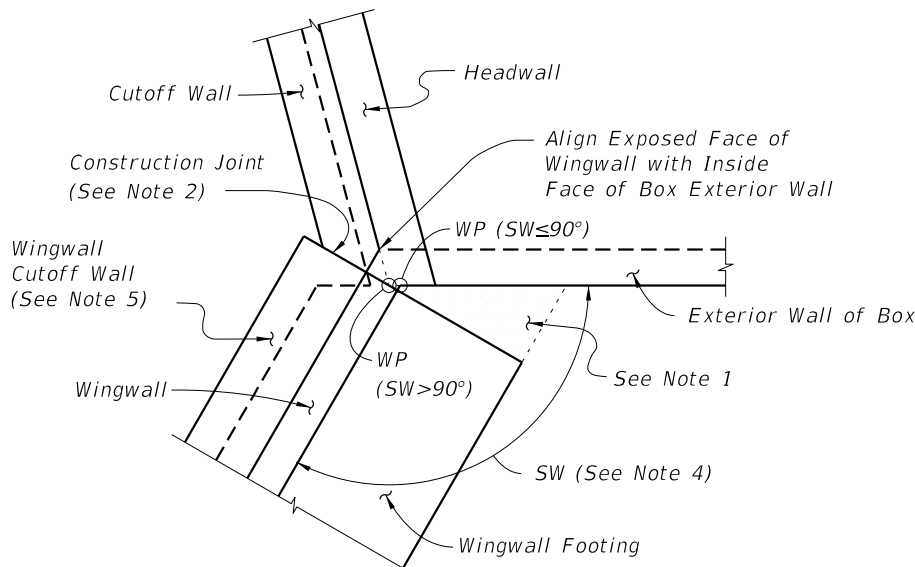


END ELEVATION
(Showing Constant Height And Variable Height Wingwalls)

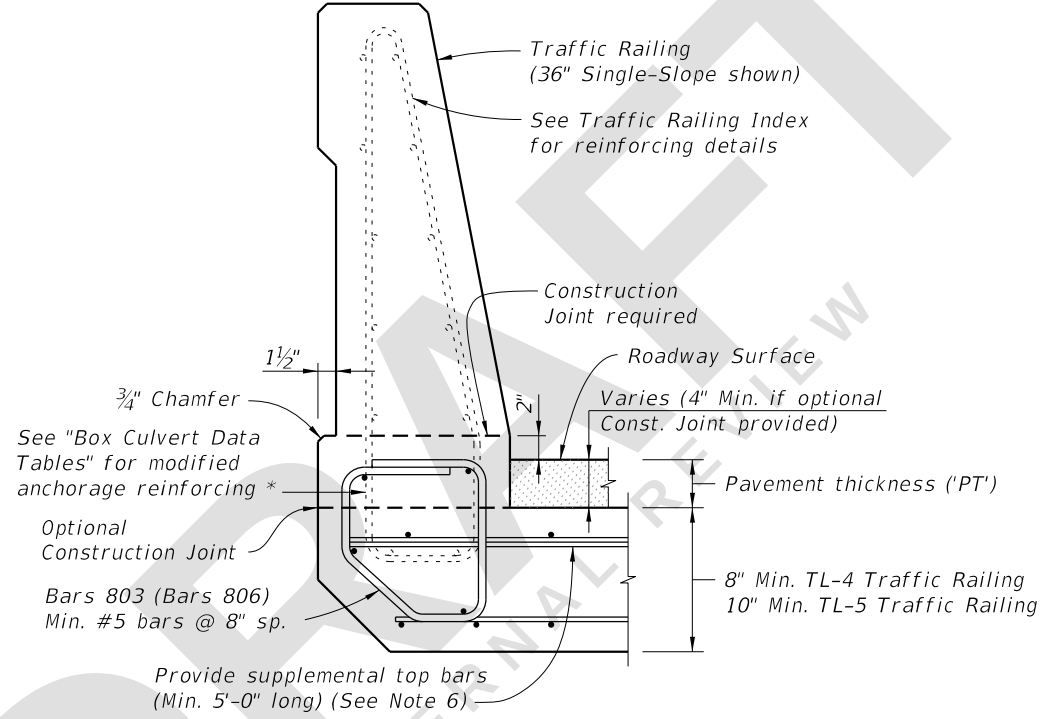


DETAIL "B"
UNDERDRAIN DETAIL
(Similar to Type II ~ Index 440-001)

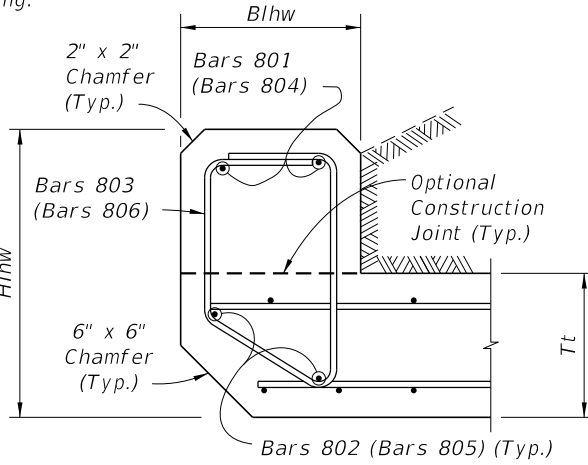
- NOTES:**
1. For small angles, the Contractor may elect to fill the area between the box and the wingwall footing with unreinforced concrete. For wingwall skew angles less than 90 degrees, field bend wingwall reinforcement as necessary while maintaining cover. No additional payment will be made for this work.
 2. Location of Construction Joint determined by WP at theoretical intersection of:
 - Soil side face of Headwall and outside face of Box Exterior Wall, for $SW \leq 90^\circ$;
 - Outside face of Wingwall and outside face of Box Exterior Wall, for $SW > 90^\circ$.
 3. Provide 6" chamfer when angle 'A' is greater than 45°. Maintain minimum wall thickness. Field adjust reinforcing to maintain cover.
 4. Wingwall Skew Angles (SW) are measured from the adjacent box exterior wall to the wingwall.
 5. Turn or extend Wingwall Cutoff Wall as necessary to meet Box Cutoff Wall.
 6. Provide additional reinforcement in the top of the top slab below traffic railings to ensure a minimum area of 0.80 sq. in./ft. transverse reinforcing.



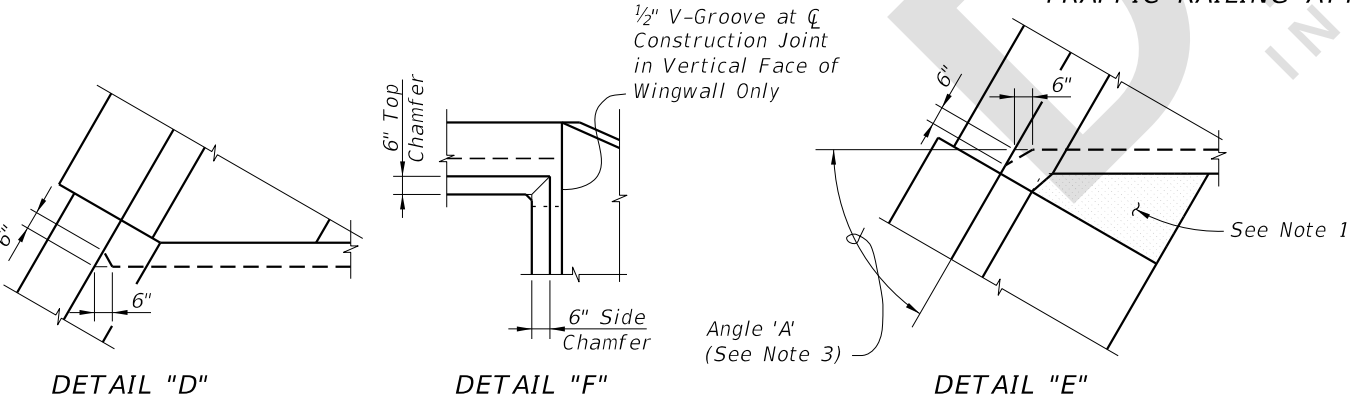
DETAIL "C" - PLAN VIEW
WINGWALL TO BOX CONNECTION
(Left Begin Corner Shown, Other Corners Similar)



DETAIL "I"
TRAFFIC RAILING ATTACHMENT TO HEADWALL



DETAIL "J"
LEFT HEADWALL SECTION
(Right Headwall similar)



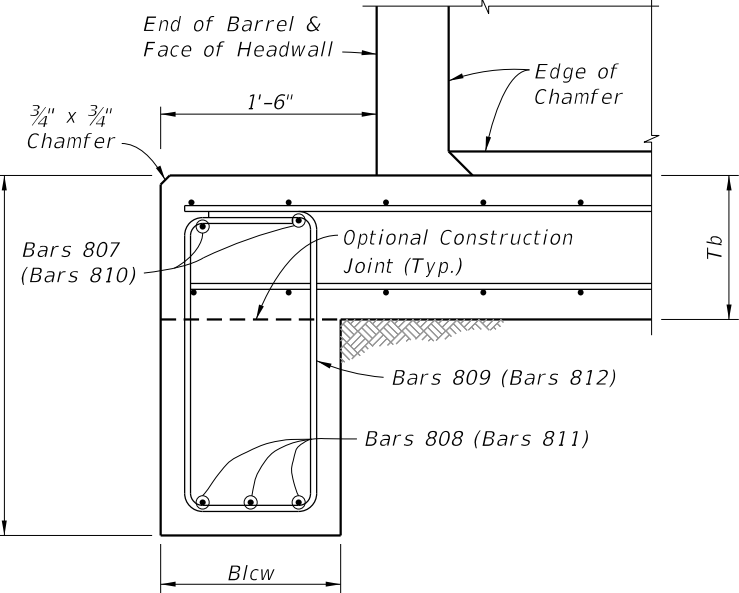
DETAIL "D"

DETAIL "F"

DETAIL "E"

DETAIL "G"

SECTION H-H



DETAIL "K"
LEFT CUTOFF WALL SECTION
(Right Cutoff Wall similar)

CROSS REFERENCE:
See Sheet 3 for locations of Details "D", "E", "J" & "K".
See Sheet 4 for locations of Detail "C".

6/26/2023 11:06:25 AM

LAST REVISION 11/01/23	DESCRIPTION: 	 FY 2024-25 STANDARD PLANS	CONCRETE BOX CULVERT DETAILS	INDEX 400-289	SHEET 5 of 8
---------------------------	----------------------	--	------------------------------	------------------	-----------------