

# ***2016 Design Standards Index 410***



## **Roadway Design Office Updates**

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# *Index 410*

## *Concrete Barrier Wall*

- Longitudinal Reinforcement
  - Continuous
  - Lap Splices
- Trailing End Guardrail Mounting Height
- Construction Joint
- Vertical Reinforcement Spacing for Bifurcated Median Walls
- Consistency of Notes
  - Longitudinal Reinforcement
  - Reduced Spacing for Vertical Reinforcement

# Index 410

## Concrete Barrier Wall

- Longitudinal Reinforcement (Sheet 2 of 25)
  - Continuous
  - Lap Splices

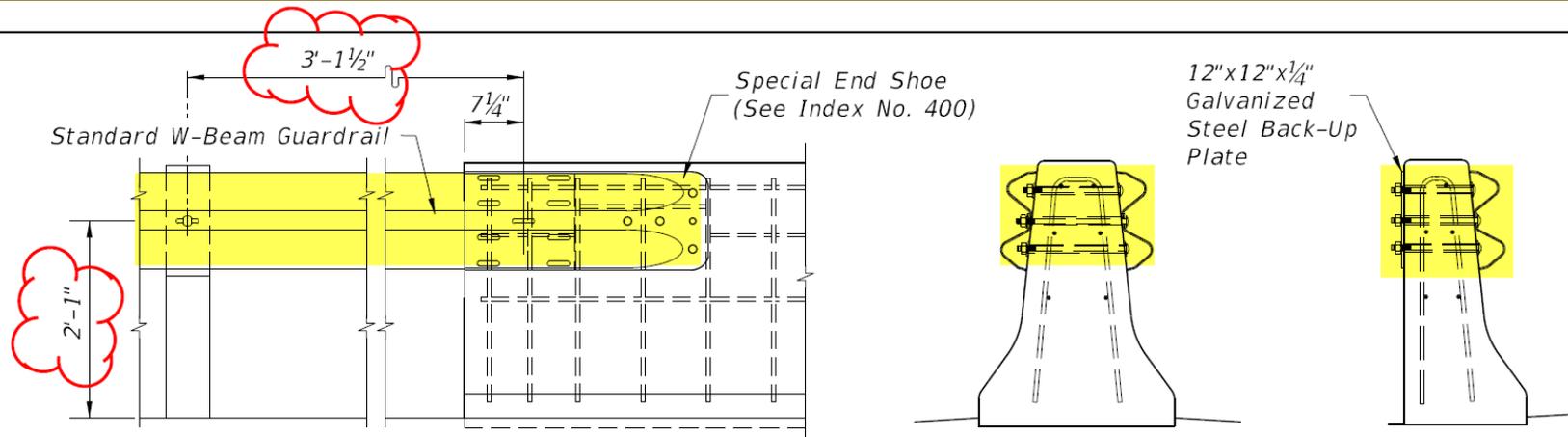
### GENERAL NOTES

1. Class II concrete shall be used for the construction of Concrete Barrier Walls; except, in moderately and extremely aggressive environments, Class IV concrete shall be used. All nondesignated size reinforcing steel shall be No. 5 bars. Exposed concrete surfaces shall have a Class 3 surface finish in accordance with Specification Section 521 or as required in the plans.
2. Longitudinal reinforcement to be continuous or spliced No. 5 Bars. Lap splices a minimum of 2'-0".
3. Concrete barrier wall terminal notes for design speeds  $\geq 50$  mph.
  - a. Terminated outside clear zone of the approach traffic, use DETAIL II end treatment.
  - b. Terminated within a shielded location.
  - c. Terminal protection by the use of a crash cushion system.
  - d. Terminated in conjunction with a suitably designed transition to another barrier.
4. Expansion joints are required at bridge ends and/or at locations where the wall is an integral part of an existing or proposed concrete slab. Construct required joints to match existing or proposed expansion joints.
5. When the barrier is installed adjacent to the pavement, compact the top 12" of the subgrade to at least 98% of the maximum density determined by FM 1-T 180, Method D.
6. Where standard F-Shape walls abut existing New Jersey (NJ) Shape walls, face transitions of not less than 5' in length shall be constructed at the adjoining end of the F-Shape wall.

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## Concrete Barrier Wall

### • Trailing End Guardrail Mounting Height (Sheet 2 of 25)



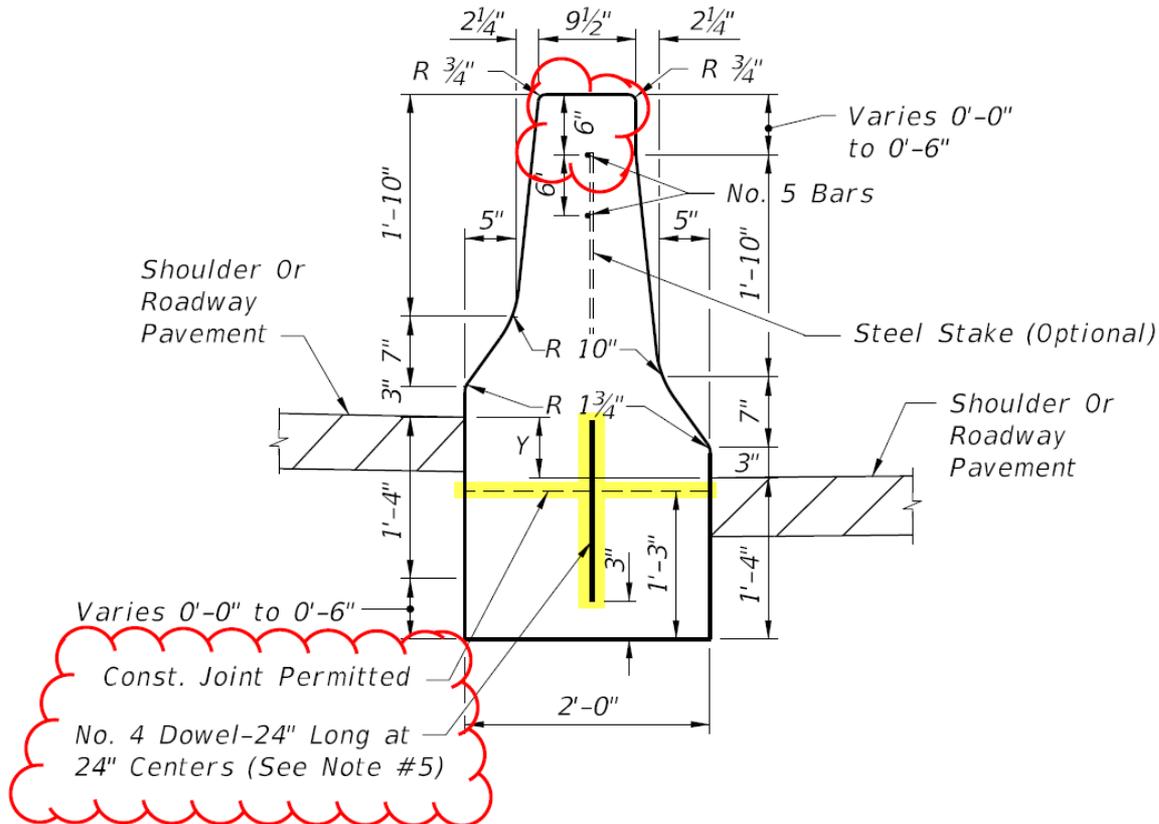
#### NOTES:

1. End of wall flush mounted connections are not applicable to two-lane two-way facilities. For trailing end connections on two-lane two-way facilities, see *SHOULDER BARRIER WALL AT ABOVE GROUND RIGID HAZARDS WHEN GUARDRAIL OFFSET FROM HAZARD < 3'*.
2. Trailing guardrail connections to double face safety shaped walls will be under one of the following traffic conditions and mounting methods:
  - (a) One-way traffic trailing condition one side only - flush mount with flat steel back-up plate on back side.
  - (b) One-way traffic trailing condition both sides - flush mount both sides.
  - (c) For trailing condition one side and approach traffic condition opposite side - see *MEDIAN BARRIER WALL*.

**W-BEAM GUARDRAIL CONNECTION TO CONCRETE BARRIER WALL TRAILING ENDS**

# Index 410 Concrete Barrier Wall

- Construction Joint (Sheet 4 of 25)

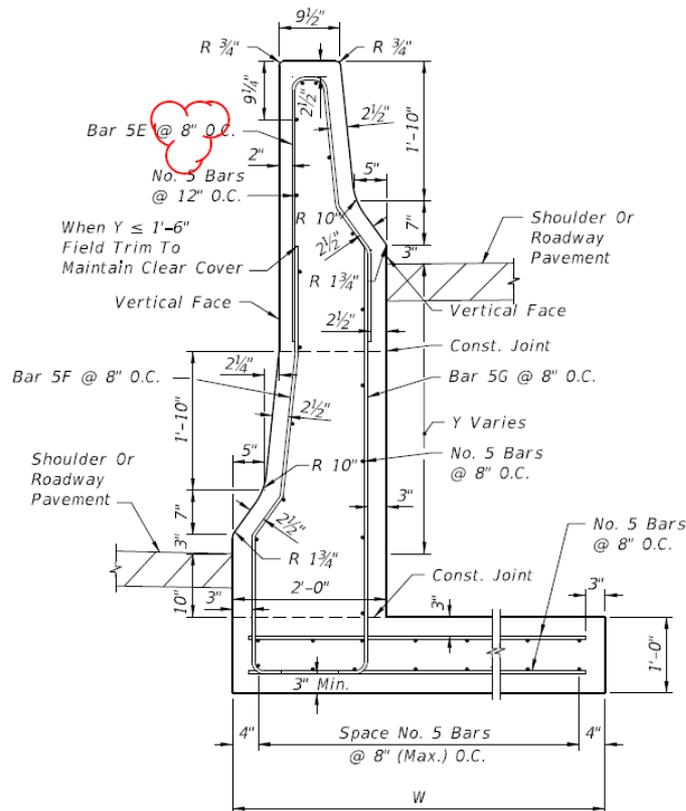


F-SHAPE MEDIAN BARRIER  
WHEN Y IS LESS THAN OR EQUAL TO 6 INCHES

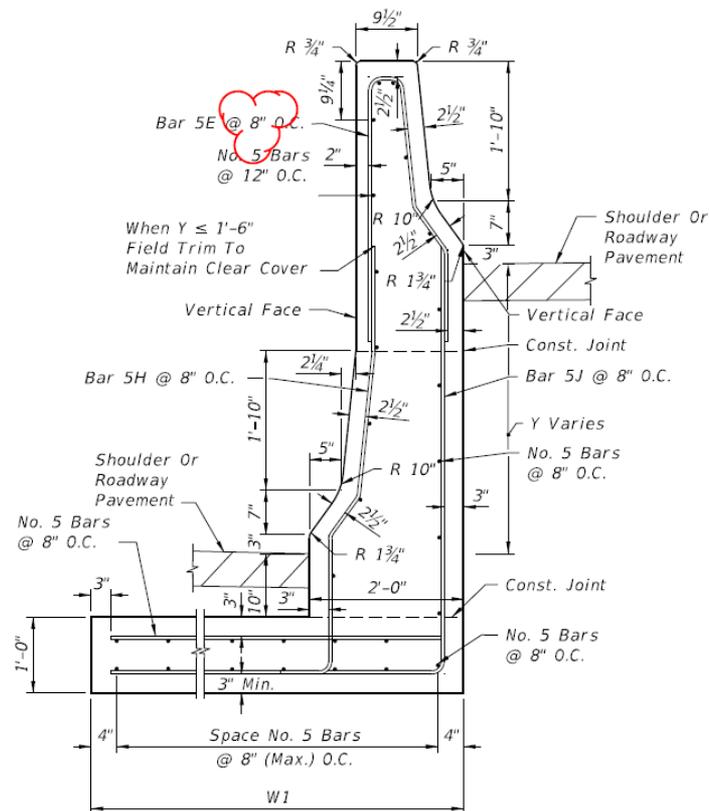
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## Concrete Barrier Wall

- Vertical Reinforcement Spacing for Bifurcated Median Walls (Sheet 4 of 25)



CANTILEVER WALL  
SUPERELEVATED SECTION



L-WALL  
SUPERELEVATED SECTION

# *Index 410*

## *Concrete Barrier Wall*

- **Consistency of Notes** (Sheets 3, 4, 14, 15, 20, & 21 of 25)
  - Longitudinal Reinforcement
  - Reduced Spacing for Vertical Reinforcement

### NOTES:

- 1. Reduce the vertical steel spacing to 4 inches O.C. a distance of 4 feet for each side of all cold or expansion joints.*
- 2. All longitudinal reinforcement to be continuous or spliced No. 5 bars. Lap splices a minimum of 2'-0".*
- 3. Transverse expansion joints are to be constructed at the juncture of wall transitions and curb and gutter, and at intervals so that spacing will not exceed 100'.*
- 4. For Concrete Barrier Wall Inlet details with Rigid Curb and Gutter applications, see Index No. 219.*
- 5. Minimum Segment Wall Length = 20 LF.*
- 6. For additional information on Bar 5K, see BAR BENDING DIAGRAM.*