

# **A Summary of Changes Included in the 2007 Standard Roadway Construction – Traffic Control – Bridge Construction Details**

## **General Changes**

1. This new booklet includes changes to all construction details that were issued via BDC Announcements subsequent to the issuance of 2001 booklet.
2. Several unused details have been eliminated.
3. To avoid redundancy, some notes from CD have been deleted since the requirements are covered in the Specifications Book.
4. Changed CD numbers to match the new section numbers of the 2007 Specifications Book. For example: The 612 series concerning Guide Rail was changed to 609. The 212 series concerning Soil Erosion & Sediment Control (SESC) measures is changed to 158.
5. Items have been changed to singular to match the specification book.
6. Some text has been changed to active voice, imperative mood.
7. Reference to the “Engineer” has been changed to “RE” or “the Department”.
8. The requirements of “white concrete” for curb and sidewalk has been deleted.
9. Changed “Rebar” to “Reinforcement Steel”.
10. Changed “Routed Spacer” to “Block Out” in the Guild Rail Details.

## **Specific Changes**

### **CD – 157-1 Monument and Monument Box**

1. Added the description “Brass” to Monument Marker.

### **CD –158-1 Soil Erosion Sediment Control**

1. Silt Fence
  - Added note Number 4.
  - Added callout Drive post plumb or slightly uphill.
  - Added 2 fasteners
2. Attaching Two Silt Fences
  - Revised detail for clarity, added another view.
  - Revised rotation from “180 “to “360 degrees”.
3. Heavy Duty Silt Fence Detail
  - For clarity, the section view was spread out and geotextile was added 1 foot below surface.
  - Revised the spacing from 8’-0” to 4’-0”.
  - Added another view for clarity.

- Revised notes Number 1 and 4.
- Note has been added to clarify that the post is buried 2 feet below ground.
- Added note Number 6.
- 4. Silt Fence Fastener Requirements
  - This is a new detail.
- 5. Silt Fence on a Steep or Long Grade, Haybales, and Stabilized Construction Driveway
  - These are new details.
- 6. Embedding Detail
  - Taken from Haybale Check Dam with Temporary Stone Outlet.

#### CD-158-2-Soil Erosion Sediment Control

1. Haybale Check Dam with Temporary Stone Outlet-
  - This has been relocated from 2001 Standard Construction Details on CD-212-1
  - The embedding detail was taken out and is shown as its own detail on CD-158-1.
  - The note placed in “front of” was changed to “upgrade”.
2. Temporary Stone Check Dam
  - Sections have been called out on plan view for clarity.
  - “Section A-A” has been changed to “Elevation A-A”
  - “Elevation” has been changed to “Elevation B-B”
  - “On Geotextile” has been added to the description of Coarse aggregate.
  - “In front” has been revised to “Up Gradient”.
3. Temporary Slope Drain
  - This detail has been relocated from CD-212-1.
  - Called out “flared end section”.
  - Added “Temporary Flow Line” callout
  - Added callout Embed bale 4” into ground. 2 Stakes per bale.
  - Added note “Secure drainpipe to slope”.
4. Inlet Filters Type 1
  - Revised geotextile as it is no longer shown over the curb piece and added 2”X4”.
  - Added hem to geotextile for 2” x 4”.
  - Revised No. 8 aggregate to “No. 2”.
  - Revised the geotextile extending 1” outside to match spec. of 6” Hem.
  - Section A-A has been added and revised to show Wire Mesh, Geotextile and Aggregate and the area showing the block to be removed has been shaded.
5. Inlet Protection Haybale Barrier CD 212-2.5 (2001)
  - This detail has been removed, and is not used in the 2007 edition.
6. Inlet Filters, Type 2
  - This is a new detail.

#### CD-158-3 Soil Erosion Sediment Control

1. Temporary Inlet Sediment Traps
  - The name was changed from “Inlet Sediment Traps”
  - Added 6” diameter hole.
  - Revised embedding dimension from 4” to 6”.
  - Added note “referring to CD-158-2.4 Section A-A for treatment of 6” hole”.
2. Floating Turbidity Barrier
  - Major changes have been made to this detail. Additions of “Type 1, 2, and 3 turbidity barrier” with notes explaining when each is used.
  - Added section B-B.
  - Deleted “typical application diagram”.

- Added plan view showing pipe layout.
  - Deleted gap in Front View and added continuation notation.
  - Deleted the “Typical Application section”.
  - Modified the typical application plan; revised the radius to “varies” from 50’-0”, and added the following notes:
    - Keep as close to shore as possible.
    - Anchor on shore at each end above high water line.
    - Do not span watercourse.
  - Modified Wet Excavation or Bridge Structure (Wet) to extend the discharge point along shore line and called out “anchor on shore at each end”.
  - Revised Weight callout to be “Load Chain” or “Weight”.
3. Temporary Stone Outlet Sediment Traps, -
- This detail has been relocated from CD-212-2.
  - Added “on Geotextile” to the coarse aggregate No. 2 callout.
4. Sediment Control Tank or Bag
- This is a new detail.

#### CD-158-4 -Soil Erosion Sediment Control

1. Use of an oil/water separator during dewatering –
  - This is a new detail.
2. Temporary Runoff Diversion
  - Turned the stabilization for ditch or berm into a chart presentation
3. Stream Diversion
  - Method A – Deleted “Preferred”.
    - Revised note Number 4 for temporary diversions, “return flow to existing stream”.
    - Added note 5 “Restore temporary diversion area to original condition”.
  - Method B –
    - Added Note 4: “Continue sequence from step 2, method A”.

#### CD-159-1 Traffic Control Devices

1. CD-159-1.1 Drums
  - Changed Retroreflective sheeting for stripes to conform with ASTM D 4956 Type VII or Type VIII with S2 requirements.
  - Use only white reflectorized stripes not silver.
  - CD-159-1.3 Breakaway Barricades
  - Reversed the order of notes Number 3 & 4 and, changed “sandbags” to “ballast”.

#### CD-159-2 Traffic Control Devices

1. Deleted detail for Vertical Panels

#### CD-159-3 Construction Barrier Curb, Type 1

1. CD-159-3.2 Anchorage for Type 4 Barrier used as type 1
  - Added to the CD title, Anchorage for Type 4 Barrier with Joint Class D.
  - View B-B shows anchor bolts in both sides of the section for HMA pavement to be consistent with note 1.

#### CD-159-6 Construction Signs

1. Removed the "R2-5a, Reduce Speed Ahead" sign; on the "R2-1 Speed Limit" sign, replaced the "(24" X 30"), (5 S.F.)" with "(36" X 48"), (12 S.F.)".

#### CD-159-7 Construction Signs

1. Added the two following signs:
  - o W3-5, (48" X 48"), (16 S.F.)
  - o WORK ZONE plate, (36" X 12"), (3 S.F.)

#### CD-202-1 Soil Reuse

This is a New Detail

#### CD-401-1 Milling

1. CD-401-1.1 Changed thickness of the HMA Surface course in the milling transition area.
2. Renamed "Bituminous Concrete" to "HMA Surface Course".

#### CD-401-2 Longitudinal Joints in HMA

1. New Detail added, previously released under BDC05D-01.

CD-405-1, CD-405-2 and CD-405-3 are new Concrete Pavement Joint Details.

CD-451-1, CD-452-1, CD-453-1, CD-453-2, and 454-1-These are new Concrete Pavement Rehabilitation (CPR) Details.

#### CD-601-1 Underdrains

1. Added Underdrain Type X detail for use with Asphalt Stabilized Drainage Course (ASDC).
2. Removed reference to rock excavation.
3. Changed "#57 Broken Stone" to "#57 Coarse Aggregate".
4. Changed "Corrugated Steel Underdrain Pipe" to "HDPE Perforated".
5. Extended pay limit of subbase outlet drain.

#### CD-601-3 Cross Drain Trench Construction previously CD-602-2

1. CD-601-3.3 added column for HDPE pipe.
2. CD-602-2.5 was deleted, for dowel bar details see new detail CD-453-1.3
3. Existing Concrete to be sawcut full depth at a minimum distance of 3 feet from the center line of the cross drain trench.

#### CD-602-1 Inlet General Details

1. CD-602-1.5 Change dimensions to allow for range.

#### CD-602-2 Inlets, Type A, B, & C

1. Incorporated BDC05D-03 concerning New Jersey Pollution Discharge Elimination Systems (NJPDES) Permit.

Note: In addition to using bicycle safe grates, which meet the NJPDES requirements that apply to new construction and new inlets, it is also required to retrofit existing inlets where such inlets are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction or alterations of facilities owned or operated by a highway agency. There are some exemptions to these requirements, for example if retrofitting would result in inadequate hydraulic performance.

#### CD-603-1 Slope and Channel Protection

1. CD-603-1.1 Changed "Slope Treatment" to "Slope Protection".
2. CD-603-1.2 Note No 3, if there is no surface course on the project; use a 9.5mm nominal maximum size HMA.

#### CD-606-1 Public Sidewalk Curb Ramp Detectable Warning Surface

1. Changed "Safety red color coating" to "color surface (shaded area)" as the color may be 70% color contrast on other than concrete surfaces.
2. Notes mentioned in the Specification were deleted.

#### CD-607-2 Barrier Curb and Vertical Curb Details

1. New detail CD-607-2.5 Linear Curb Transition

#### CD-609-1

1. Deleted note on wood routed spacers, since they are no longer used.
2. General Note 3 changed "less than 150 feet" to "between 20 and 150 feet."

#### CD-609-2

1. Changed End Section (Buffer) radius and added diameter based on 8" deep block outs.
2. Changed General Note 3.
3. See CD-609-1, Note 1.

#### CD-609-3

1. In 609-3.2, the top of pavement is shown at the gutter.
2. In 609-3.5, the paint surface note was changed to "one coat of aluminum Epoxy Mastic Primer."

#### CD-609-4

1. Changed entire "beam guide rail anchorage from a steel post and concrete anchor" to a "Foundation Tube End Anchor (FTEA)". Unit price will be approximately \$200 less and installation takes about 20 minutes per unit.
2. The FTEA can be used as an End Anchorage or an in Line Anchorage.

#### CD-609-5

1. Total Revision. "Extruder Terminals" are now called "Tangent Guide Rail Terminals" and "Slotted Guide Rail Terminals" are now called "Flared Guide Rail Terminal." Details were made generic so that details would not have to be changed every time the manufacturers made product revisions.

#### CD-609-6

1. Corrected the location and amount of the CRT Line Posts in the Post Layout in CD-609-6.1.
2. Added abbreviation, "L.O.P.", for "Limit of Payment" to all of the Post layouts.

#### CD-609-7

1. In CD-609-7.3, changed "Non Vegetative HMA Pavement" to "Non Vegetative Surface."
2. In CD-609-7.4, changed "Anchorage Type II" to "Anchorage."

#### CD-609-8

1. Renumbered the details on this sheet since we moved and revised CD-612-8.6 to CD-609-9.2.
2. Updated CD-609-8.4 to Federal standards such as rail element height in flared section and use of rub rail.
3. In CD-609-8.6, Detail B, changed "See Detail CD-612-12.3" to "See Detail CD-609-10.1."

#### CD-609-9

1. CD-612-9.1, 9.2, and 9.3 were deleted. CD-612-9.4 was moved to CD-609-11.2.
2. CD-612-8.6 was revised and moved to CD-609.2. "Slope Treatment at Slotted Rail Terminals" was changed to "Grading Treatment at Flared and Tangent Terminals" to agree with *AASHTO's Roadside Design Guide, 2002*.
3. CD-609-9.1 Recovery Area at Flared and Tangent Terminals is new.
4. CD-609-1 and CD-609-2 requires design specific information be added and included in the contract plans.

#### CD-609-10

1. In CD-609-10.2 added Note 1 concerning what items to use if sidewalk is on or off of the structure. Also, in PLAN view, took out "Parapet, Balustrade or Thru Girder" and "End of bridge".
2. In CD-609-10.1, Note 1; and CD-609-10.2, Note 2, added note on Post 1.
3. In CD-609-10.2, changed "structure" to "attachment area" and changed "See CD-612-9.4" to "CD-609-11.2". Added "6" Length" to the anchor bolts in the SECTION view.

#### CD-609-11

1. In CD-609-11.1 changed "Bars" to "Reinforcement Steel." Also changed "See CD-612-9.4" to "See CD-609-11.2." Added "For CD-609-10.2" to beginning of 4<sup>th</sup> paragraph. Added "For CD-609-11.1" to beginning of 5<sup>th</sup> paragraph.
2. Moved CD-612-9.4 to CD-609-11.2

#### CD-609-12

1. In CD-609-12.2, changed "See CD-612-9.4" to "See CD-609-11.2."
2. In CD-12.1, changed "Structure Tube Spacer Blocks" to "Spacer Tube". Also added Note 5. regarding welding of spacer tube.

#### CD-609-13

1. Changed "Reinforcement Bars" to "Reinforcement Steel."
2. Added "Concrete Lip Curb to be paid under 9" x 16" Concrete Vertical Curb, See CD-607-1.9." to Note 14.
3. Added Note 15 concerning Post 1.
4. Took out "CD-607-1.9" in Note 13.
5. Changed single 3'-1.5" post spacing to double 3'-1.5" post spacings for the Type B Attachment

#### CD-609-14

1. See CD-609-13, Notes 1, 3 and 5 above.

#### CD-609-15

1. See CD-609-13, Notes 1, thru 5 above

#### CD-609-16

1. See CD-609-13, Notes 1, thru 5 above.

#### CD-609-17

1. Added new sheet on Modified Thrie Beam Guide Rail.

#### CD-609-18

1. Added new sheet on Modified Their Beam Guide Rail, Dual Faced.

#### CD-610-1 Raised Pavement Marker, (RPM) Location Details

1. Included CAN066, Marking of Gore Areas, in CD-610-1.1 Typical Deceleration Lane Treatment. Changed diagonal marking of gore areas to chevrons.

#### CD-807-1.1 Topsoil Stabilization

1. This detail sheet was previously CD-809-1.
2. Added "and blankets" when referring to matting.
3. Added "soil" to berm callouts.
4. Added note "staples variable as recommended by manufacturer".
5. Added note "Dependant on width of product".
6. Added detail for Excelsior Butt Seam.

#### CD-811-1 & 2 Planting

1. The following details were added to the planting section
  - o Wire Basket Removal
  - o Tree Protection Detail
  - o Narcissus in Turf Detail
2. The pruning detail was revised for clarity.
3. Fastening detail was revised to no longer accept plastic hose
4. Removed Note to Designer box

### **Changes to the 2007 Traffic Control Details (TCD)**

#### TCD-1 General Notes

1. Reworded some notes according to changes in Specification 2007.
2. Note 12 added the following:
  - o A trailer mounted illuminated flashing arrow to remain at the end of the taper.
  - o The Traffic Control Truck will keep a buffer of 70 feet min and 150 feet max of work area.
3. Note 20 added the following...."The Speed Limit, R2-1 (Black on White) with added WORK ZONE plate (Black on Orange), signs shall be....."
4. Note 21 replaced sign R2-5A-(S) (BLACK ON WHITE) With W3-5 (S) (BLACK ON ORANGE).
5. Incorporated Can 69 Traffic Impacts & Lane Closures in Note 26.

#### TCD-2

Construction Barrier, Type 4 changed Allowable Movement Area to Clear Area.

The Clear area for Joint class A is 20 inches , class B is 16 inches and class C is 11 inches.

#### TCD-3 and other TCD pages.

The ½ Mile Sign and 1 Mile Sign were placed at their exact location as shown in the MUTCD.

TCD-17

Use only when workers not present.

### **Changes to the 2007 Bridge Construction Details (BCD)**

The Bridge Construction Details (BCD's) now include standard drawings to detail installation of the 1 rail aluminum railing and 2 rail aluminum railing on top of concrete parapets. Also, standard drawings for the detailing of the 4' 2" High Heavy Truck Parapet, 3' 6" High F-Shape Parapet and the 4 Bar Open Steel Parapet have been added. Additionally, drawings that detail typical bridge elements or concepts; such as, Concrete Slope Protection, Lettering Panels, Parapet Scoring, Expansion Sleeves, epoxy waterproofing, water stops, lighting boss and utility junction boxes have been added. Drawings of the above bridge related construction aspects were previously contained in the NJDOT Bridges and Structures Design Manual. Due to the common usage of the drawings, they can be considered to be typical BCD's.

Two new drawings for the construction of Bridge Approach Slabs are introduced. These drawings replace the existing approach slab standard drawings. With the use of the new drawings, approach slabs are considered to be a bridge construction item.