

<p><i>New Jersey Department of Transportation</i> 1035 Parkway Avenue, PO Box 600, Trenton, New Jersey 08625-0600</p> <p><i>Baseline Document Change Announcement</i></p>	
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ANNOUNCEMENT: BDC20S-10

DATE: September 11, 2020

SUBJECT: Concrete Staining and Vegetation Removal

- **Revision to the 2019 Standard Specifications for Road and Bridge Construction, Sections 504, 507, 513, 609, and 912, and addition of Subparts 504.03.04 and 513.03.03**

Sections 504, 507, 513, and 912 have been revised and Subparts 504.03.04 & 513.03.03 have been added to the 2019 Standard Specifications in order to improve current staining procedures in response to peeling stains on projects and establish procedures for inspection and testing adhesion. In addition, Section 609 has been updated to clarify that vegetation removal behind guide rail without non-vegetative surface is paid for under Guide Rail Items.

The following revisions have been incorporated into the Standard Inputs (SI 2019):

SECTION 504 – STRUCTURAL CONCRETE

504.01 DESCRIPTION

THE FOLLOWING IS ADDED:

This Section also describes the requirements for the application of color stain and primer to concrete structures and staining other areas as described herein and as shown on the plans.

504.02 Materials

THE FOLLOWING MATERIAL IS ADDED TO THE LIST

Concrete Stain	912.01.04
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THE FOLLOWING SUBPART IS ADDED:

504.03.04 Concrete Staining

Prior to staining, examine the surfaces to be stained. Bring areas requiring patching or repair to the attention of the RE.

- A. Submittals.** Submit product information and manufacturer color chip sample for approval by the Office of Landscape Architecture.
- B. Cleaning.** After the concrete areas and any patching has cured for at least 28 days, power wash all surfaces for initial preparation at a minimum pressure of 2,500 psi using a 25 degree tip and a standoff distance of 2 feet. Verify that

all foreign materials, such as dirt, dust and form oil, have been removed and surfaces are clean prior to application of primer and stain. If contaminants are still present after initial preparation, vary power washing parameters or use other suitable methods to clean surfaces.

- C. **Test Staining.** Complete a test staining program for porosity, adhesion, and color acceptance before staining operations on approved textural mock-ups or in place according to contract plans. Test area(s) to include both smooth and textured concrete sections. Prepare test area for initial surface preparation as described in 504.03.04.B for inspection by the RE. If the staining mock-ups are approved, they may be included as part of the final construction.

After concrete has cured, test for porosity prior to testing for adhesion or color acceptance, on both the smooth concrete section and the textured concrete section by spraying water onto the surface to be stained. Notify the RE if the water does not absorb rapidly as per manufacturers recommendations.

If the concrete passed the porosity test, apply production stain to concrete as specified in 504.03.04.D. After the manufacturer’s recommended drying time of the stain, test for satisfactory adhesion of stain as described in Table 912.01.04-1.

The final stain color scheme will be approved by the Office of Landscape Architecture in the field after reviewing and approving the test stain program. Do not order final quantities of stain and primer until approved. When approved the sample area will serve as a standard of acceptance for all further work.

- D. **Stain and Primer.** Apply one coat of primer and one coat of stain to smooth concrete surfaces. Apply one coat of stain, only to textured concrete surfaces.
- E. **Stain Colors.** See the Special Provisions for stain colors.

504.04 MEASUREMENT AND PAYMENT

THE FOLLOWING ITEM IS ADDED:

<i>Item</i>	<i>Pay Unit</i>
CONCRETE STAINING	SQUARE YARD

SECTION 507 – CONCRETE BRIDGE DECK, BRIDGE PARAPET, AND APPROACHES

507.03.05 Concrete Parapet and Concrete Barrier Curb

THE FOLLOWING PART 3 IS ADDED:

- 3. **Concrete Staining.** Perform concrete staining as specified in 504.03.04.

507.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED:

The Department will not include Concrete Staining under Concrete Parapet and Concrete Barrier Curb. The Department will make payment for Concrete Staining under CONCRETE STAINING.

SECTION 513 – RETAINING WALLS

THE FOLLOWING SUBPART IS ADDED:

513.03.03 Concrete Staining

Perform concrete staining as specified in 504.03.04.

513.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED:

The Department will make payment for CONCRETE STAINING as specified in 504.04.

SECTION 609 – BEAM GUIDE RAIL

609.03.01 Beam Guide Rail

THE FOLLOWING IS ADDED AT THE END OF THE SUBSECTION:

Remove trees and shrubs as specified in 801.03 and 802.03 from the entire guide rail element extending 4 feet behind the guide rail post.

609.03.05 Reset Beam Guide Rail

THE FOLLOWING IS ADDED AT THE END OF THE SUBSECTION:

Remove trees and shrubs as specified in 801.03 and 802.03 from the entire guide rail element extending 4 feet behind the guide rail post.

SECTION 912 – PAINTS, COATINGS, TRAFFIC STRIPES, AND TRAFFIC MARKINGS

912.01.04 Concrete Stain

THE SUBSECTION IS CHANGED TO:

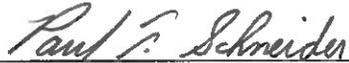
Provide a penetrating stain that is a single component, water-based acrylic coating, alkali resistant, and water repellent. Primer is required for application on smooth concrete. Provide a primer that is a penetrating, water based, water repellent concrete sealer. Ensure that the stain conforms to the requirements in Table 912.01.04-1.

Table 912.01.04-1 Requirements for Concrete Stain		
Property	Value	ASTM Test Method
Dry – to – Touch Time	Max. 1 hour	D 1640
Dry – to – Recoat Time	Max. 4 hour	D 1640
Weight per Gallon	11.0 + 0.5 lbs.	D 1475
Weight Solids	52 + 2%	D 2369
Adhesion, Tape Test	Min. 4A	D 3359
Gloss	Flat	D 523
Weathering	<3.0 dE @ 3,000 hrs.	G 154 / D 4587
VOC	<100 g/L	D 2369

Implementation Code R (ROUTINE)

Changes must be implemented in all applicable Department projects scheduled for Final Design Submission at least one month after the date of the BDC announcement. This will allow designers to make necessary plan, specifications, and estimate/proposal changes without requiring the need for an addenda or postponement of advertisement or receipt of bids.

Recommended By:



Paul F. Schneider
Director
Capital Program Support

Approved By:



Snehal Patel, P.E., PMP
Assistant Commissioner
Capital Program Management
and State Transportation Engineer

PS: NE: HP