## New Jersey Department of Transportation

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## Baseline Document Change Announcement

ANNOUNCEMENT: BDC25S-17

**DATE:** October 22, 2025

**SUBJECT:** Self-Consolidating Concrete (SCC)

- Revisions to Subpart 906.03.01 of the 2019 Standard Specifications

for Road and Bridge Construction.

Subpart 903.06.01 of the 2019 Standard Specifications for Road and Bridge Construction has been revised to incorporate cast-in-place concrete items.

The following revisions have been incorporated into the 2019 Standard Specifications via 2019 Standard Inputs, SI2019:

903.06 SELF-CONSOLIDATING CONCRETE (SCC)

903.06.01 SCC for Drilled Shafts

THE SUBPART IS CHANGED TO:

## 903.06.01 SCC For Cast-In-Place Concrete

- A. Composition. Produce SCC conforming to the composition requirements specified in 903.03.01, except use a Type F admixture and a viscosity modifying admixture (VMA). Use Type F and VMA admixtures, as specified in 903.02.02 and 903.02.04, at a dosage to produce a flowable concrete that does not require vibration for consolidation. Proportion the aggregates so that the fine aggregate is less than 50 percent by weight of the total aggregate.
- **B. Mix Design and Verification.** Design the mix as specified in 903.03.02 or 903.05.02 to conform to the strength requirements, water-cement ratio, and cement content for the specified concrete of the item being cast. Ensure the SCC conforms to the requirements specified in Table 903.06.01-1.

Table 903.06.01-1 Requirements for SCC for Cast-in-Place Concrete		
Property	Test Method	Requirement
Air Content for Drilled Shafts		
Coarse Aggregate No. 57		$6.5 \pm 1.5 \ percent$
Coarse Aggregate No. 67	AASHTO T 152	$6.5 \pm 1.5$ percent
Coarse Aggregate No. 8		$7.5 \pm 1.5$ percent
Air Content for All Other Items		
Coarse Aggregate No. 57		$6.0 \pm 1.5$ percent
Coarse Aggregate No. 67	AASHTO T 152	$6.0 \pm 1.5$ percent
Coarse Aggregate No. 8		$6.5 \pm 1.5$ percent
Slump Flow for Drilled Shaft	NJDOT C-4	18 to 24 inches
Slump Flow for All Other Items	NJDOT C-4	22 to 30 inches
Visual Stability Index		
Plastic Concrete	NJDOT C-4	1 maximum
Hardened Concrete	NJDOT C-5	1 maximum

Perform mix design verification as specified in <u>903.03.02</u> or <u>903.05.02</u> verification batch, ensure that the air content is in the top half of the allowable range and the slump flow is between 21 to 24 inches for drilled shaft items and between 22 and 28 inches for all other items. Perform air content, slump flow, and visual stability index (plastic concrete) testing on the verification batch. Make concrete cylinders for compression testing as specified in <u>903.03.02</u> and make 2 additional 4 × 8 inch cylinders for evaluation of the visual stability index of the hardened concrete. Saw the additional cylinders length-wise according to <u>NJDOT C-5</u>. The ME will perform the compressive strength testing and the visual evaluation to assign a visual stability index in order to approve the mix.

- C. Verification of Pumpability. Verify pumpability at least 10 days before pouring the SCC. Demonstrate the pumpability of the SCC to the ME by pumping a trial batch through the pump proposed for placing the SCC. Use the proposed methods for mixing the concrete including any anticipated time delays. The ME will test the SCC before and after pumping to verify that the SCC meets the requirements of <u>Table 903.06.01-1</u> after pumping.
- **D.** Mixing. Mix SCC as specified in 903.03.03.
- E. Control and Acceptance Testing. Perform quality control testing as specified in 903.03.05.

The ME will perform acceptance testing as specified in 903.03.05 for the specified class of concrete for the item, except that the provisions for slump testing are replaced with requirements for slump flow testing and visual 'stability index on the plastic concrete. The ME will perform the slump flow testing and the visual stability index according to NJDOT C-4, at the sampling rate specified for slump testing for the specified class of concrete. The ME will perform visual stability index on the hardened concrete according to NJDOT C-5 at a rate of at least 1 per day. If the visual stability index on the hardened concrete does not conform to the criteria specified in Table 903.06.01-1, the ME will require redesign of the mix.

In the performance of quality control or acceptance testing, without remixing the sample, fill cylinder molds, slump flow cones, and air buckets in one lift. Do not vibrate, rod, or tap to consolidate the SCC.

## **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 addenda or postponement of advertisement or receipt of bids.

Recommended By:

For: Tina Shutz Director

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**Approved By:** 

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