

SP00550 (Special Provisions for the 2024 Book) (Bidding on or after: ~~098-01-26~~
Last updated: ~~064-0123-26~~
Requires SP02001, ~~SP02080, SP02210,~~
~~SP02510, SP02515 & SP02560~~
Requires SP02080 when grout is required.
Requires SP02210 when concrete coating is required.)

SECTION 00550 - PRECAST PRESTRESSED CONCRETE MEMBERS

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00550 of the Standard Specifications modified as follows:

00550.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

This Work consists of the manufacture, storage, transportation and installation of precast prestressed concrete girders, box girders, slabs or other concrete members. Precast prestressed concrete members in this Specification are referred to as members.

(Use the following subsection .06 when precast members with UHPC connection are specified and Camber correction is required.)

Add the following subsection:

00550.06 Submittals - Submit unstamped plan of differential Camber correction for the adjacent precast concrete members for UHPC joint connections at least 21 Calendar Days before precast member fabrication according to 00150.35. Include step-by-step procedure and identify Equipment, Materials, and any items to be cast into the precast concrete members in the submittal.

00550.12(a) Aggregate - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of Aggregate is based on the Contractor's quality control testing, if verified, according to Section 00165.

00550.12(b) Plastic Concrete - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of plastic concrete is based on tests performed by the QCT, according to Section 02001.

00550.12(c)(1) General - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of hardened concrete is based on analysis of compressive strength test results of cylinders cast and cured by the Contractor and tested according to AASHTO T 22 by a CSTT at an ODOT certified laboratory and verified according to Section 00165.

00550.12(c)(2) Sampling and Testing - Replace this subsection, except for the subsection number and title, with the following:

Obtain a sample from a delivery vehicle, selected at random, during placement in each bed. Test the sample for temperature, slump, density and air content and cast at least three cylinders for testing at 28 Days. Cure the cylinders in a manner similar to the members they represent. Alternately, the cylinders may be cured in a curing chamber correlated in temperature with the concrete in the beds. Leave the cylinders in the bed with the member or in the curing chamber until the member is stripped. After the member is stripped, place the acceptance cylinders in storage in a moist condition according to AASHTO R 100.

00550.12(c)(3) Acceptance - Replace the paragraph that begins "Hardened concrete members ..." with the following paragraph:

Hardened concrete members with an ASTV meeting or exceeding the specified design strength, f'_c , is acceptable for strength.

00550.20 Prestressing Equipment - Replace the paragraph that begins "Provide hydraulic jacks ..." with the following paragraph:

Provide hydraulic jacks equipped with calibrated pressure gauges. Calibrate the jack and gauge combination and provide a graph or table showing the calibration to the Engineer.

Replace the paragraph that begins "If other types of jacks ..." with the following paragraph:

If other types of jacks are used, provide calibrated proving rings or other devices that accurately indicate the jacking forces.

00550.43(b) Consolidation - Replace the bullet that begins "Vibrate at points uniformly ..." with the following bullet:

- Vibrate at points uniformly spaced and not further than twice the radius where vibration is visibly effective.

00550.46 Release of Prestress - Replace the paragraph that begins "Transfer bond stress to ..." with the following paragraph:

Transfer bond stress to the concrete, or release end anchors, only when the concrete has attained the minimum compressive strength shown or specified for such transfer of load. Cut or release the elements according to the sequence shown on the reviewed Working Drawings so lateral eccentricity of prestress is at a minimum.

Replace the paragraph that begins "Determine the compressive strength ..." with the following paragraph:

Determine the compressive strength of the concrete to establish time for detensioning by testing standard cylinders cast and cured identically with the member. Cast and test cylinders used to determine release time according to AASHTO T 22 and AASHTO R 100.

00550.47(b) Class 1 Surface Finish (Ground and Coated) - Replace the bullet that begins "Thoroughly saturate the ..." with the following bullet:

- Thoroughly saturate the surface with water and coat while damp with a coating material according to 02210.30.

00550.49(a) Lifting - Replace the bullet that begins "Members will be ..." with the following bullet:

- Members are rejected if not handled correctly as specified.

00550.49(c) Transporting - Replace the paragraph that begins "Damaged members will be..." with the following paragraph:

Damaged members are rejected. Replace damaged members, or if allowed by the Engineer, repair damaged members to the Engineer's satisfaction at no additional cost to the Agency.

(Use the following subsection .50 when precast members with UHPC connection are specified and Camber correction is required.)

00550.50 Tie Rods - Delete this subsection.

(Use one of the following options as instructed below. Delete the option that does not apply.)

00550.51 Keyway Grouting for Slabs, Box Beams, and Integral Deck Members -

[Option 1 - Use the following paragraph when UHPC is NOT used.]

Replace the paragraph that begins "After forms have been removed from..." with the following paragraph:

After forms have been removed from slabs, box beams and integral deck bulb tees, sandblast all keyways. Visually verify the surface profile of all prepared surfaces according to International Concrete Repair Institute (ICRI) Guideline 310.2R-2013 *Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair* - surface profile CSP 3. After the members are in place and the tie rods are tensioned (for slabs and box beams) or welded connections are made (integral deck bulb tee girders), clean the keyways of all foreign material and keep moist for 24 hours before grouting. For slabs and box beams, after the tie rods are tensioned, seal the space remaining at the bottom of the keyways with a backer rod as shown before grouting.

[Option 2 - Use the following paragraph when precast members with UHPC connection are specified and Camber correction is required.]

Delete this subsection.

(Use the following subsection .52 when precast members with UHPC connection are specified and Camber correction is required.)

00550.52 Hot Applied Joint Sealant for Integral Deck Members with AC Wearing Surface - Delete this subsection.

(Use the following subsection .80 when Camber correction is required)

00550.80 Measurement - Replace this subsection, except for the subsection number and title, with the following:

The quantities of Work performed under this Section will be measured according to the following:

(a) Length Basis - Precast prestressed members will be measured on the length basis, and will be the sum of the horizontal lengths shown for each type and size of member. Field measurement of each member length will not be made. The quantities will be determined by calculating the theoretical horizontal length shown, added together for a total for each type and size.

(b) Lump Sum - No measurement of quantities will be made for Camber Correction.

Stirrup extension reinforcement will be measured according to 00530.80. Estimated quantities of reinforcement for the lump sum method will be listed in 00530.80(a).

(Use the following subsection .90 when Camber correction is required.)

00550.90 Payment - Add the following Pay Item to the Pay Item list:

(d) Camber Correction Lump Sum

Replace the paragraph that begins “In item (a)...” with the following paragraph:

In item (a), the girder type and depth is inserted in the blank.

Replace the paragraph that begins “In item (b)...” with the following paragraph:

In item (b), the slab depth is inserted in the blank.

Replace the paragraph that begins “In item (c)...” with the following paragraph:

In item (c), the box beam depth is inserted in the blank.

Replace the paragraph that begins “Payment will be payment ...” with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor and Incidentals necessary to complete the Work as specified.