



*Florida Department of Transportation*

**RICK SCOTT**  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

**MIKE DEW**  
SECRETARY

December 13, 2017

Khoa Nguyen  
Director, Office of Technical Services  
Federal Highway Administration  
3500 Financial Plaza, Suite 400  
Tallahassee, Florida 32312

Re: State Specifications Office  
Section: **400**  
Proposed Specification: **4000504 Concrete Structures.**

Dear Mr. Nguyen:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Richard Stepp of the State Roadway Design Office to make verbiage consistent with current and future FDOT Standard Plan Indexes pending release.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to [dan.hurtado@dot.state.fl.us](mailto:dan.hurtado@dot.state.fl.us).

If you have any questions relating to this specification change, please call me at 414-4130.

Sincerely,

Signature on File

Dan Hurtado, P.E.  
State Specifications Engineer

DH/rf

Attachment

cc: Florida Transportation Builders' Assoc.  
State Construction Engineer

**CONCRETE STRUCTURES****(REV 10-30-17)**

SUBARTICLE 400-5.4.2 is deleted and the following substituted:

**400-5.4.2 Handrails, Concrete Barriers, Traffic Railings, and Parapets:**

Construct ~~barriers and parapets~~ in accordance with Section 521.

SUBARTICLE 400-15.2.5.6 is deleted and the following substituted:

**400-15.2.5.6 Grooving:** After the concrete surface profile, as required by 400-15.2.5, has been accepted by the Engineer, and prior to opening the bridge to traffic, groove the bridge deck and approach slabs perpendicular to the centerline of the structure. Do not groove the deck surface of pedestrian or trail bridges unless otherwise shown in the Contract Documents. Cut grooves into the hardened concrete using a mechanical saw device which will leave grooves nominally 1/8 inch wide and 3/16 inch deep. Space the grooves apart in random spacing center of grooves in the following sequence: 3/4 inch, 1-1/8 inch, 5/8 inch, 1 inch, 5/8 inch, 1-1/8 inch, 3/4 inch in 6 inch repetitions across the width to be grooved in one pass of the mechanical saw device. One 6 inch sequence may be adjusted by 1/4 sequence increments to accommodate various cutting head widths provided the general pattern is carried out. The tolerance for the width of the grooves is plus 1/16 inch to minus 0 inch and the tolerance for the depth of grooves is plus or minus 1/16 inch. The tolerance for the spacing of the grooves is plus or minus 1/16 inch.

Cut grooves continuously across the deck or approach slab to within 18 inches of gutter lines at ~~barrier rail~~traffic railing, curb line and median divider. At skewed metal expansion joints in bridge deck surfaces, adjust groove cutting by using narrow width cutting heads so that all grooves of the bridge deck surface or approach slab surface end within 6 inches, measured normal to centerline of the joint, leaving no ungrooved surface adjacent to each side of the joint greater than 6 inches in width. Ensure that the minimum distance to the first groove, measured normal from the edge of the concrete joint or from the junction between the concrete and the metal leg of the armored joint angle, is 1 inch. Produce grooves that are continuous across construction joints or other joints in the concrete surface less than 1/2 inch wide. Apply the same procedure described above where the gutter lines at ~~barrier rails~~traffic railings, curb lines and median dividers are not parallel to the centerline of the bridge to maintain the 18 inches maximum dimension from the grooves to the gutter line. Cut grooves continuously across formed concrete joints.

SUBARTICLE 400-16.6 is deleted and the following substituted:

**400-16.6 Traffic Concrete Barriers, Traffic Railings, Parapets and End Post:** Ensure concrete is cured in accordance with 400-16.2(2), except that a clear Type 1-D curing compound that must contain a fugitive dye may be used in lieu of Type 2. If Type 1-D is used, its removal per 400-15.1 during finishing is not required. When construction is by the slip form method, coat all concrete surfaces with a curing compound that meets the requirements of 925-2, either within

30 minutes of extrusion or before the loss of water sheen, whichever occurs first. Ensure a curing compound coating period of not less than seven days after application. Prior to each concrete placement, submit to the Engineer the method that will be used to periodically measure the rate of application in gallons per square foot. Also, prior to each placement, submit to the Engineer the anticipated quantity of curing compound in gallons that will be used to meet the coverage rate specified in 400-16.2 along with the corresponding square footage of concrete barriers, traffic railings, parapets and end posts to be coated with that quantity. Measure the actual quantity of curing compound that is applied during each concrete placement and submit the quantity to the Engineer. Applied finish coatings, that are on the APL and that are flagged as permitted for use as a curing compound, may be used in lieu of a curing compound. If an applied finish coating is used in lieu of a curing compound, have a backup system that is in full compliance with 400-16.2(2) available at all times to ensure that an effective alternative system will be immediately available if the applied finish coating cannot be applied within 30 minutes of extrusion or before the loss of water sheen.

SUBARTICLE 400-22.3 is deleted and the following substituted:

**400-22.3 Bridge Deck Grooving:** The quantity to be paid for will be plan quantity in square yards, computed, using the area bound by the gutter lines (at barrier railstraffic railings, curbs and median dividers) and the beginning and end of the bridge or the end of approach slabs, whichever is applicable, constructed, in place and accepted.

SUBARTICLE 400-22.4 is deleted and the following substituted:

**400-22.4 Bridge Deck Grooving and Planing:** The quantity to be paid for will be plan quantity in square yards, computed, using the area bound by the gutter lines (at barrier railstraffic railings, curbs and median dividers) and the beginning and end of the bridge or the end of approach slabs, whichever is applicable, constructed, in place and accepted.

SUBARTICLE 400-23.3 is deleted and the following substituted:

**400-23.3 Reinforcing:** Reinforcing bars, wires and mesh will be measured and paid for as provided in Section 415, except that no separate payment will be made for the welded wire reinforcement used in concrete jackets on steel piles or reinforcement contained in traffic railings, concrete barriers, traffic separators or parapets. Where so indicated in the Plans, the Department will not separately pay for reinforcing used in incidental concrete work, but the cost of such reinforcement shall be included in the Contract unit price for the concrete.

**CONCRETE STRUCTURES**  
**(REV 10-30-17)**

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**400-5.4.2 Handrails, Concrete Barriers, Traffic Railings, and Parapets:**  
Construct in accordance with Section 521.

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**400-15.2.5.6 Grooving:** After the concrete surface profile, as required by 400-15.2.5, has been accepted by the Engineer, and prior to opening the bridge to traffic, groove the bridge deck and approach slabs perpendicular to the centerline of the structure. Do not groove the deck surface of pedestrian or trail bridges unless otherwise shown in the Contract Documents. Cut grooves into the hardened concrete using a mechanical saw device which will leave grooves nominally 1/8 inch wide and 3/16 inch deep. Space the grooves apart in random spacing center of grooves in the following sequence: 3/4 inch, 1-1/8 inch, 5/8 inch, 1 inch, 5/8 inch, 1-1/8 inch, 3/4 inch in 6 inch repetitions across the width to be grooved in one pass of the mechanical saw device. One 6 inch sequence may be adjusted by 1/4 sequence increments to accommodate various cutting head widths provided the general pattern is carried out. The tolerance for the width of the grooves is plus 1/16 inch to minus 0 inch and the tolerance for the depth of grooves is plus or minus 1/16 inch. The tolerance for the spacing of the grooves is plus or minus 1/16 inch.

Cut grooves continuously across the deck or approach slab to within 18 inches of gutter lines at traffic railing, curb line and median divider. At skewed metal expansion joints in bridge deck surfaces, adjust groove cutting by using narrow width cutting heads so that all grooves of the bridge deck surface or approach slab surface end within 6 inches, measured normal to centerline of the joint, leaving no ungrooved surface adjacent to each side of the joint greater than 6 inches in width. Ensure that the minimum distance to the first groove, measured normal from the edge of the concrete joint or from the junction between the concrete and the metal leg of the armored joint angle, is 1 inch. Produce grooves that are continuous across construction joints or other joints in the concrete surface less than 1/2 inch wide. Apply the same procedure described above where the gutter lines at traffic railings, curb lines and median dividers are not parallel to the centerline of the bridge to maintain the 18 inches maximum dimension from the grooves to the gutter line. Cut grooves continuously across formed concrete joints.

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**400-16.6 Concrete Barriers, Traffic Railings, Parapets and End Post:** Ensure concrete is cured in accordance with 400-16.2(2), except that a clear Type 1-D curing compound that must contain a fugitive dye may be used in lieu of Type 2. If Type 1-D is used, its removal per 400-15.1 during finishing is not required. When construction is by the slip form method, coat all concrete surfaces with a curing compound that meets the requirements of 925-2, either within

30 minutes of extrusion or before the loss of water sheen, whichever occurs first. Ensure a curing compound coating period of not less than seven days after application. Prior to each concrete placement, submit to the Engineer the method that will be used to periodically measure the rate of application in gallons per square foot. Also, prior to each placement, submit to the Engineer the anticipated quantity of curing compound in gallons that will be used to meet the coverage rate specified in 400-16.2 along with the corresponding square footage of concrete barriers, traffic railings, parapets and end posts to be coated with that quantity. Measure the actual quantity of curing compound that is applied during each concrete placement and submit the quantity to the Engineer. Applied finish coatings, that are on the APL and that are flagged as permitted for use as a curing compound, may be used in lieu of a curing compound. If an applied finish coating is used in lieu of a curing compound, have a backup system that is in full compliance with 400-16.2(2) available at all times to ensure that an effective alternative system will be immediately available if the applied finish coating cannot be applied within 30 minutes of extrusion or before the loss of water sheen.

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**400-22.3 Bridge Deck Grooving:** The quantity to be paid for will be plan quantity in square yards, computed, using the area bound by the gutter lines (at traffic railings, curbs and median dividers) and the beginning and end of the bridge or the end of approach slabs, whichever is applicable, constructed, in place and accepted.

SUBARTICLE 400-22.4 is deleted and the following substituted:

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