



*Florida Department of Transportation*

**RICK SCOTT**  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

**JIM BOXOLD**  
SECRETARY

February 25, 2015

Khoa Nguyen  
Director, Office of Technical Services  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303

Re: State Specifications and Estimates Office  
Section **347**  
Proposed Specification: **3470204 Portland Cement Concrete – Class NS.**

Dear Mr. Nguyen:

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

The changes are proposed by Don Bagwell of the State Materials Office to update and clarify various subsections of the specification in order to provide consistency with the 346 concrete specifications.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to SP965DS or daniel.scheer@dot.state.fl.us.

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

Sincerely,

Signature on file

Daniel Scheer, P.E.  
State Specifications Engineer

DS/ot

Attachment

cc: Florida Transportation Builders' Assoc.  
State Construction Engineer

**PORTLAND CEMENT CONCRETE – CLASS NS**  
**(REV 1-8-15)**

SUBARTICLE 347-2.4.2 is deleted and the following substituted:

**347-2.4.2 Aggregate Storage:** Provide suitable bins, stockpiles or silos to store and identify aggregates without mixing, segregating or contaminating different grades or types of materials. Identify Department approved pit number and aggregate ~~type/gradation~~. Handle the aggregates in a manner to minimize segregation and meet the specification requirements when recovered from storage. Continuously and uniformly sprinkle coarse aggregate with water, for 24 hours preceding introduction into the concrete mix. Maintain stored aggregates in a well-drained condition to minimize free water content. ~~Provide access for the Engineer to sample the aggregates from the recovery side of the storage facility.~~

SUBARTICLE 347-3.1 is deleted and the following substituted:

**347-3.1 Concrete Production Requirements:** Deliver concrete from a production facility that is certified by the National Ready-Mixed Concrete Association (NRMCA) or approved by the District Materials Office. The District Materials Office may inspect the concrete production facility~~s~~ to verify compliance with the Specifications. Produce concrete utilizing equipment that is in good operating condition and operated in a manner to ensure a consistent product. Within two hours prior to each day's batching, ensure that the concrete production facility determines the free moisture for the coarse and fine aggregates. *Determine the free moisture content of aggregates at 4-hour intervals during continuous batching operations, and at any time a change in moisture content becomes apparent.* ~~On concrete placements expected to exceed three hours, perform an additional moisture test approximately half way through the batching operations and a~~ Adjust batch proportions accordingly.

Ensure that the calibration of the measuring devices of the concrete production facilities meets the requirements of Chapter 531 of the Florida Statutes. At least quarterly, ensure that all scales, meters and other weighing or measuring devices are checked for accuracy by a qualified representative of a scale company registered with the ~~Bureau of Weights and Measures of the Florida Department of Agriculture~~ *Bureau of Weights and Measures, Division of Standards of the Florida Department of Agriculture and Consumer Services*. Have the accuracy of admixture measuring dispensers certified annually by the admixture supplier.

When Volumetric Mixers are used, deliver concrete in accordance with the requirements of Volumetric Mixer Manufactures Bureau (VMMB) and ensure that the vehicle has a VMMB registered rating plate.

Substitution of structural concrete in lieu of non-structural concrete may be used if approved by the Engineer. If structural concrete is used in lieu of non-structural concrete, obtain the concrete from a production facility meeting the requirements of Section 346. Acceptance is based on the requirements of Section 347.

SUBARTICLE 347-3.3 is deleted and the following substituted:

**347-3.3 Delivery:** The maximum allowable mixing, ~~and~~-agitation, *and placement* time of concrete is 120 minutes.

SUBARTICLE 347-4.3 is deleted and the following substituted:

**347-4.3 Records:** Maintain the following records for review *at the concrete production facility* for at least three years after ~~final acceptance of the project~~*receipt*:

- ~~1. Approved concrete mix designs.~~
- ~~2. Materials source (delivery tickets, certifications, certified mill test reports).~~
- 31.* A copy of the scale company or testing agency report showing the observed deviations from quantities checked during calibration of the scales and meters.
- 42.* A copy of the documentation certifying the admixture weighing/measuring devices.
- 53.* Recent NRMCA, VMMB or Department inspection records certifying the plant or truck can produce concrete and documentation showing that action has been taken to correct deficiencies noted during the inspections.

SUBARTICLE 347-5.1 is deleted and the following substituted:

**347-5.1 General:** Furnish a Delivery Ticket with each batch of concrete before ~~unloading~~*discharging concrete* at the placement site. The Department will provide an example of the Delivery Ticket Form. The concrete producer may use an alternate form provided that it contains the required information. Record material quantities incorporated into the mix on the Delivery Ticket. Ensure that the Batcher responsible for producing the concrete, certifies that the batch was produced in accordance with ~~Specification~~*the Contract Documents requirements*, and signs the Delivery Ticket. Sign the Delivery Ticket certifying that the concrete was ~~batched, delivered and~~ placed in accordance with the *Contract Documents*~~se Specifications~~.

Acceptance by the Department will be by Certification on the Delivery Ticket, as described herein, by the Batcher and the Contractor. The Engineer will hold the Contractor responsible for rejecting loads of concrete that do not meet the minimum compressive strength requirements. Delineate and replace, at no cost to the Department, all concrete that does not meet the 28-day compressive strength requirements or has any cracking greater than 1/4 inch in width or 1/4 inch in vertical displacement. Any spalling or flaking off of the surface layer that exposes the rough, pitted aggregate surface in excess of 10 square inches is to be removed and replaced in accordance with 347-5.2. Sidewalk, ditch pavement, slope pavement, Traffic Separator, or curb and gutter having any intersecting cracks visible in the dry concrete (regardless of size) will be removed and replaced in accordance with 347-5.2.

~~At the sole option of the Department, the Engineer may accept concrete at a reduced pay when it is determined that the concrete will serve its intended function.~~

If any uncontrolled cracks appear during the life of the Contract unacceptable to the Engineer, remove and replace the concrete in accordance with 347-5.2 at no expense to the Department.

**PORTLAND CEMENT CONCRETE – CLASS NS  
(REV 1-8-15)**

SUBARTICLE 347-2.4.2 is deleted and the following substituted:

**347-2.4.2 Aggregate Storage:** Provide suitable bins, stockpiles or silos to store and identify aggregates without mixing, segregating or contaminating different grades or types of materials. Identify Department approved pit number and aggregate gradation. Handle the aggregates in a manner to minimize segregation and meet the specification requirements when recovered from storage. Continuously and uniformly sprinkle coarse aggregate with water, for 24 hours preceding introduction into the concrete mix. Maintain stored aggregates in a well-drained condition to minimize free water content.

SUBARTICLE 347-3.1 is deleted and the following substituted:

**347-3.1 Concrete Production Requirements:** Deliver concrete from a production facility that is certified by the National Ready-Mixed Concrete Association (NRMCA) or approved by the District Materials Office. The District Materials Office may inspect the concrete production facility to verify compliance with the Specifications. Produce concrete utilizing equipment that is in good operating condition and operated in a manner to ensure a consistent product. Within two hours prior to each day's batching, ensure that the concrete production facility determines the free moisture for the coarse and fine aggregates. Determine the free moisture content of aggregates at 4-hour intervals during continuous batching operations and at any time a change in moisture content becomes apparent. Adjust batch proportions accordingly.

Ensure that the calibration of the measuring devices of the concrete production facilities meets the requirements of Chapter 531 of the Florida Statutes. At least quarterly, ensure that all scales, meters and other weighing or measuring devices are checked for accuracy by a qualified representative of a scale company registered with the Bureau of Weights and Measures, Division of Standards of the Florida Department of Agriculture and Consumer Services. Have the accuracy of admixture measuring dispensers certified annually by the admixture supplier.

When Volumetric Mixers are used, deliver concrete in accordance with the requirements of Volumetric Mixer Manufacturers Bureau (VMMB) and ensure that the vehicle has a VMMB registered rating plate.

Substitution of structural concrete in lieu of non-structural concrete may be used if approved by the Engineer. If structural concrete is used in lieu of non-structural concrete, obtain the concrete from a production facility meeting the requirements of Section 346. Acceptance is based on the requirements of Section 347.

SUBARTICLE 347-3.3 is deleted and the following substituted:

**347-3.3 Delivery:** The maximum allowable mixing, agitation, and placement time of concrete is 120 minutes.

SUBARTICLE 347-4.3 is deleted and the following substituted:

**347-4.3 Records:** Maintain the following records for review at the concrete production facility for at least three years after receipt:

1. A copy of the scale company or testing agency report showing the observed deviations from quantities checked during calibration of the scales and meters.
2. A copy of the documentation certifying the admixture weighing/measuring devices.
3. Recent NRMCA, VMMB or Department inspection records certifying the plant or truck can produce concrete and documentation showing that action has been taken to correct deficiencies noted during the inspections.

SUBARTICLE 347-5.1 is deleted and the following substituted:

**347-5.1 General:** Furnish a Delivery Ticket with each batch of concrete before discharging concrete at the placement site. The Department will provide an example of the Delivery Ticket Form. The concrete producer may use an alternate form provided that it contains the required information. Record material quantities incorporated into the mix on the Delivery Ticket. Ensure that the Batcher responsible for producing the concrete certifies that the batch was produced in accordance with the Contract Documents and signs the Delivery Ticket. Sign the Delivery Ticket certifying that the concrete was placed in accordance with the Contract Documents.

Acceptance by the Department will be by Certification on the Delivery Ticket, as described herein, by the Batcher and the Contractor. The Engineer will hold the Contractor responsible for rejecting loads of concrete that do not meet the minimum compressive strength requirements. Delineate and replace, at no cost to the Department, all concrete that does not meet the 28-day compressive strength requirements or has any cracking greater than 1/4 inch in width or 1/4 inch in vertical displacement. Any spalling or flaking off of the surface layer that exposes the rough, pitted aggregate surface in excess of 10 square inches is to be removed and replaced in accordance with 347-5.2. Sidewalk, ditch pavement, slope pavement, Traffic Separator, or curb and gutter having any intersecting cracks visible in the dry concrete (regardless of size) will be removed and replaced in accordance with 347-5.2.

If any uncontrolled cracks appear during the life of the Contract unacceptable to the Engineer, remove and replace the concrete in accordance with 347-5.2 at no expense to the Department.