



Florida Department of Transportation

JEB BUSH
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JOSÉ ABREU
SECRETARY

MEMORANDUM

DATE: March 8, 2004
TO: Specification Review Distribution List
FROM: Duane F. Brautigam, P.E., State Specifications Engineer
SUBJECT: **Proposed Specifications Change: 6300030 – Conduit – Installation Requirements**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change to Conduit – Installation Requirements.

This change was proposed by Chester Henson of the State Design Office to correct reference to the National Electrical Safety Code.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965DB or duane.brautigam@dot.state.fl.us. Comments received after April 5, 2004 may not be considered. Your input is encouraged.

DFB/sh

Attachment

COMMENTS:

Submitted by: _____ Phone #: _____

CONDUIT – INSTALLATION REQUIREMENTS.
(REV 2-17-04)

SUBARTICLES 630-3.1 thru 630-3.2 (Pages 687 and 688) is deleted and the following substituted:

630-3 Installation Requirements.

630-3.1 General: Consider the locations of conduit as shown on the plans as approximate. Construct conduit runs as straight as possible, and obtain the Engineer's approval of all major deviations in conduit locations from those shown on the plans.

Do not place more than the equivalent of four quarter bends or 360 degree of bends, including the termination bends, between the two points of termination in the conduit, without a pullbox. Obtain the Engineer's approval to use corrugated flexible conduits for short runs 6 feet [1.8 m] or less.

Use only intermediate metal conduit, rigid galvanized conduit, rigid aluminum conduit or PVC coated intermediate metal conduit for above-ground or underground electrical power service installations. Meet the requirements of Section 562 for coating all field cut and threaded galvanized pipe.

Use either schedule 80 PVC or fiberglass reinforced epoxy conduit for installations on bridge decks.

Use either schedule 40 PVC or fiberglass reinforced epoxy, conduit for underground and under pavement installations, except for electrical power service.

When the installation of a conduit requires jacking under paved surfaces, railroads, etc., use an intermediate metal conduit as the sleeve for the underground conduit. Install the underground conduit as shown in the Design Standards, Index No. 17721.

When a conduit installation changes from underground to above-ground, make the change a minimum of 6 inches [150 mm] below finished grade.

Install a No. 12 AWG pull wire or polypropylene cord the full length of all conduits that are designated for future use. Ensure that a minimum of 24 inches [600 mm] of pull line approved by the Engineer is accessible at each conduit termination.

Install an expansion fitting when conduit crosses an expansion joint of a structure.

Use couplings and expansion joints made of the same material as the conduit.

Ensure that all joints are made as specified by the manufacturer and are waterproof.

For installations not specifically shown, install the conduit in accordance with ~~NEC~~ ~~and/or~~ National Electrical Safety Code requirements.

When earth backfill and tamping is required, place backfill material as per Section 120 in layers approximately 12 inches [300 mm] thick, and tamp each layer to a density equal to or greater than the adjacent soil.

When trenching, saw cut and repair all pavement and sidewalks encountered.

When backfilling trenches in existing pavement, use a commercially available sand-cement (approximately 10:1 mix ratio).

Provide a standard clearance between underground control cable and electrical service cable or another parallel underground electrical service cable that meets National Electrical Safety Code requirements.

630-3.1.1 Conduit For Fiber Optic Cable: Run an AWG #14 locate wire with the fiber optic cable in the conduit when installed underground. Do not run the locate wire into the cabinet. Terminate at the nearest pull box.

Exclude water and debris from the conduit and top riser assembly of above ground conduit by use of a foam-sealing material, rubber plug, or other device, designed for this type of application and approved by the Engineer. Use a flexible conduit UV rated to protect the cable from the top of the conduit riser to the span messenger where the cable is to be lashed.

630-3.2 Conduit Sizes: Size the conduit to be used on all installations, unless otherwise shown in the Contract Documents. Use conduit of sufficient size to allow the conductor to be installed without any

damage and meeting ~~NEC~~ *National Electrical Safety Code* requirements. Use conduit that is at least 1 inch [25 mm] in diameter, except for the conduit protecting the ground wire on the side of a pole, use conduit that is at least 1/2 inch [13 mm] in diameter.