



# Florida Department of Transportation

**RICK SCOTT**  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

**ANANTH PRASAD, P.E.**  
SECRETARY

May 29, 2013

Monica Gourdine  
Program Operations Engineer  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303

Re: Office of Design, Specifications  
Section **125**  
Proposed Specification: **1250100 Excavation for Structures and Pipe.**

Dear Ms. Gourdine:

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

These changes were proposed by Juan Castellanos of the State Construction Office to update the language for current Department practice.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to SP965TT or [trey.tillander@dot.state.fl.us](mailto:trey.tillander@dot.state.fl.us).

If you have any questions relating to this specification change, please call me at 414-4140.

Sincerely,

Signature on file

V. Y. "Trey" Tillander, III, P.E.  
Manager State Specifications and Estimates Office

TT/dt

Attachment

cc: Florida Transportation Builders' Assoc.  
State Construction Engineer

**EXCAVATION FOR STRUCTURES AND PIPE.****(REV 4-155-29-13)**

ARTICLE 125-1 (Page 177) is deleted and the following substituted:

**125-1 Description.**

Excavate for ~~bridge foundations~~<sup>[c1]</sup>, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures. Construct and remove cofferdams, sheeting, bracing, etc.; pump or otherwise dewater foundations; remove and dispose of any existing structures or portions of structures not covered by other items in the Contract, including foundations, abutments, piers, wings, and all other materials, obstructions, etc., found necessary to clear the site for the proposed work; backfill, dispose of surplus material, and perform final cleaning, as may be necessary for the proper execution of the work. This Section does not include excavation for bases or pavements, curbs, curb and gutter, valley gutter, ditch pavement, or rubble gutter. Perform work in accordance with an approved Quality Control (QC) Plan meeting the requirements of 105-3.

**125-1.1 Trench Excavation Safety System and Shoring, Special (Trench Excavation):** When performing trench excavation in excess of 5 feet in depth, comply with the Occupational Safety and Health Administration's (OSHA) trench safety standards, 29 C.F.R., s. 1926.650, Subpart P, and all subsequent revisions or updates adopted by the Department of Labor and Employment Security. Ensure that trench boxes are wide enough to accommodate compaction and density testing.

Submission of bid and subsequent execution of the Contract will serve as certification that all trench excavation in excess of 5 feet in depth will be in compliance with Section 553.62, Florida Statutes.

Consider all available geotechnical information available when designing the trench excavation safety system.

Consider these and any more stringent trench safety standards as minimum Contract requirements.

ARTICLE 125-4 (Pages 178 – 179) is deleted and the following substituted:

**125-4 Excavation.**

**125-4.1 Requirements for all Excavation:** ~~Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the Plans, with full horizontal beds. Do not round or undercut corners or edges of footings~~<sup>[c2]</sup>. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown in the Plans. *Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of pipes and box culverts elevations. Remove muck or other soft material to the depth indicated in the Plans or as directed by the Engineer.*<sup>[dt3]</sup> ~~Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining.~~<sup>[c4]</sup> ~~Wherever rock bottom is secured, excavate~~

~~in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have<sup>[c5]</sup> the Engineer inspect and approve all foundation excavations prior to placing any structure or masonry concrete.~~

~~Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of pipes and box culverts elevations. Remove muck or other soft material to a depth necessary to establish a firm foundation<sup>[c6]</sup>.~~

#### **125-4.2 Earth Excavation:**

**125-4.2.1 Foundation Material other than the Rock:** When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require excavation to a greater depth and to backfill to grade with approved material.

**125-4.2.2 Foundation Piles:** Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

**125-4.2.3 Removal of Obstructions:** Remove boulders, logs, or any unforeseen obstacles encountered in excavating. Compensation will be in accordance with the requirements of 4-3.4.

**125-4.3 Rock Excavation:** Clean all rock and other hard foundation material, remove all loose material, and cut all rock to a firm surface. Either level, step vertically and horizontally, or serrate the rock, as may be directed by the Engineer. Clean out all seams, and fill them with concrete or mortar.

**125-4.4 Pipe Trench Excavation:** Excavate trenches for pipe ~~culverts and storm sewers~~ to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified as suitable backfill material in 125-8.3.2.2, to a depth of 4 inches below the bottom of the pipe elevation. ~~Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm<sup>[c7]</sup> foundation.~~ Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.

For pipe lines placed above the natural ground line, place and compact the embankment, prior to excavation of the trench, to an elevation at least 2 feet above the top of the pipe and to a width equal to four pipe diameters, and then excavate the trench to the required grade.

For pipe trenches utilizing trench boxes, ensure that the trench box used is of sufficient width to permit thorough tamping of bedding material under and around the pipes as specified in 125-8.1.6.

Do not disturb the installed pipe and its embedment when moving trench boxes. Move the trench box carefully to avoid excavated wall displacement or damage. As the trench box is moved, fill any voids left by the trench box and continuously place and compact the backfill material adjacent to and all along the side of the trench box walls to fill any voids created by the trench box.

**EXCAVATION FOR STRUCTURES AND PIPE.****(REV 5-29-13)**

ARTICLE 125-1 (Page 177) is deleted and the following substituted:

**125-1 Description.**

Excavate for box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures. Construct and remove cofferdams, sheeting, bracing, etc.; pump or otherwise dewater foundations; remove and dispose of any existing structures or portions of structures not covered by other items in the Contract, including foundations, abutments, piers, wings, and all other materials, obstructions, etc., found necessary to clear the site for the proposed work; backfill, dispose of surplus material, and perform final cleaning, as may be necessary for the proper execution of the work. This Section does not include excavation for bases or pavements, curbs, curb and gutter, valley gutter, ditch pavement, or rubble gutter. Perform work in accordance with an approved Quality Control (QC) Plan meeting the requirements of 105-3.

**125-1.1 Trench Excavation Safety System and Shoring, Special (Trench Excavation):** When performing trench excavation in excess of 5 feet in depth, comply with the Occupational Safety and Health Administration's (OSHA) trench safety standards, 29 CFR 1926 Subpart P, and all subsequent revisions or updates adopted by the Department of Labor and Employment Security. Ensure that trench boxes are wide enough to accommodate compaction and density testing.

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**125-4.2 Earth Excavation:**

**125-4.2.1 Foundation Material other than the Rock:** When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require excavation to a greater depth and to backfill to grade with approved material.

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