

## **125 EXCAVATION FOR STRUCTURES AND PIPE.**

**(REV 6-25-04) (FA 8-3-04) (7-05)**

SUBARTICLE 125-8.1.1 (Page 169) is deleted and the following substituted:

**125-8.1.1 General:** Backfill in the Dry whenever normal dewatering equipment and methods can accomplish the needed dewatering. A LOT is defined as one lift of backfill material placement, not to exceed 500 feet [150 m] in length or a single run of pipe connecting two successive structures, whichever is less. Backfill around structures compacted separately from the pipe will be considered as separate LOTs. Backfill on each side of the pipe for the first lift will be considered a separate LOT. Backfill on opposite sides of the pipe for the remaining lifts will be considered separate LOTs, unless the same compactive effort is applied. For multiple phase backfill, a LOT shall not extend beyond the limits of the phase.

When placing backfill within a trench box each lift of backfill is considered a LOT. Placement of backfill within trench box limits will be considered a complete operation before trench box is moved for next backfill operation. When the trench box is moved for next backfill operation this will start new LOTs for each lift.

ARTICLE 125-9 (Pages 172 and 173) is deleted and the following substituted:

### **125-9 Acceptance Program.**

**125-9.1 General Requirements:** Meet the requirements of 120-10.1, except replace the requirements of 120-10.2 with 125-9.2

#### **125-9.2 Acceptance Criteria:**

**125-9.2.1 Density:** Obtain a minimum Quality Control (QC) density in any LOT of 100% of the Standard Proctor maximum density as determined by AASHTO T 99, Method C, or the requirements of 125-8.3.3.1 when applicable. For metal and plastic pipe, compact the backfill in the cover zone to a density of at least 95% of the Standard Proctor maximum density as determined by AASHTO T 99, Method C.

**125-9.2.2 Exceptions to Pipe Density Requirements:** Compact the backfill to a firmness approximately equal to that of the soil next to the pipe trench in locations outside the plane described by a two (horizontal) to one (vertical) slope downward from the roadway shoulder line or the back of curb as applicable. Apply 120-9.2.1 when compacting side-drain pipe backfill under driveways serving a property that is not a single residential lot.

#### **125-9.3 Additional Requirements:**

**125-9.3.1 Frequency:** Conduct QC Standard Proctor maximum density sampling and testing at a minimum frequency of one test per soil type. The Verification test will be at a minimum of one test per soil type:

Test Name	Quality Control	Verification
Standard Proctor Maximum Density	One per soil type	One per soil type
Density	One per LOT	One per four LOTs and for wet conditions, the first lift not affected by water
Soil Classification	One per Standard Proctor Maximum density	One per Standard Proctor Maximum density

ARTICLE 125-10 (Page 173) is deleted and the following substituted:

**125-10 Verification Comparison Criteria and Resolution Procedures:**

**125-10.1 Standard Proctor Maximum Density Determination:** The Engineer will verify the Quality Control results if the results compare within 4.5 PCF [72 kg/m<sup>3</sup>] of the Verification test result. Otherwise, the Engineer will take one additional sample of material from the soil type in question. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with AASHTO T 99, Method C.

The Engineer will compare the Resolution test result with the Quality Control test results. If the Resolution test result is within 4.5 PCF [72 kg/m<sup>3</sup>] of the corresponding Quality Control test results, the Engineer will use the Quality Control test results for material acceptance purposes for each LOT with that soil type. If the Resolution Test result is not within 4.5 PCF [72 kg/m<sup>3</sup>] of the Contractor's Quality Control test, the Verification Test result will be used for material acceptance purposes.

**125-10.2 Density Testing:** When a Verification or Independent Verification density test fails the Acceptance Criteria, retest the site within a 5 feet (1.5 meter) radius and the following actions will be taken:

1. If the Quality Control retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, the Engineer will accept those LOTs.
2. If the Quality Control retest does not meet the Acceptance Criteria and compares unfavorably with the Verification or Independent Verification test, rework and retest the LOT. The Engineer will re-verify those LOTs.

3. If the Quality Control retest and the Verification or Independent Verification test do not compare favorably, complete a new equipment-comparison analysis as defined in 120-10.1.2. Once acceptable comparison is achieved, retest the LOTs. The Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until the Contractor has a gauge that meets the comparison requirements.

**125-10.3 Soil Classification:** Meet the requirements of 120-10.4.3.