

ITEM 33

ADJUSTING MANHOLE FRAMES AND COVERS INLETS, AND CATCH BASINS

33.01 SCOPE OF WORK

This item shall consist of reconstructing and/or adjusting manholes, inlets, or catch basins and furnishing all materials and labor necessary to bring them to the locations and grades as shown on the Plans or as designated by the Engineer. The Contractor shall be responsible for raising to grade all city manholes, whether or not visible to the naked eye. Sewer Plans showing locations of manholes shall be made available to the Contractor as construction progresses for the purpose of locating manholes which are not visible at street level.

33.02 RESETTING

All manholes, covers, inlets, and catch basins shall be reset in accordance with these Specifications when the existing manholes, inlets, or catch basins are more than one-quarter inch (1/4") over or under the grade shown on the Plans for the finished pavement or construction. They shall be accurately set to line and grade by removing the frame and cover, and raising or lowering the masonry top of the structure and resetting on a cushion of cement mortar; or, in the case of manholes, American Highway Prod's manhole risers or equal shall be used when possible. Riser heights shall be in 1/4 inch increments from 1 inch through 3 inches with turnbuckle or toggle linkage.

33.03 EXCAVATION

Excavation shall be performed wherever necessary to bring the manholes, inlets, and catch basins to grade as shown on the Plans and as designed by the Engineer.

33.04 MATERIALS

- (a) Building brick shall be number one, hard grade brick. These brick, when made from clay or shale, shall conform to AASHTO, "Standard Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)," Serial Designation M114. When made of concrete, they shall conform to ASTM "Standard Specification for Concrete Building Brick," Serial Designation C 55.
- (b) Concrete shall be Class A concrete which meets all requirements of Section 604 of the Tennessee Department of Transportation Standard Specifications.

(c) Masonry Mortar

1. Mortar shall be composed of the following mixture: one part Portland Cement, two parts sand, hydrated lime not to exceed ten percent of the cement used. Water shall be added to the mixture in such quantity as to form a stiff paste.
2. The mortar shall be hand-mixed or machine-mixed. In the preparation of hand-mixed mortar, the sand, cement and hydrated lime shall be thoroughly mixed together in a clean, tight, mortar mix until the mixture is of uniform color, after which water shall be added. Machine-mixed mortar shall be prepared in an approved mixer, and shall be mixed not less than 1 1/2 minutes.
3. Mortar shall be used within thirty minutes after mixing. Re-tempering of mortar will not be permitted.
4. Materials used shall conform to the following Specifications:

a. Portland Cement, Type I	AASHTO M 85
b. Hydrated Lime	ASTM C 6
c. Sand	Item 73.02
d. Water	Item 74.01

(d) Backfill material shall conform to the existing material in the subgrade and base course, and thoroughly tamped in place until no further displacement occurs.

(e) Adjustable manhole frames shall consist of not less than four circular segments connected by diameter adjustment screws with locking apparatus. Each segment shall contain no less than two grade-adjustment set-screws with locking apparatus. The cover seat portion of the frame shall be covered with a plastic gasket. The frame shall be capable of being adjusted to fit the existing manhole frame in such a manner that no vibration or movement of the manhole cover will occur. Adjustable frames shall be approved by the Engineer prior to placement.

33.05 CLEANING

All manholes, inlets, and catch basins shall be thoroughly cleaned of all excess mortar and accumulations of silt, clay, debris, or foreign matter of any kind and shall be free from such at the time pavement is to be laid.

33.06 MEASUREMENT (IF APPLICABLE)

The number of manholes, inlets, and catch basins paid for will be the actual number of each type ordered, reset, completed and accepted by the Engineer, except that extra payment shall be made at a price per inch for adjustment in excess of four inches.

33.07 PAYMENT (IF APPLICABLE)

The accepted number of each manhole, inlet or catch basin adjusted by not more than four inches (4") will be paid for at the respective contract unit price bid for each type. Adjustment in excess of four inches (4") shall be paid for at the contract unit price per vertical inch for "Excess Manhole Adjustment." Payment shall be payment in full for furnishing all materials, excavation, form work when necessary, backfilling, disposal of surplus materials, and for all labor, equipment, tools, and incidentals necessary to complete the work herein specified.

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