

**SECTION 02240  
AGGREGATE BACKFILL**

**1.0 GENERAL**

**A. Description**

Aggregate backfill shall include, but not necessarily be limited to, furnishing and placing granular material for the installation of pipes, fire hydrants, manholes, vaults, and other structures as directed by the Commission, indicated on the plans, and in accordance with the Contract Documents.

**B. Related Work Included Elsewhere**

1. Trench Excavation, Backfill, and Compaction: Section 02250
2. Water Main Installation and Chlorination: Section 02551
3. Water Services, Water Meter Settings, and Vaults: Section 02553
4. Fire Hydrants: Section 02554
5. Gravity Sanitary Sewer and House Connections: Section 02561
6. Sanitary Sewer Manholes: Section 02562
7. Sanitary Sewer Force Mains: Section 02563

**C. Quality Assurance**

All aggregate fill material will be subject to test by the Commission to determine the material's compliance with the Contract Documents.

**2.0 MATERIALS**

**A. Materials Furnished by the Commission**

The Commission will not furnish aggregate fill material.

**B. Contractor's Options**

When properly compacted, sand that meets the Maryland SHA requirements for fine aggregate may be used for PVC water mains and sanitary force mains in lieu of AASHTO M43, Size 57 as shown on the Standard Details.

**C. Detailed Material Requirements**

1. Aggregate fill material for the installation of pipes, hydrants, manholes, vaults and miscellaneous structures as noted in the Standard Details shall meet the requirements of AASHTO M43, Size 57.
2. Aggregate fill material for subgrade stabilization shall meet the requirements of AASHTO M43, Size 3.

3. Aggregate backfill material that meets the Maryland SHA requirements for graded aggregate subbase may be used with the approval of the Chief Engineer.
- D. Material Storage Note: Materials shall be stored in order to insure the preservation of their quantity, quality and fitness for Work. The Contractor shall place materials on wooden platforms, or other hard, clean surfaces, and the materials shall be placed under cover when directed by the Owner. Stored materials shall be located in order to facilitate prompt inspection by the Owner. Lawns, grass plots, or other private or public property shall not be used for storage purposes without written permission of the owner or lessee. Unless directed or noted otherwise in the Contract documents, there will be no payment for stored materials.

### 3.0 EXECUTION

- A. If areas of the foundation are soft, composed of mud, or are, in the Commission's judgment, unfit to receive the pipe, structure, concrete, or masonry, then such unacceptable material shall be removed and replaced with aggregate fill material as directed by the Commission.
- B. The aggregate backfill material shall be carefully placed to the dimensions indicated on the plans or directed by the Commission.
- C. Except for Size 57 or 3, all aggregate backfill material shall be compacted.
- E. Aggregate fill shall not be dropped from heights in excess of 5 feet above utility.

### 4.0 METHOD OF MEASUREMENT

- A. Except when shown as a bid item or noted otherwise, measurement for aggregate fill will not be made, as it shall be included in the unit quantity item for all pipe and structures installed.

When shown as a bid item, measurement for borrow backfill material will be based on the section computed as follows:

Length will be the entire horizontal distance on a linear-foot basis measured along the centerline of the trench, deducting volume measurement for pipe, conduits, fittings, couplings, manholes, structures, bedding materials, any existing facilities, overlap of prior paid utility trenches, and measurement through any items in the proposal that contains a separate provision for payment.

Width for calculating backfill payment for utilities shall be the actual trench width or the outside diameter of the pipe plus 12 inches, whichever is less.

Trenches that exceed 4 feet in depth will be allowed one extra foot in width for shoring box, should shoring be required. No allowance will be made for over-width trenches when in the opinion of the Engineer adequate shoring would have prevented sloughing of the trench walls beyond the designed width. Contractor shall immediately notify Engineer when encountering unstable material that will not stand under normal shoring practices. Failure to notify Engineer will result in loss of any allowance for over-excavation or backfill.

Depth will be the vertical measurement from the top of the pipe or pipe bedding material (whichever is greater elevation) to the original ground or subgrade (whichever is lesser in

elevation), deducting volume measurement for pipe, conduits, fittings, couplings, manholes, structures, bedding materials, any existing facilities, overlap of prior paid utility trenches, and measurement through any items in the proposal that contains a separate provision for payment. Depth of trench will be measured at minimum intervals of 20 feet along the centerline of trench between linear pay limits as specified herein, unless physical conditions necessitate a change that is mutually acceptable to both Engineer and Contractor. Trench depth will be the average depth between measuring points. Pay depth shall not exceed depth shown on the Plans unless authorized by Engineer.

## 5.0 BASIS OF PAYMENT

### A. General

1. Except when shown as a bid item or noted otherwise, payment for aggregate fill will not be made, as it shall be included in the unit price item for all pipe and structures installed.
2. When used as a contingent item or noted otherwise, payment will be made at the unit price bid. The price bid shall include furnishing all labor, tools, equipment, and materials necessary to complete the work as shown and specified in strict accordance with the Contract Documents.
3. Payment will be made for items only when approved by the Commission.

### B. Aggregate Fill

1. The price(s) shall be as shown on the bid form and shall include the furnishing borrow material, providing an approved spoil site, and disposing of all spoil or excess materials; all environmental and erosion or sediment control work including off-site requirements at spoil storage or borrow sites; restoration of all disturbed areas temporary stockpiling, placing, compaction and all incidentals required to complete this work.
2. In addition to the work listed above, trench excavation, backfill, and compaction shall also include the traffic control, removing, storing, and rehandling of surface materials over the trench, including paving; the scoring of existing paving in a straight and uniform line; the excavation of all materials encountered in the trench including excavation at manholes, structures, vaults, and other appurtenances that may be shown or required, and any extra excavation necessary for sheeting or bracing or installation of other excavation support systems; the backfilling and compaction of trenches; the removal and disposal of unsuitable and/or surplus material; and all other incidental items to complete the work.
3. No payment will be made for any aggregate fill which is used because of any error in the Contractor's operations, such as excavating beyond specified lines or grades, etc.

**\*\* END OF SECTION 02240 \*\***