

**SECTION 02050
REMOVAL OR ABANDONMENT OF EXISTING UTILITIES**

1.0 GENERAL

A. Description

1. Removal or abandonment of existing utilities and underground structures shall include, but not necessarily be limited to, the removal, salvage, demolition in place, abandonment, or other disposition of existing utilities, underground structures, or other facilities shown on the plans, encountered in the course of the work, and/or as directed by the Commission and in accordance with the Contract Documents.
2. All materials resulting from demolition work, except as indicated or specified otherwise, shall become the Contractor's property. Salvaged materials specified to remain the property of the Commission shall be transported to another location designated by the Commission.

B. Related Work Included Elsewhere

1. Trench Excavation, Backfill, and Compaction: Section 02250
2. Water Main Installation and Chlorination: Section 02551
3. Gravity Sanitary Sewer and House Connections: Section 02561
4. Sanitary Sewer Manholes: Section 02562
5. Cast-in-Place Concrete: Section 03300
6. Flowable Fly Ash: Section 03500
7. Mortar: Section 04100
8. Brick Masonry: Section 04200

C. Quality Assurance

The Commission will inspect all materials and work to ensure compliance with the Contract Documents.

2.0 MATERIALS

A. General

Materials shall be furnished in accordance with the Contract Documents and the current edition of the Approved List of Suppliers and Materials for Water and Sewer Main Construction.

B. Materials Furnished by the Commission

Not Applicable.

- C. Contractor's Options
- None
- D. Detailed Material Requirements
1. Borrow material for backfilling the space left by removal of facilities or backfilling abandoned structures shall meet the requirements specified in Section 02250.
 2. Pipe plugs and caps for water or sewer main abandonment shall be as specified in Section 02551 and 02561 respectively.
 3. Portland cement concrete for abandonment of utilities shall be Mix No. 1 as specified in Section 03300.
 4. Flowable Fly Ash shall be as specified in Section 03500.
 5. Mortar shall be as specified in Section 04100.
 6. Brick for pipeline and structure bulkheads shall be sewer brick as specified in Section 04200.
- E. 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, not on the ground, 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. General
1. Utilities to be abandoned or removed shall not be abandoned or removed until all required utility work is installed and tested to the complete satisfaction of the Chief Engineer. The Contractor shall notify the Commission at least five (5) working days prior to beginning the abandonment or removal.
 2. The area over the existing facility to be removed shall be excavated and, after removal or abandonment as specified, backfilled and compacted in accordance with Section 02250.
 3. Brick construction shall be as specified in Section 04200 and as specified herein.
 4. Rubbish and debris shall be removed from the site unless otherwise directed so as to not allow accumulations inside or outside the project site. Materials that cannot be removed daily shall be stored in areas approved by the Commission.
 5. Where as indicated by the governing agency flowable fly ash will be required to fill the pipeline sections.
- B. Removal

Where indicated on the Plans, or directed by the Commission, existing utility pipelines and/or appurtenances shall be removed by the Contractor.

C. Abandonment

1. Sanitary Sewers 15-inch Diameter and Smaller
 - a. All open ends of abandoned sewer pipe shall be sealed by setting an approved plug in the pipe or constructing a minimum 12-inch thick brick and mortar or concrete bulkhead.
 - b. Where a sewer is to be abandoned while the adjacent manhole is to remain active the Contractor shall seal (watertight) the pipeline opening in the manhole with an approved plug or constructing a minimum 12-inch thick brick and mortar or concrete bulkhead. Existing manhole channels and benches shall be reconstructed as necessary with brick and mortar to provide a smooth transition within the manhole.
 - c. Abandon sewer services by removing the vertical stack to a minimum depth of 2 feet below finish grade. The stack shall be detached by saw cutting. A waterproof plug shall be installed on the abandoned vertical stack and encased in concrete. Backfill shall be as specified in Section 02250.
2. Sanitary Sewers 18-inch Diameter and Larger
 - a. All open ends of abandoned sewer pipe shall be sealed by setting an approved plug in the pipe or constructing a minimum 20-inch thick brick and mortar or concrete bulkhead.
 - b. Where a sewer is to be abandoned while the adjacent manhole is to remain active the Contractor shall seal (watertight) the pipeline opening in the manhole with an approved plug or constructing a minimum 20-inch thick brick and mortar or concrete bulkhead. Existing manhole channels and benches shall be reconstructed as necessary with brick and mortar to provide a smooth transition within the manhole.
3. Sanitary Manholes
 - a. Frames and covers of abandoned manholes will remain the property of the Commission. They shall be removed from the structure and transported to a designated location.
 - b. The Contractor shall remove the structure to at least two feet (2' - 0") below finished grade.
 - c. Pipe openings within the manhole shall be sealed as noted within this section prior to backfilling the structure with approved backfill material that meets the compaction requirements noted in Section 02250, 3.0, D.
4. Water Mains and Appurtenances

Where indicated on the Plans, or directed by the Commission, the Contractor shall abandon existing water mains and/or appurtenances as follows:

- a. The section of water main remaining in service shall be capped or plugged and strapped and/or buttressed in accordance with the Contract Documents.
- b. When abandoning water mains 20-inches in diameter and larger, construct a 20-inch thick brick and mortar or concrete bulkhead, or plug, or cap each end of the abandoned sections. All open ends of abandoned water pipe shall be sealed.
- c. For water mains smaller than 20-inch diameter, install plugs or caps at each end of the abandoned sections.
- d. Abandon water services by exposing the corporation stop at the main, turning stop off, disconnecting the service line from the corporation stop, inserting a plug or cap on the exposed end of the corporation stop, encasing corporation stop in 6 inches of concrete, and backfilling excavation to finished grade.
- e. The Contractor shall remove all structures to a minimum depth of two feet below finished grade, break or drill holes in the bottom of the structure to provide drainage, and backfill the structure as specified in Section 02250.

4.0 METHOD OF MEASUREMENT

A. Removal

Measurement for removal of existing utilities and appurtenances will be made horizontally along the centerline of the pipe for each size and type of pipe removed without deduction for valves or fittings. Measurement for removal of existing structures will be made on the basis of the count or number of structures removed.

Measure for removal of existing utilities and appurtenances underground structures will not be made unless the appropriate item is provided in the proposal.

B. Abandonment

Measurement for abandonment of existing utilities and underground structures will be made on the basis of the horizontal measurement of each pipeline section abandoned or on the basis of each count or number of structures abandoned.

Measurement for abandonment of existing utilities and underground structures will not be made unless the appropriate item is provided in the proposal.

5.0 BASIS OF PAYMENT

A. General

1. Payment will be made at the unit prices bid. The prices bid shall include furnishing all labor, tools, equipment, and materials necessary to satisfactorily complete the work as shown, specified, and in strict accordance with the Contract Documents.

2. The price bid for removal or abandonment of existing utilities and underground structures shall include the following:
 - a. Excavation, backfill, and compaction as specified in Section 02250.
 - b. Furnishing and installing borrow material for backfilling the space left by removed facilities, initial excavation, and/or abandoned structures as required by the Contract Documents.
 - c. Storage of materials to be retained by the Commission, and disposal of those materials which the Commission does not want to retain.
 - d. Furnishing materials for and constructing or installing caps, plugs, and/or bulkheads and appropriate concrete blocking on pressurized mains.
 - e. Furnishing materials for and reconstructing channels or benches in existing manholes and/or structures.

3. Payment will be made for contingent items when approved by the Commission.

- a. Removal

Payment for removal of existing utilities and appurtenances will not be paid for as a separate item and will be considered incidental to other items of work unless the appropriate item is provided in the proposal. Payment will be included in other related items of work and will constitute full compensation for all labor, equipment, tools, and incidentals necessary to complete the required work.

- b. Abandonment

Payment for the abandonment of existing utilities and underground structures will not be paid for as a separate item but is considered incidental to other items of work unless the appropriate item is provided in the proposal. Payment will be included in other related items of work and will constitute full compensation for all labor, equipment, tools, and incidentals necessary to complete the required work..

****END OF SECTION 02050****