

SECTION 02221

REMOVE STRUCTURE AND OBSTRUCTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Remove and dispose of structures and utility items or other obstructions that interfere with construction on or off the site, including foundations, bridges, culverts, fences, guardrail, concrete work, septic tanks, trees.
- B. Salvage as specified, or dispose of in an approved manner.

1.2 RELATED SECTIONS

- A. Section 00727: Control of Work.
- B. Section 01355: Environmental Protection.
- C. Section 02056: Common Fill.
- D. Section 02231: Site Clearing and Grubbing.
- E. Section 03055: Portland Cement Concrete.

1.3 PROJECT/SITE CONDITIONS

- A. Protect adjacent structures and utilities and their contents which are designated to remain.

PART 2 PRODUCTS

2.1 CONCRETE

- A. Use Class A Concrete. Refer to Section 03055.

2.2 COMMON FILL

- A. Refer to Section 02056.

PART 3 EXECUTION

3.1 PREPARATION

- A. Review all work procedures with Engineer.
- B. Coordinate utility location in accordance with Section 00727, article, "Cooperation With Utilities."
 - 1. Locate and protect all active utilities.
 - 2. Before beginning work:
 - a. Notify Engineer.
 - b. Notify all affected utilities.
 - c. Have the area Blue Staked.
- C. Restore utility services disturbed by construction operations according to Subsection 00727, article, "Cooperation With Utilities."
- D. Disconnect water service by excavating to the corporation stop and turning it off. Disconnect the service line from the corporation stop.
- E. Plug disconnected storm drains or sewer lines near the right-of-way line with a watertight concrete plug extending at least 2.0 feet into the remaining pipe.
- F. Remove existing septic tanks, cess pools, leach lines, etc.
- G. All materials not designated for use or salvage become the property of the Contractor unless owned by a utility company.
- H. Excavate all material necessary to permit removal of structure.

3.2 BACKFILL AND COMPACTION GUIDELINES

- A. Fill all holes or pits resulting from removal operations with suitable material.
- B. Compact the backfilled areas to the density of the surrounding ground, or as specified.

3.3 REMOVAL AND DISPOSAL GUIDELINES

- A. Remove and dispose of all material in a manner acceptable to the Engineer.
- B. If damage occurs to adjacent area, repair damage at no additional cost to Department.

- C. Remove all concrete to at least 2.0 feet below the finished grade or 2.0 feet below the natural ground surface, whichever is lower.
- D. Provide an environmentally safe area for disposal of items removed. Refer to Section 01355. Obtain permits as required.
- E. Dispose of removed obstructions at a site secured by the Contractor. Furnish a copy of the disposal permits or agreements following Section 02231.

3.4 BUILDING, BASEMENT, AND FOUNDATION DEMOLITION

- A. Move or demolish designated buildings including basements, foundations, sidewalks, pavement slabs, porches, fences and outbuildings on each parcel.
- B. Break the floor into pieces not over 3.0 ft² in areas to remain in place. Remove and dispose of pieces over 3.0 ft².

3.5 BRIDGE, BOX CULVERT DEMOLITION

- A. Arrange detours for traffic flow according to traffic control plans.
- B. Excavate all material necessary to permit removing structure.
- C. Remove structure so that no remaining portion is closer than 3.0 feet to any water course or closer than 2.0 feet to the subgrade and embankment surface, or within 2.0 feet of the natural ground surface.
- D. Remove all structures that will interfere with proposed construction.
- E. Complete blasting or other removal operations of existing structure that may damage new construction before placing the new work.

3.6 MANHOLE, CLEANOUT, DIVERSION, AND CATCH BASIN REMOVAL

- A. Maintain satisfactory by-pass service during construction operations.
- B. Plug unused sewers with a 2.0 foot long concrete plug.

3.7 CATTLE GUARD REMOVAL

- A. Remove the cattle guard to at least 2.0 feet below the subgrade surface.
- B. Excess materials become the Contractor's property, unless otherwise designated.

3.8 SEPTIC TANK, UNDERGROUND TANK REMOVAL

- A. Empty and dispose of tank contents in accordance with Section 01355.
- B. Break down and remove tank and appurtenances to at least 2.0 feet below the subgrade surface or finished ground lines.
- C. Break the floor into pieces not over 3 ft² in area.

3.9 BURIED FUEL TANK DEMOLITION

- A. Remove buried fuel storage tanks and dispose of tank contents in accordance with Laws and Regulations.
- B. Do not spill fuel on subgrade.
- C. Comply with the State and local authorities having jurisdiction over fuel tank removals.

3.10 GUARDRAIL REMOVAL

- A. Remove and dispose of guardrail, posts, hardware, anchor assemblies, terminal assemblies, and attached posts, signs, and delineators.
- B. For steel posts, remove to a minimum of 8.0 inches below the subgrade surface or finished ground lines.

3.11 FENCE REMOVAL

- A. Prevent people or livestock from entering work site from adjacent properties during removal and installation procedures.
- B. Remove fence, fenceposts, and foundations to at least 2.0 feet below subgrade or finished ground lines.
- C. Do not damage vegetation and ground cover during removal operations.

3.12 RAILROAD TRACK REMOVAL

- A. Remove all rails, ties, paving, track encasement, and other appurtenances.
- B. Leave crushed stone or gravel ballast. Grade as necessary.

3.13 TREE REMOVAL

- A. Refer to Section 02231.
- B. Remove all trees with a circumference larger than 20 inches measured at a point 2.0 feet above existing ground.
 - 1. A tree consists of stump, root, trunk, branches, and foliage.
 - 2. Multiple leaders rising from a common root will not be counted separately.

3.14 CONCRETE HEADWALL REMOVAL

- A. Remove headwalls where designated.
- B. Replace pipes or structural plate pipes damaged while removing headwall at no additional cost to the Department.

3.15 UTILITY POLE REMOVAL

- A. Remove pole and all appurtenances.
- B. Remove foundation to at least 2.0 feet below subgrade or natural ground.

3.16 PIPE CULVERT REMOVAL

- A. Excavate all material necessary to permit removing pipe culvert, end sections, headwalls, etc.
- B. Plugs:
 - 1. Cut existing pipe culvert 2.0 feet inside the Department's right-of-way, and abandon culvert located on private property.
 - 2. Plug disconnected pipe lines near the right-of-way line with a water-tight concrete plug extending into the remaining pipe at least 2.0 feet.
- C. Seal openings in walls of remaining manholes or catch basins with water-tight concrete plug.

3.17 SALVAGE

- A. Salvage designated equipment and materials.
- B. All other materials become the property of the Contractor unless otherwise noted.

END OF SECTION

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