



**SPECIAL PROVISIONS
FOR
STORM SEWER CLEANOUT**

Pottawattamie County

Project No.
ESL-1642(658)—7S-78

Effective Date
10/20/09

THE STANDARD SPECIFICATIONS, SERIES 2009, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

094002.01 DESCRIPTION

The work covered by this section consists of providing all labor, equipment, material and supplies and performing all operations required to clean storm sewer lines, manholes and inlets and provide television verification.

A. Storm Sewer Line Cleaning

The intent of storm sewer line cleaning is to remove foreign materials from the storm sewer lines. It is recognized that there are some conditions such as broken pipe and major blockages that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, the Contractor will not be required to clean those specific storm sewer sections. If, in the course of normal cleaning operations, damage does result from preexisting and unforeseen conditions such as broken pipe, the Contractor will not be held responsible.

B. Manhole Cleaning

Grease, laitance, loose bricks, mortar, unsound concrete, wall mounted steps, and other materials must be completely removed. Water blasting (minimum 1200 psi) utilizing proper nozzles shall be the primary method cleaning; however, other methods such as wet or dry sandblasting, acid wash, concrete cleaners, degreasers or mechanical means may be required to properly clean the surface. Surfaces on which these other methods are used shall be thoroughly rinsed, scrubbed, and neutralized to remove cleaning agents and their reactant products.

C. Disposal of Materials

All waste materials, including but not limited to excavated materials, demolished pavement, arboreal (landscaping) waste and other debris, that are not suitable for project related purposes (e.g., backfill) or are surplus to the needs of the project, both as determined by the Engineer, shall become the property of the Contractor. The Contractor shall dispose of all such material in accordance with accepted Disposal Plan at no additional cost to the Contracting Authority.

The Contractor shall prepare a Disposal Plan for preview by the Engineer prior to performing any work that might generate waste materials. The plan shall include a complete description of the materials that are expected to be encountered and their proposed disposal site(s).

The Contractor shall insure that all Federal, State and Local permits related to disposal operations have been obtained, and the Contractor shall comply with all requirements of those permits.

094002.02 MATERIALS

The Contractor shall certify that backup equipment is available and can be delivered to the site within 24 hours.

Satisfactory precautions shall be taken to protect the storm sewer lines from damage that might be inflicted by the improper use of cleaning equipment. Storm sewers damaged as a result of the Contractor's improper operations shall be promptly repaired by the Contractor at no cost to the Contracting Authority.

All equipment, devices, and tools required for this Contract shall be owned (or leased) and operated by the Contractor.

A. Hydraulically Propelled Equipment

The equipment used shall be a movable dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the storm sewer. The movable dam shall be equal in diameter to the pipe being cleansed and shall provide a flexible scraper around the outer periphery to insure removal of grease. If storm sewer cleaning balls or other equipment which cannot be collapsed are used, special precautions to prevent flooding of the storm sewers and public or private property shall be taken.

B. High-Velocity Jet (Hydrocleaning) Equipment

All high-velocity storm sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floor. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.

C. Mechanically Powered Equipment

Bucket machines shall be in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt operated or have an overload device. Machines with direct drive that could cause damage to the pipe will not be allowed. A power rodding machine shall be either a sectional or continuous rod type capable of holding a minimum of 750 feet of rod. The rod shall be specifically heat-treated steel. To ensure safe operation, the machine shall be fully enclosed and have an automatic safety clutch or relief valve.

094002.03 CONSTRUCTION REQUIREMENTS

The designated storm sewer sections shall be cleaned using hydraulically propelled, high-velocity jet, or mechanically powered equipment. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the storm sewer lines and manholes. If cleaning of an entire storm sewer section cannot be successfully performed from one manhole, the equipment shall be set up on the other manhole and cleaning again attempted. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire section, it will be assumed that a major blockage exists and the cleaning effort shall be abandoned.

A. Cleaning Precautions

During all cleaning and preparation operations all necessary precautions shall be taken to protect the storm sewer from damage. During these operations, precautions shall be also taken to insure that no damage is caused to property adjacent to or served by the storm sewer or its branches. Any damage caused to property as a result of such cleaning and preparation operations shall be restored to preexisting conditions by the Contractor at no additional costs to the Contracting Authority.

B. Root Removal

Roots shall be removed where root intrusion is a problem and where authorized by the Engineer. Special attention should be used during the cleaning operation to assure complete removal of roots from the joints. Any roots which could prevent the proper application of chemical sealants, or could prevent the proper seating and application of cured-in-place or fold-and-formed liners, shall be removed. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters and porcupine, and equipment such as high-velocity jet cleaners. Chemical root treatment shall be used before or following the root removal operation, depending on the manufacturer's recommendation. Contractor shall capture and remove all roots from the line.

C. Chemical Root Treatment

To aid in the removal of roots, storm sewer sections that have root intrusion shall be treated with an acceptable herbicide. The application of the herbicide to the roots shall be done in accordance with the manufacturer's recommendations and specifications in such a manner to preclude damage to surrounding vegetation. Any damaged vegetation so designated by the Engineer shall be replaced by the Contractor at no additional cost to the Contracting Authority. All safety precautions as recommended by the manufacturer shall be adhered to concerning handling and application of the herbicide.

D. Material Removal and Disposal

All sludge, dirt, sand, rocks, grease, roots, and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. When hydraulic cleaning equipment is used, a suitable dam or weir shall be placed in the downstream manhole to trap all such materials. Passing material from manhole section to manhole section, which could cause line stoppages, accumulations of sand in wet wells, or damage pumping equipment, shall not be permitted.

Under no circumstances shall sludge or other debris removed during these operations be dumped or spilled into streets, ditches, storm drains or sanitary storm sewers. All solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of by the Contractor in a legal and sanitary manner as approved by appropriate authorities at the Contractor's cost. All materials shall be removed from the site no less often than the end of each workday. Under no circumstances will the Contractor be allowed to accumulate debris, etc., on the site of work beyond

the stated time, except on totally enclosed containers and as acceptable to the Engineer. The Contractor shall dispose of this material in a properly licensed sanitary landfill.

The Contractor shall keep haul route and work area (s) neat and clean and reasonably free of odor, and shall bear all responsibility for the cleanup of any spill which occurs during the transport of cleaning/surface preparation by-products and the cleanup of any such material which is authorized by or pursuant to this Contract and in accord with applicable law and regulations. The Contractor shall immediately clean up any such spill, or waste. If the Contractor fails to clean up such spill, or waste immediately, the Contracting Authority shall have the right to clean up or arrange for its cleanup and shall charge to the Contractor all costs, including administrative costs and overhead, incurred by the Contracting Authority in connection with such cleanup. The Contracting Authority shall also charge to the Contractor any costs incurred or penalties imposed on the Contracting Authority as a result of any spill, dump or discard. Under no circumstances is this material to be discharged into the waterways or any place other than where authorized to do so by the appropriate authority.

The general requirements for vehicles hauling such waste material are as follows: Transport vehicles must be of type(s) approved for this application by the political jurisdictions involved. General requirements are that the vehicles have watertight bodies, that they be properly equipped and fitted with seals and covers to prohibit material spillage or drainage, and that they be cleaned as often as is necessary to prevent deposit of material on roadways. Vehicles must be loaded within legal weight limits and operated safely within all traffic speed regulations.

The routes used by the Contractor for the conveyance of this material on a regular basis shall be subject to approval by the governing authority having jurisdiction over such routes.

E. Acceptance of Cleaning Operation

Acceptance of storm sewer line cleaning shall be made upon the successful completion of the television inspection and shall be to the satisfaction of the Engineer. If television inspection shows the cleaning to be unsatisfactory, the Contractor shall be required to reclean and reinspect the storm sewer line until the cleaning is shown to be satisfactory. In areas where television inspection is not performed, the Engineer may require the Contractor to pull a double squeegee (with each squeegee the same diameter as the storm sewer) through each manhole section as evidence of adequate cleaning.

In addition, on all storm sewer lines which have sags or dips, to an extent that the television camera lens becomes submerged for three (3) or more feet during the television inspection, the Contractor shall pull double squeegee and/or sponges through the line in order to remove the water from the dips or sags. Water removal through squeegees and/or sponges shall be performed until the television camera lens will no longer be submerged. This requirement may be waived by the Engineer if the water in which the camera lens is submerged, is clear enough to allow the identification of pipe defects, cracks, holes and location of service taps.

094002.04 METHOD OF MEASUREMENT

Storm sewer cleanout performed in conformance with these Special Provisions and the plans shall be measured by Lump Sum.

094002.05 BASIS OF PAYMENT

Lump Sum payment shall made according to the Contractor's unit price bid and shall be full compensation for labor, equipment, tools, and all materials as described in this special provision.