

3.201 PRIVATE PROPERTY EXTERIOR DYE TEST

Exterior dye testing is intended to determine the flow path of storm water to identify potential cross connections, deteriorated pipes, blockages, etc. that may exist on private property homes and garages. Exterior dye testing shall include but not be limited to the following areas: downspouts, window wells, yard drains, trench drains, catch basins, etc. This work involves setup of the closed circuit television cameras (CCTV) in the sanitary main at the lateral connections to verify flow and estimate flow rates. The testing shall be able to simulate rainfall and also be able to isolate downspouts or other storm water conveyance items that may be the only one producing flow in the sanitary sewer.

This work shall consist of the introduction of dyed water into each and every downspout, each and every yard drain, and any other storm water conveyance items for each house (including any garages and garage drains), while a camera is positioned in the sanitary sewer main at the sanitary sewer house connection of the house being tested. The Contractor shall observe the sanitary connection for any flow of dyed water and note whether each downspout, yard drain or other storm water conveyance item does or does not discharge dyed water into the sanitary sewer. The house shall be identified by house number and street with a sketch of the house and the location of all downspouts, yard drains and other storm water conveyance items shown thereon. The general form of the sketch will be provided. The downspout, yard drain or other item on the sketch shall be identified as contributing or not contributing dyed water into the sanitary sewer.

The Contractor's method of performing the exterior dye test shall be approved by the Engineer as follows. The Contractor shall perform an initial exterior dye test of one downspout with the Engineer present. If the Engineer approves the method used by the Contractor, then the Contractor shall continue the exterior dye testing using the same approved method. If the Engineer does not approve the method used by the Contractor, then the Contractor shall make changes as directed by the Engineer and shall perform another exterior dye test in the presence of the Engineer before continuing with the remaining dye tests.

Each and every downspout and storm water conveyance item shall be tested on every house regardless of the number of failures. The assumption that if one conveyance item fails then they all will fail will not be accepted.

The Engineer will provide the Contractor a list of contact names and phone numbers for all homes to be tested. The Contractor shall contact homeowners to arrange testing schedule.

Payment shall be made for the actual number of houses tested at the contract unit price bid per each for Bid Item No. 1 – Private Property Exterior Dye Test.

3.202 PRIVATE PROPERTY INTERIOR DYE TEST

This work entails utilizing dye, closed circuit televising (CCTV), and other techniques to determine how the private property drains including toilets located in the basement or lowest home level flow to the storm and sanitary mains. The testing shall be from the interior of the home and shall include all drains, showers, toilets and sump pumps in the basement or lowest level of the home. The work entails scheduled entry into the home to record and determine plumbing arrangements, fixtures, drains, sumps, etc. and provide an accurate report. The work involves setup of the closed circuit television camera in the sanitary main at the lateral connections to verify flow and estimate flow rates.

This work shall consist of the introduction of dyed water into each and every drain, fixture, or sump pump, while a camera is positioned in the sanitary sewer main at the sanitary sewer house connection of the house being tested. The Contractor shall observe the sanitary connection for any flow of dyed water and note whether each drain or fixture does or does not discharge dyed water flow into the sanitary sewer. The house shall be identified by house number and street with a sketch of the house and the location of all interior drains and fixtures shown thereon. The general form of the sketch will be provided. The drains and fixtures on the sketch shall be identified as contributing or not contributing dyed water into the sanitary sewer.

The Contractor's method of performing the interior dye test shall be approved by the Engineer as follows: The Contractor shall perform an initial interior dye test of one drain with the Engineer present. If the Engineer approves the method used by the Contractor, then the Contractor shall continue interior dye testing using the same approved method. If the Engineer does not approve the method used by the Contractor, then the Contractor shall make changes as directed by the Engineer and shall perform another interior dye test in the presence of the Engineer before continuing with the remaining interior dye tests.

The Engineer will provide the Contractor a list of contact names and phone numbers for all homes to be tested. The Contractor shall contact homeowners to arrange testing schedule.

Payment shall be made for the actual number of houses tested at the contract unit price bid per each for Bid Item No. 2 - Private Property Interior Dye Test.

3.203 CLEANING SANITARY SEWERS

The entire length of the sanitary sewer, as ordered by the Engineer, shall be cleaned prior to any dye testing using a high pressure jet and where necessary to be followed by cutters to remove tree roots and grease build up. The sanitary sewer lines to be cleaned will be 6", 8", 10", 12" or 15" diameter pipes.

Payment shall be made for the lineal feet of sewer line cleaned at the contract unit price bid per lineal feet for Bid Item No. 3 – Cleaning Sanitary Sewers.

3.204 LATERAL CONNECTION CLEANING

The entire length of a lateral connection, either storm or sanitary, from the main line sewer to the outside wall of the home shall be cleaned prior to any televising and/or dye testing using a high pressure jet and where necessary to be followed by cutters to remove tree roots and grease build up.

Payment shall be made for the actual number of lateral connections cleaned at the contract unit price bid per each for Bid Item No. 4 – Lateral Connection Cleaning.

3.205 LATERAL CONNECTION TELEVISIONING

This work consists of televising the lateral, either storm or sanitary, from the sewer main to the outside wall of the home. The work shall include attaching a transmitter to the camera and tracking the location of the lateral connection on the ground surface using paint marking/flagging and providing detailed location sketches. This work shall also include a light cleaning of the lateral connection prior to testing. It is realized that obstructions or deteriorated conditions may

be encountered during the work; therefore, televising the line is required to determine the cause(s) and pin point the locations of any open joints, breaks, or deteriorated conditions.

Cameras for televising the lateral connections from the mainline sewer shall be a LETS (Lateral Evaluation Televising system) as manufactured by Ques or Aries, or an approved equal. A push camera (with color and video recording and voice over) from the private property cleanout or from the house interior will be required should lateral launching not be able to be used for the private property.

During lateral connection televising work, the following information shall be recorded on the videotape. The Engineer shall approve the reference point from which distances are measured.

1. Manhole section identification: From MH# to MH#, distance from the starting MH.
2. Address of the house served by the lateral connection.
3. Type of lateral connection: either storm or sanitary.
4. Locations of cracked pipe, broken pipe, root intrusion and any other defects in the lateral connection.
5. Location where the lateral connection changes size and/or material.
6. Location of any branch pipes.
7. Location of any other significant feature observable in the lateral connection.
8. Pipe condition.

The Contractor shall provide the City of Fairview Park with two (2) copies of the televised sewer lateral in a DVD format.

Payment shall be made for actual number of lateral connections televised at the contract unit price bid per each for Bid Item No. 5 – Lateral Connection Televising.

3.206 SANITARY OR STORM TEST TEE

This item shall consist of the furnishing and installing of 6" PVC ASTM 3034 SDR 35 storm or sanitary test tee and riser on existing lateral connection, in accordance with the plans, details and with the Uniform Standards for Sewerage Improvements for Cuyahoga County, December 1998 or latest edition thereof, and shall include removal of old test tee, excavating, surface restoration, restoration of lawn, marking test tee location on sidewalk according to city requirements, connection to existing sewer lateral, fittings, adapters, bends, granular bedding or concrete cradle, backfill, compaction, reconnection of damaged or disturbed water or gas laterals, sanitary or storm pipes, clean up, and all labor, materials, tools and equipment to complete the work.

Payment shall be made for the actual number of test tees installed at the contract unit price bid per each for Bid Item No. 6 – Sanitary or Storm Test Tee.