

# **BOROUGH OF WESTMONT**

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## **REQUIREMENTS FOR CCTV FOR BUILDING INSPECTIONS**

### **GENERAL GUIDE FOR CLOSED CIRCUIT TELEVISION BUILDING DRAIN AND BUILDING SEWER INSPECTIONS**

#### **PURPOSE AND SCOPE**

This summary provides information and sets forth minimum standards for Building Drain (under slab or basement floor) and Building Sewer (lateral) closed circuit television (CCTV) inspections and recording. The purpose and scope of this document is to accommodate customers who elect to have their serviced property inspected via CCTV as opposed to air or water pressure testing as required by the Rules and Regulations for sanitary sewer service. Nothing herein shall be interpreted to exonerate said customer from eliminating illegal connections to the Building Drain and Building Sewer (lateral) which result in admissions of ground or surface waters into the public sanitary sewer collection system. Rather, these standards of CCTV Building Drain and Building Sewer (lateral) Inspection pertain to performance and quality of the CCTV inspection and recording to improve the accuracy and quality of the televising activities and preparation of CCTV inspection reports. Specifically, it is for use by the Borough Engineer, CCTV operators and technicians, contractors, plumbers, design engineers, CCTV interpreters, and others who are or may be involved in the CCTV Building Drain and Building Sewer (Lateral) Inspection Program. This inspection procedure does not supersede the standards pertaining to Building Drain and Building Sewer (lateral) testing, repair, or replacement as required by the Westmont Borough Rules and Regulations governing sanitary sewer service.

#### **GENERAL INFORMATION**

1. Prior to performing the CCTV inspection, the Building Drain and Building Sewer (lateral) shall have been cleaned by utilizing the appropriate cleaning method given the inside condition of the under slab or basement sewer piping. Roots, grease, oil, sediment, or solids shall be removed to permit the visual review and recording of the Building Drain and Building Sewer (lateral). The cleaning work shall be performed by a National Association of Sewer Service Company (NASSCO) Certified Contractor or Engineer. Access to the inside of the serviced property is necessary to insure proper CCTV inspection of the under slab or under basement piping.
2. CCTV sewer lateral inspection recordings shall be in DVD format, thumb drive or digital media format. All recordings shall be in color and in duplicate, with one copy retained by Westmont Borough for its permanent records.
3. Camera, power source, lights, and other components for the video inspection shall be equipment designed and manufactured for the inspection of Building Drain and Building Sewer (laterals) and piping having a minimum diameter of 3" and for a distance of at least 100 feet from the point of access.
4. Lighting and camera quality shall be suitable to provide a clear, in focus picture of the entire inside periphery of the sewer pipe for all conditions encountered during the work.
5. All recordings shall be in focus, properly illuminated with good contrast, adequate color and tint without distortion or outside interference.

6. The camera lens must be kept clean and clear; any fogging due to oil, grease, or other water content or debris that obscures the lens shall be cleaned off before proceeding with the recording operation. The camera shall be operative in 100% humidity. The NASSCO certified engineer, camera operator or technician shall have equipment capable of removing any dirt, grass or other deleterious materials or obstructions from the piping prior to any CCTV inspection.
7. The Customer/Occupant shall be responsible for the cost of inspection. The CCTV inspection shall be performed by contractors who are National Association Of Sewer Service Company (NASSCO) certified or licensed, experienced or by other inspection service providers and technicians who are permitted by law to perform such inspections. Contractors, inspection service providers, or technicians may perform the CCTV inspection recording work without the Borough Engineer/Inspector being present when performing such inspection within the Westmont Borough Sanitary Sewer Collection System. Building Drain and Building Sewer (lateral) CCTV inspection recordings shall be submitted to the Borough Engineer for review and, when found to be compliant within the Borough's Rules and Regulations, for the eventual issuance of a Certificate Of Compliance, CCTV Inspection.
8. The CCTV inspection DVD or digital recording shall show the whole periphery of the pipe. CCTV inspection personnel shall coordinate the work of the CCTV inspection with the property owner or resident to minimize or temporarily stop sewer discharge into the Building Drain and Building Sewer (lateral) while recording in order to show the whole periphery of the Building Drain and Building Sewer (lateral). **Dye shall be put, concurrent with televising, through all downspouts that go into the ground and any area drain while the Building Drain and Building Sewer (lateral) are televised. If dye is detected, then there is an illegal connection which shall be removed. Downspouts that do not run underground do not have to be dye tested.** If a bypass conduit is necessary, it must receive prior approval from the Borough Engineer; it shall be used as the last alternative.
9. A data view display feature capable of showing on DVD or digital recording shall provide the following:
  - a. Physical address of property which the Building Drain and Building Sewer (lateral) serves
  - b. Date and time of inspection
  - c. Name of company, firm or technician performing the CCTV inspection
  - d. Inside diameter of the Building Drain and Building Sewer (lateral) and type of pipe material
  - e. Continuous footage counter accurate within 3 percent
  - f. Identification of access and starting point for video inspection such as upstream cleanout and location of cleanout. Vent lines will not be acceptable as access points
10. The preferred direction of the video inspection is forward from upstream to downstream.
11. Video televising of the entire length of the Building Drain and Building Sewer (lateral) is required. Inability or failure to do so because of obstructions in the line, collapsed pipe, out of alignment joint offsets or lack of acceptable access points will result in the rejection of the CCTV inspection report. An acceptable access point shall be a cleanout constructed in accordance with the Westmont Borough Rules and Regulations. It shall permit the complete video inspection of the Building Drain and Building Sewer (lateral) (under slab or basement floor piping). A vent pipe or any portion of the building plumbing is not considered as an acceptable access point unless pre-approved by the Borough Engineer. If there are no acceptable access points, installation of new Building Sewer (lateral) cleanouts meeting the requirements of the Borough Rules and Regulations shall be required in order to perform a CCTV inspection of the Building Drain and Building Sewer (lateral). The location of the cleanout shall be within 5 feet of the building foundation at the building plumbing outlet, at the property line (view port), or between the property line and the building footing. If only one cleanout is being provided to facilitate the video detection and it is located at the property line, a double sweep type cleanout shall be provided to facilitate inspection of the Building Drain and Building Sewer (lateral) from the new cleanout. Unless the Customer/Occupant elects to either air pressure test or water pressure test from the

viewport at the property line to the clean out at the foundation wall, then these same standards apply to video televising from the viewport at the public main to the clean out at the serviced property's foundation wall.

12. The video tapes or DVDs shall be labeled and the labels shall be typewritten or legibly hand printed and shall include the following information:
  - a. A "CCTV Building Drain and Building Sewer (Lateral) Inspection" title
  - b. Street address of the property to which the sewer lateral serves
  - c. Date of inspection
  - d. The name of the Company, Firm or Individual and NASSCO ID responsible for the CCTV inspection and to which payment has been made as reflected on the invoice provided by the inspection service provider to the owner or service requestor.
13. The CCTV inspector or operator shall identify all illegal connections to the Building Drain and Building Sewer (lateral) observed in the CCTV inspection such as sump pumps, roof drains, area drains, French drains, swimming pool drains and footing drains by physically inspecting the property for visible evidence. The findings shall be noted in the CCTV Inspection Report.
14. Building Drain and Building Sewer (lateral) lengths shall be measured from the viewport at the property line to cleanout at the foundation wall and from cleanout at the foundation wall to the most distal point of the Building Drain( under slab or basement piping inside of structure ).

#### SPECIFICATION

All CCTV data collecting and recording activities shall conform to the minimum requirements set forth in "The CCTV Inspection Standard for Building Drain and Building Sewer (Laterals)".

#### THE CCTV INSPECTION STANDARDS FOR BUILDING DRAIN AND BUILDING SEWERS

##### PART 1 - FIELD DATA COLLECTING PRACTICES

All CCTV inspection and recording practice for Building Drain and Building Sewer (laterals) shall be evaluated in accordance with the following Standards.

1. All recordings shall be in color with the ability to achieve proper balance of tint and brightness. The loss of color or severe redness due to equipment malfunction may be cause for rejection of the CCTV Inspection Report.
2. All recordings shall be properly focused and illuminated with good contrast, adequate color and tint, without distortion, or outside interference. While moving forward or in the reverse run, the picture shall be of adequate light to clearly ascertain the existence of pipe cracks or fractures and their severity in addition to the obvious features such as joints and additional connections to the Building Drain or Building Sewer (lateral).
3. The complete periphery of the Building Drain and piping shall be visible. The complete length of the Building Sewer (lateral) shall be visible.
4. The camera operation may be cable pulled or self-propelling and may record moving forward or on a reverse pull depending on the pipeline conditions. The preferred direction is forward from upstream to downstream.
5. The camera lens shall be kept clean and clear without fogging due to oil, grease, or other water content or debris that obscures the lens. The lens shall be cleaned before proceeding with the recording operation.

6. The camera shall be moved through the sewer at a uniform rate not exceeding 30 feet per minute. The camera shall be stopped for a minimum of 5 seconds at broken or cracked pipe sections, root intrusion, misaligned joints, connections to the lateral or other pipe defects. The camera shall be stopped for a full minute at any flowing connections and if necessary, pulled back and re-televised to ensure a clear recording of the connection. Camera units shall have adjustable supports and shall be set so the camera axis is generally at the centerline of the pipe.
7. The operator shall clearly identify the location of all wye or tee connections, taps, breaks, roots, or other defects as outlined in Part 2 of these Standards.
8. The total length of the Building Drain and Building Sewer (lateral) 3 inches in diameter or greater shall be inspected. If the entire length of the Building Drain and Building Sewer (lateral) cannot be inspected because of obstructions, the CCTV Inspection shall be recorded as a failed inspection. However, the obstruction may be removed and the Building Drain and Building Sewer (lateral) repaired in accordance with the Rules and Regulations. A Certificate Of CCTV Inspection may be issued after the line passes re-inspection.
9. The pipe diameter shall be obtained by physical measurement in the foundation wall cleanout and at the viewport at the property line. The pipe material shall be identified. All underground pipes 3 inches and greater shall be televised.
10. Reverse set ups are to be limited. Potential reverses shall be identified and reported to the Borough Engineer for review. The number of reverse set ups shall be minimized to those absolutely necessary to complete the inspection.

#### PART 2 - CCTV INSPECTION AND REPORTING FORM

The Westmont Borough CCTV Inspection and Reporting form shall be utilized in reporting and submitting any CCTV inspection recording to the Borough Engineer for review and the subsequent issuance of a Certificate Of Compliance, CCTV Inspection. The CCTV inspection report form can have any number of pages, depending on the number of defects found and it is to provide general information and inspection defects. General information including property address, date, time, operator name, and recording ID shall be provided. A diagram or a drawing showing the street, approximate location of the cleanout(s) and building footprint is to be provided. The diagram may be drawn on the back of the CCTV Inspection Report or prepared on a separate sheet of paper and attached to the inspection report. Pipe diameter, pipe material, shape of the pipe, pipe length, televised footage, counter number at start and end of inspection, CCTV view direction, usage of reverse setups and comments shall be provided.

#### PART 3 - CCTV RECORDING AND INSPECTION REPORT REVIEW

1. All CCTV recordings will be reviewed for acceptability of quality based on the minimum standards established by NASSCO and the CCTV Inspection Report will be checked against the visible features shown on the CCTV recording.
2. A CCTV Inspection Report shall be completed in conformance with the standards and appropriate sewer defect nomenclature which best represents the Building Drain and Building Sewer (lateral) defects found shall be used.
3. Loss of vertical hold which has an impact on the ability to read and interpret the DVD or digital recording shall constitute a cause of rejection of the recording.

4. In those cases where it is impossible to stop inflow into the Building Drain and Building Sewer (lateral) during the CCTV inspection and recording because of illegal drainage connections or because the building to which the Building Drain and Building Sewer (lateral) serve is a facility which must continually use sewer service without interruption or is difficult to control the use of sewer service such as hospitals, care facilities, doctor and dental offices, or a large office, commercial, or industrial complexes, the CCTV inspection is to be performed during off peak usage of the sewer service. Heavy water flows which obscure the viewing of the inside of the Building Drain and Building Sewer (lateral) will be cause for rejection of the recording. Surcharging and flooding of the camera lens will not be an excusable condition if it has been artificially created by an upstream surcharge. The existence of flow condition where the camera towing bridle is underwater and the sewer line segment is clearly not in a sag condition may result in a determination that the recording conditions are unacceptable.
5. All Building Drain and Building Sewer (lateral) line segments must be televised complete from cleanout at the foundation wall to structure entrance and to the most distal point of the under slab or basement piping on the same recording tape or disk in a continuous run unless a reverse setup is necessary or if the recording time exceeds the capacity of the recording medium. In addition, all Building Sewer (lateral) line segments must be televised complete from the clean out at the foundation wall to the viewport at the property line. If no viewport exists, then the Customer/Occupant shall install one to Borough standards, in conformity with the Rules and Regulations.
6. Continuous footage readings for identifying the location of defects must be accurate to within 3 percent tolerance. Defect identifications are to be called out and recorded to the nearest full foot. Any inaccuracy in the continuous footage meter or identified defects or features which cause doubt as to the accuracy of the locations or total length shall render the line segment recording as unacceptable. If the operator has acknowledged that the forward run is unacceptable and has decided to re-televiser on the reverse pass, the operator must ensure that the footage markings are correct and that a stop at each feature for 5 seconds is provided to produce a complete recording inspection in the reverse pass.
7. Any other unidentified defect such as equipment interference or malfunction causing blurred or obscured images that detracts from the ability to completely and with reliable accuracy read the recording shall constitute a basis for rejection. However, flooded traps do not have to be inspected but shall be identified.

**TYPICAL ADVERSE PIPE CONDITIONS TO BE  
REPORTED IN THE CCTV INSPECTION REPORT WHICH  
WILL RESULT IN FAILED INSPECTION**

- Cracked Pipe (longitudinal, radial, spiral, multiple)
- Broken Pipe, Hole in Pipe, Deformed Pipe, Collapsed Pipe
- Separation in Pipe Joint (roots, earth movement, collapsed pipe section)
- Pipe Obstruction (cause for failed inspection )
- Infiltration (observable, evidence of, seeps into line, runs into line—any influent or effluent)
- Debris or Sediment in the Pipe (flow undisturbed or disturbed, unable to continue)
- Grease (flow undisturbed or disturbed, unable to continue)
- Scaling (flow undisturbed or disturbed, unable to continue)
- Side Connections and illegal connections (must be identified and inspected)
- Cleanouts (existing, but defective or missing, and location)
- Sags
- Incorrect Slopes
- Shared Building Sewers (laterals)