



ENGINEERING AND ENVIRONMENTAL SERVICES

Utilities Division

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To: All Development Community Members, Contractors, Consultants and Development Design Professionals Practicing in Durham County, NC

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Subject: Notification to Industry 12/09/19:
Minimum Requirements for Sanitary Sewer Video Inspection

NOTIFICATION

Minimum Requirements for Sanitary Sewer Video Inspection:

Timeframe:

1. CCTV inspection shall not occur until sanitary piping has been installed for a minimum of 30-days and after a minimum of the aggregate base course with first asphalt layer installed.

Certified Operators:

1. CCTV inspection work must be completed by certified National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) trained operator(s).

Video Equipment:

1. Cameras shall be twin 185-degree panorama digital zoom cameras capable of unfolded view measurement with minimum 1080p HD resolution **OR** pan-tilt-zoom with minimum 720p HD resolution.
2. Lighting intensity shall be adjusted to minimize glare.
3. Lighting and picture quality shall be adjusted to provide a clear, in focus picture of the entire periphery of the pipeline for all conditions encountered.
4. Camera cable shall be retracted to remove slack and to ensure an accurate footage reading. The distance shall be measured between the exit of the start manhole and the entrance of the finish manhole for a true measurement of the length of the pipe segment. All measurements shall be recorded in standard units and the video display readout shall display units to one-tenth of a foot.

Video:

1. Video shall make a continuous color digital recording in .IPF (panorama camera) or MPEG4 (pan-tilt-zoom) camera format for each pipe segment inspected.
2. Video software shall be PACP or NAASCO certified.
3. Video provided shall have the ability to pause, fast forward and rewind.
4. Video camera shall not be pulled or propelled at a speed greater than sixty (60) feet per minute (panorama camera) OR thirty (30) feet per minute (pan-tilt-zoom camera).
5. Video shall record from the downstream structure towards the upstream structure unless the downstream structure is a drop connection.
6. Camera shall stop at all defects and significant observations to ensure a clear and focused view of the pipe condition and shall rotate the camera head at the defect to allow for adequate evaluation.
7. All defects and significant observations shall include a text overlay of the recorded observation.
8. Each pipe segment (manhole to manhole) shall be identified with a pipe report that includes the following information:

<u>Line #</u>	<u>Description</u>
Line 1:	Surveyed By
Line 2:	Street
Line 3:	City
Line 4:	Pipe Material
Line 5:	Pipe Diameter
Line 6:	Pipe Length (on plans)
Line 7:	Start Manhole Number
Line 8:	End Manhole Number
Line 9:	Inspection Time/Date

9. A full 360-degree pan of all manholes is required. This video footage shall occur at the beginning of each pipe segment survey inspection from the bottom of the manhole panning up the manhole shaft. The Contractor shall cover the manhole opening to prevent too much light from entering the structure and to ensure a clear and focused view of the manhole interior. In instances when the manhole is the terminating manhole, then the pan shall occur at the end of the pipe segment survey inspection.
10. Obstructions may be encountered during the CCTV inspection that prevent the travel of the camera. In instances when obstructions are not passable, the Contractor shall withdraw the equipment and begin a CCTV inspection from the opposite end of the sewer reach.

Photographs:

1. Digital photographs in JPEG format shall be made of all recorded defect observations. These photographs will be computer generated with the use of the inspection reporting system software.
2. At a minimum, all photographs shall be named consisting of the following descriptions: "FROM MANHOLE STATION NUMBER", "TO MANHOLE STATION NUMBER", six-digit inspection date (yyymmdd), and the defect 'station' location along the pipe.

Traffic Control:

1. The Contractor shall provide all required traffic control, including warning lights and traffic cones, as needed or required in accordance with the Watch Manual, as well as any city-required traffic plans.
2. The Contractor shall obtain all permits required by the local jurisdiction.

Cleaning:

1. Pipeline shall be thoroughly cleaned prior to performing the video inspection. Pipes shall be free of grease, grit, solids, construction debris, and caked on mud preventing observation of pipe material.
2. The Contractor shall trap all debris at the end manhole and properly dispose of all debris when cleaning pipe segments.

The requirements state herein are effective immediately. If you have any questions relating to this notification, please contact:

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