SECTION 330130.11 - TELEVISION INSPECTION OF SEWERS

This section specifies television inspection of pipelines and associated preparatory work.

This section includes performance, proprietary, and descriptive specifications. Edit to avoid conflicting requirements.

1. GENERAL
	* + 1. SUMMARY
				1. Section Includes:

Pipeline flushing and cleaning.

Television inspection of sewer pipelines.

Audio-video recording of pipeline interior.

* + - * 1. Related Requirements:

List other Sections directly related to or affecting Work of this Section. Include Sections specifying information expected to be found in this Section as well as Sections required to describe complete system or assembly requirements.

Section 015000 - Temporary Facilities and Controls: Safety requirements when bypassing sewage flow.

Section 330130.61 - Packer Injection Grouting: Television inspection of finished Work.

Section 330130.72 - Cured-in-Place Pipe Lining: Television inspection of finished Work.

Section 330130.79 - Fold-and-Form Pipe Lining: Television inspection of finished Work.

Section [**333100 - Sanitary Sewerage Piping**] [: Pipe materials, manholes, and accessories normally encountered with gravity sewerage piping.

* + - 1. DEFINITIONS

Limit list of definitions to terms unique to this section and not provided elsewhere.

* + - * 1. DVD: An optical disc storage format, offering higher storage capacity than compact discs (CDs) while having the same dimensions.
				2. NASSCO: National Association of Sewer Service Companies
			1. COORDINATION
				1. Coordinate Work of this Section with [**Director’s Representative**].
			2. PREINSTALLATION MEETINGS
				1. Hold a meeting a minimum of [**one week**] [**<\_\_\_> weeks**] prior to commencing Work of this Section.
			3. SCHEDULING
				1. Furnish Work schedule for periods of time when sewer piping section is out of service. Provide temporary maintenance of sewer flow for the duration of the inspection work.

Remove paragraph below if no relining or joint sealing work is to be completed.

* + - * 1. Schedule Work of this Section to coincide with [**relining sewers**] [**joint sealing**].
			1. SEQUENCING
				1. Section 011000 – Summary Of the Work: Requirements for sequencing.

Indicate in following paragraph when and in which order pipelines should be televiewed and recorded.

* + - * 1. Sequence Work in following order:

<**\_\_\_\_\_\_\_\_**>.

<**\_\_\_\_\_\_\_\_**>.

* + - 1. SUBMITTALS

Only request submittals needed to verify compliance with project requirements.

* + - * 1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combination submittals).
				4. DVDs:

Submit **[three]** copies of completed narrated color DVDs identified by Project name, street name, right-of-way property name, and manhole numbers.

DVDs become property of the State.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

* + - * 1. USB Drives:

Submit **[three]** copies of completed narrated color DVDs identified by Project name, street name, right-of-way property name, and manhole numbers.

USB Drives become property of the State.

* + - * 1. Inspection Logs:

Submit cleaning and television inspection logs for each section of sewer line. Provide a map or diagram showing manhole labels and stationing for reference.

Include following minimum information:

Stationing and location of lateral services, wyes, or tees.

Date and clock time references.

Pipe joints.

Infiltration/inflow defects.

Cracks.

Leaks.

Offset joints. Sagging.

Grease deposits.

* + - * 1. Submit specific detailed description of proposed bypass pumping system, including written description of plan addressing schedule, quantity, capacity, and location of pumping equipment.
				2. Submit spill plan to address any spills that might occur.
				3. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
				4. Qualifications Statement:

Coordinate following subparagraph with requirements specified in qualifications article.

Submit qualifications for applicator.

* + - 1. QUALITY ASSURANCE
				1. Perform Work according to the National Association of Sewer Service Companies (NASSCO) standards.
			2. QUALIFICATIONS

Coordinate following paragraph with requirements specified in submittals article.

* + - * 1. Applicator: Company specializing in performing Work of this Section with minimum **[three]** years' [**documented**] experience. Provide documentation of NAASCO Pipeline Assessment Certification Program (PACP) certification for all CCTV operators.
				2. Software: Inspection shall utilize software that have been NASSCO test to provide only PACP/MACP/LACP codes for conditions and asset/survey information. Provide documentation of Certification of PACP Software.
1. PRODUCTS
	* + 1. DVDs, USB Drives, or File Sharing Website.
				1. Description: Files may be shared utilizing hard copy DVDs or USB Drives or electronically utilizing a secure File Sharing Website.
				2. Audio track containing simultaneously recorded narrative commentary and evaluations of videographer, describing in detail condition of pipeline interior.
				3. Video Images:

Full color, 360-degree side view projected on a HD monitor.

Continuous logging action videotaped for permanent record. Turn over to the Director’s Representative one copy of all video tapes produced.

* + - * 1. Radial-head Camera Requirements:

Camera resolution: Minimum 1280x720 pixels

Sufficient to provide image quality that is adequate for post-inspection coding.

Minimum illumination: 10 lux or one footcandle (F=1.4).

Remote functions:

Iris control (F1.4-F22).

Motorized focus control.

Automatic white balance.

1. EXECUTION
	* + 1. EXAMINATION
				1. Verify location of sewer pipelines to be inspected.
			2. PREPARATION
				1. Flush and clean pipeline to remove sludge, dirt, sand, stone, grease, and other materials to ensure clear view of interior conditions. Cleaning shall be completed in accordance with NASSCO Performance Specification Guideline for Sewer Pipe Cleaning.
				2. Debris:

Intercept flushed debris at next downstream manhole using weir or screening device.

Remove and dispose of debris off Site.

* + - * 1. Bypassing:

Furnish temporary bypass pumping system around Work area for time required to complete television inspection.

Provide standby pump of equal or greater capacity at bypass location.

Provide safety precautions, as needed, including barricades, lights, and flaggers per Section 015526 to protect the area of work. Coordinate with Director’s Representative.

* + - 1. APPLICATION
				1. Closed-Circuit Television (CCTV) Camera System:

Use cameras specifically designed and constructed for closed-circuit sewer line inspection.

Use camera equipment with pan-and-tilt capability to view each lateral connection at multiple angles.

Use camera capable of moving both upstream and downstream with minimum 1,000 feet horizontal distance within one setup and using direct-reading cable position meter.

* + - 1. FIELD QUALITY CONTROL
				1. Pipeline Inspection:

Audio-video record sections of sewer pipeline between designated manholes.

Identify and record locations of flat grades, dips, deflected joints, open joints, broken pipe, protrusions into pipeline dips, grease deposits, and points of infiltration with location stationing.

Locate and record service connections.

Record locations of pipeline defects, connection horizontal distance in feet, and direction from manholes.

Video-record with pipe section plugged to view 100 percent of pipe ID.

Use flow-control methods as specified for bypass pumping system to eliminate surcharging and to reduce flow.

END OF SECTION 330130.11