



CITY OF HAVELOCK

Post Office Box 368
Havelock, NC 28532

INVITATION TO BID

REQUEST FOR PROPOSALS

Proposals must be submitted in accordance with the attached specifications. Proposals can be submitted by mail, email, fax or hand delivered. Cover sheets, envelopes, etc. should be clearly marked with the words:

***“City of Havelock,
Request for Proposals for CCTV/Cleaning of a portion of the Sanitary Sewer System”***

Address Bids to: **Kimberly Walters, Director of Finance**
 City of Havelock
 P.O. Box 368
 1 Governmental Ave.
 Havelock, NC 28532
 Fax: 252-447-0126
 Email: Bids@havelocknc.us

Proposals will be accepted until **2:00 PM (EST) on Monday June 2nd, 2025** at which time they will be reviewed in the office of the City Finance Director. Quotes are not subject to public inspection until the contract is awarded. The proposals are good for 75 days after opening. The winning proposal will be issued a Notice To Proceed (NTP) along with a Purchase Order.

N.C.G.S. (North Carolina General Statutes), specifically §160A-20.1(b), prohibit the City from entering into contracts with contractors and subcontractors who have not complied with the requirement of Article 2 or Chapter 64. The Contractor shall submit the E-Verify Affidavit, located in the Bid Proposal section, with their bid. Bids that do not include this Affidavit will be considered non-responsive.

N.C.G.S 147-86.42-84 requires that contractors with a North Carolina Local Government must not utilize any subcontractor found on the State Treasurer’s Iran Divestment list or Companies Boycotting Israel list. The referenced lists can be found on the State Treasurer’s website at the address www.nctreasurers.com and will be updated every 180 days.

The City of Havelock reserves the right to reject any or all proposals.

This institution is an equal opportunity provider, and employer.

Contact person(s) for information on this proposal:

For questions in regards to the proposal specifications, the City requires and only responds to questions submitted in writing and sent via email to: Bids@havelocknc.us

Questions must be received by **2:00 PM (EST) on Monday May 19th, 2025**. If questions are received, the City will respond no later than **12:00 PM (EST) on Friday May 23rd, 2025**.

This is the 8th day of May 2025.

Published: Vendor Registry May 8, 2025

CITY OF HAVELOCK
Kimberly Walters
Director of Finance



**STATE OF NORTH CAROLINA
AFFIDAVIT
CITY OF HAVELOCK**

I, _____ (the individual attesting below), being duly authorized by and
on behalf of _____ (the entity hereinafter "Employer") after first being duly
sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
2. Employer understands that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of employee through E-Verify in accordance with NCGS §64-26(a).
3. Employer is a person, business entity, or other organization that transacts business in the State and that employs 25 or more employees in this State. (mark Yes or No)
 - a. YES _____, or
 - b. NO _____
4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project, Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This _____ day of _____, 20_____.

Signature of Affiant: _____

Print or Type Name: _____

State of North Carolina County of _____

Signed and sworn to (or affirmed) before me, this the

Company Name: _____

Company Address: _____

Contact Person: _____

Telephone Number: _____

Email Address: _____

Number of Addendums Acknowledged (circle one): N/A 1 2 3 4

As of the date listed below, the vendor or bidder listed above is compliant with N.C.G.S. 147-86.42-84, the Iran Divestment Act and the Companies Boycotting Israel Act.

Authorized Signature: _____

Print Name of Authorized Signature: _____

Title: _____

Address Proposal to: Kimberly Walters, Director of Finance
City of Havelock
P.O. Drawer 368
1 Governmental Avenue
Havelock, NC 28532
Bids@Havelocknc.us

Please indicate the Proposal name on the outside of the envelope.

ATTACHMENT D: BID FORM

Item No.	Item Description (Unit Price to be written in words)	Estimated Quantity	Unit Of Measure	Unit Price	Total Price
1	Clean and inspect with CCTV sewer mains 6-inch diameter ____ Dollars and ____ Cents	1000	Linear Foot		
2	Clean and inspect with CCTV sewer mains 8-inch to 16-inch diameter ____ Dollars and ____ Cents	29,000	Linear Foot		
	CCTV TOTAL				
	GRAND TOTAL	30,000	Linear Foot		

Attachment A: Scope

The City of Havelock is soliciting sealed proposals for annual cleaning and closed-circuit television(“CCTV”) inspection of a portion of its sanitary sewer system.

Scope of work

The City of Havelock intends to clean and inspect a portion of its sanitary sewer system annually beginning in the basin shown in **Exhibit A**. The sewers to be inspected will be selected annually by the City with the intent of inspecting the full system over a period of 10 years. The first year of inspection includes an anticipated total of 30,000 linear feet.

The initial term for this contract is one year with the option to extend for up to two (2) additional renewals periods. The pricing shall be firm for the duration of the contract, including renewals.

Specifications and Deliverables

Cleaning and CCTV shall meet the requirements in **Attachment C: Specifications**

Submission Requirements

All sealed proposals must be marked **SEALED PROPOSAL DO NOT OPEN** and include the following:

- Cover letter signed by an authorized representative of the contractor.
- A list of key personnel and any subcontractors proposed to complete the project along with their qualifications.
- A completed bid form utilizing the format included in **Attachment D: Bid Form**
- A list of at least 3 reference projects of similar size and scope completed within the last 5 years including a contact for each project.

ATTACHMENT C

Technical Specifications

Sanitary Sewer Cleaning and CCTV Inspection

PART 1 GENERAL

1.1 SCOPE

- A. The Contractor shall perform routine maintenance cleaning and Closed Circuit Television (CCTV) inspection of designated sewer pipes within the City of Havelock sanitary sewer collection system. This includes the removal and disposal of debris obstructing design flow, preventing blockages, and restoring the sewer to near full capacity and self-scouring velocity.
- B. All inspection work shall comply with National Association of Sewer Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) standards. The contractor must submit their selected NASSCO-certified software for City approval.
- C. Per foot prices for the work shall be submitted on the attached price, which includes estimated quantities. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price.
- D. All quantities in the bid proposal are based upon the current City geodatabase of mainlines and manholes. The City makes no guarantees as to the accuracy of this data. It is the intent of the bid proposal and the quantities therein to establish a unit price for various mainline items to be paid to the Contractor by the City during the period of this contract. No change in the unit price will be made, regardless of which specific mainlines are cleaned during the period of the contract. For the purposes of payment, the unit bid prices will apply to the actual quantities of work performed. The unit price will include all costs associated with mobilization and access to individual sites.
- E. This specification involves work in active sewers. The work includes providing all necessary equipment, labor, tools, and materials, including specialized pipe cleaning and televising of sanitary sewer mains and related manholes, along with all supporting activities.
- F. The Contractor shall exercise caution to avoid causing backups or overflows. If equipment becomes stuck or causes a backup, the contractor must immediately notify the City at (252) 670-0663 and promptly restore normal operations and repair any damages. The Contractor is responsible for fines, costs incurred by the City, cleanup, restoration of flow, and disruption of service costs.
- G. This project does not require bypass pumping.

1.2 SAFETY CODE REQUIREMENTS

The Contractor shall conduct all operations in strict compliance with applicable Federal, State, and Local safety codes and statutes. The Contractor is fully responsible for maintaining safety procedures to protect the public, personnel, worksite, and equipment involved in the project.

Throughout the cleaning and CCTV operations, the Contractor shall comply with Occupational Safety and Health Administration (OSHA) standards and all other relevant safety codes or standards. No additional compensation will be provided for adherence to OSHA or other safety standards or requirements.

The Contractor is responsible for providing comprehensive traffic control measures in compliance with the latest edition of the Manual of Uniform Traffic Control Devices for Streets and Highways, published by the Federal Highway Administration. Traffic management responsibilities include supplying all necessary signs, barriers, markers, arrow boards, flaggers, and other traffic control devices essential for ensuring safe operations.

1.3 Submittals

A. Pre-Work Submittals:

- 1. Identification and contact information for the project field supervisor, emergency contact, and equipment operators. Provide at the kickoff meeting.

2. Copies of NASSCO PACP and MACP certifications for operators and data reviewers. Provide at the kickoff meeting.
3. Proposed NASSCO-certified software and certification documentation.
4. Detailed description of proposed equipment and procedures for the work.
5. Information detailing all processes to be used for cleaning.
6. Manufacturer's certification confirming equipment compliance with referenced standards and specifications.
7. Initial schedule, provided prior to the kickoff meeting.
8. Contractor's project-specific safety plan. The Contractor is solely responsible for worker and public safety. This must be provided before any fieldwork begins.

B. Monthly Submittal:

1. Electronic cover sheet summary, including dates of inspection, upstream and downstream manhole IDs (MHID), total pipe length, inspected length, pipe material, diameter, quick maintenance, structural, and overall ratings, and descriptions and footage locations of any level 5 defect observations.
2. Electronic inspection data:
 - a. Submit data for the completed monthly fieldwork.
 - b. Include all necessary files to view inspections in direct entry software, with videos and still images.
3. Data Delivery:
 - a. Provide an external portable hard drive (specified at the kickoff meeting).
 - b. Typed external label must indicate:
 1. City of Havelock
 2. Project Title or Number
 3. Date(s) of Inspection
 4. Inspection Company Name
4. Monthly look-ahead inspection schedules.
5. Corrected inventories and maps reflecting actual field conditions, clearly marked and included with weekly submittals.

1.4 SCHEDULING

- A. Inspection work shall be scheduled considering current weather forecasts. Do not schedule inspections during or within 24 hours following storm events. A storm event is defined as daily rainfall exceeding 1.0 inch as recorded by the National Weather Service.
- B. Provide updated monthly look-ahead schedules to the City.
- C. Work hours are permitted between 7 AM and 7 PM local time. Nighttime work may be permitted if necessary due to traffic control, high flow conditions, or other constraints. Work on DOT roads is limited to between 9 AM and 4 PM. Contractors must be considerate of residential neighborhoods when working early or late.

1.5 Access to the project sites and manholes

A. Access to Private Property:

1. Most sewer inspections will occur within public rights-of-way. If private property entry is necessary, the Contractor must obtain a right-of-entry/access agreement from property owners.
2. The Contractor must notify the City at least 4 weeks in advance to secure private property access, ensuring it does not cause delays or interfere with the overall schedule.
3. Private property access agreements are required only when public access to the sewer is unavailable. For publicly accessible areas (e.g., parking lots, condominium roads, alleys), agreements are unnecessary. Agreements are required for restricted areas (e.g., residential yards, fenced properties).
4. Authorization letters must include:
 - a. Date of agreement;
 - b. Terms and conditions of the agreement;
 - c. Extent of work to be performed on the private property;

- d. Duration of the work to be performed;
 - e. Emergency contact information for the private property owner and the Contractor.
5. Obtain signed agreements prior to entry. Provide a copy to the City before final project completion.

B. Locating manholes:

The Contractor shall make a reasonable attempt to locate manholes using tools such as probes, metal detectors, or minimal digging (less than 1 foot).

Notify the City if a manhole cannot be located or opened using a pry bar and sledge hammer.

The City will locate, raise, or repair manholes and notify the Contractor when accessible.

Inaccessible Easements

Easement inspections may require off-road or ATV-mounted equipment.

Notify the City if easements are overgrown or inaccessible.

The City will clear easements and inform the Contractor when accessible.

1.6 Notifications

- A. At least 48 hours before beginning work in any right-of-way, the Contractor shall notify all affected residents and businesses using a City-approved printed door hanger notice. The notice must include the scheduled work date, type of work, and contact details for the Contractor and Superintendent (name, address, and telephone number). The notice must also clearly describe any potential disruptions to sanitary sewer service or property access. Disruptions must be minimized, and access to private property shall be maintained at all times.
- B. The Contractor shall notify the City **immediately** by phone at (252) 670-0663 and follow up via email if any of the following are encountered:
 - 1. An imminent or active sanitary sewer overflow (SSO).
 - 2. A discovered obstruction that restricts flow within the pipeline (include a still photograph clearly showing the restriction).
 - 3. Surcharging observed in a manhole.
 - 4. Discovery of a defect likely to cause imminent failure in the sewer system (e.g., a void or collapse). Include a still photograph and mark the defect location above ground using spray paint.
- C. The Contractor shall notify the City by email or during progress meetings in the following cases:
 - 1. Pipeline flow depth prevents inspection and cannot be resolved by scheduling during low-flow periods.
 - 2. Inspection conditions are unsafe or impractical (include still photograph).
 - 3. Field pipe configuration or IDs differ from the provided maps, preventing inspection.
 - 4. Easements are overgrown or inaccessible.
 - 5. A private property owner has built an obstruction (e.g., fence or structure) over a manhole or structure, restricting access.
 - 6. Include a diagram clearly showing the location of the obstruction in relation to adjacent structures.

PART 2 PRODUCTS

2.1 Cleaning EQUIPMENT

- A. The Contractor shall furnish equipment that is efficient, appropriate, and sufficiently large to achieve a satisfactory quality of work and a rate of progress ensuring the completion of the work within the Contract Time. The City reserves the right to inspect the Contractor's equipment at any time or location, including the Contractor's facility or during field operations. If at any point the City determines that the equipment is inefficient, inappropriate, or inadequate to achieve the required work quality or the necessary rate of progress, the City may order the Contractor to improve efficiency, modify equipment type, or increase equipment quantity. The Contractor shall comply with such orders promptly. The absence of such an order from the City does not relieve the Contractor of the obligation to meet the required work quality and rate of progress.

- B. All sanitary sewer pipes shall be cleaned using truck-mounted, high-velocity hydraulic cleaning equipment (hydra-cleaning) with an integrated vacuum debris removal system. Vehicles must carry sufficient high-pressure hose lengths to clean pipe sections up to 900 linear feet. High-pressure hoses shall have a minimum diameter of 1 inch and deliver a minimum flow of 80 gallons per minute at 3,000 PSI. Water tanks mounted on the vehicles shall have a minimum capacity of 1,200 gallons. All cleaning equipment controls shall be located so that operation can occur safely from above ground.
- C. Equipment shall be capable of removing all sludge, dirt, sand, grease, roots, rocks, debris, obstructions, and other solid or semi-solid materials from sewer mainlines, thereby restoring the mainlines to at least 95% of their original cross-sectional area. Equipment must also be capable of high-pressure washing of manholes and complete removal of debris from manhole benches.
- D. Nozzles and skids utilized for cleaning must be specifically designed and appropriate for the diameter of the pipes being cleaned. Specialty heads and nozzles may be required to remove hardened debris, grease, or scale.
- E. Cutting heads designed to remove intruding roots or projecting obstructions shall be required, with sizes specifically matched to the diameter of the pipes being serviced.
- F. The vacuum debris removal system shall effectively extract sand, silt, grease, rocks, bricks, and other debris from manholes during the cleaning operation. Debris must be removed entirely from the wastewater system, without transferring it into adjacent pipes or manholes. Wastewater extracted during vacuuming may only be decanted back into the collection system after sufficient settling time to ensure no solid material re-enters the system.
- G. The Contractor shall provide equipment capable of completely removing sand, dirt, rocks, and other debris from the sewer segment, allowing unobstructed internal inspection via remote television of all internal pipe surfaces.
- H. Cleaning equipment must utilize devices capable of dislodging sediments within sewer lines without damaging the pipe's structural integrity. Cleaning devices must possess sufficient power to move and transport debris commonly encountered in large-diameter sewers to extraction points at manholes. Cleaning methods must accommodate maintaining normal sewer flows during operations.
- I. The Contractor shall certify that backup cleaning equipment, including machines, devices, tools, and any other necessary components, can be made available and delivered to the worksite within 24 hours.
- J. The Contractor shall supply all equipment necessary for specialty cleaning operations, including root removal and pipe descaling.
- K. The Contractor is responsible for the proper disposal of all materials extracted from sewer pipes and manholes in compliance with applicable regulations and standards.

2.2 CLOSEd cirCuit television Equipment

A. Remote Reading Footage Counter:

- 1. Accuracy: within two-tenths of a foot over the length of the inspected section.
- 2. Marking on the cable is not permitted.
- 3. Calibration: to be performed daily before setup.
- 4. During inspection, the cable shall be consistently retracted to eliminate slack and ensure accurate

footage readings.

B. Camera:

- 1. Recording format: color, digital.
- 2. Provides a continuous view.
- 3. Displays distance measured along the reach (tape counter footage).
- 4. Produces high-resolution video and still images with a resolution of no less than 500 lines.
- 5. Minimum 65-degree viewing angle, with automatic or remote focus and iris control.
- 6. Equipped with pan-and-tilt capabilities, with a minimum pan range of ± 275 degrees and continuous 360-degree rotation.
- 7. Height adjustable to maintain the camera lens at or above the pipe's horizontal centerline.
- 8. Includes a slope indicator accurately calibrated per manufacturer's instructions.
- 9. Operates in 100 percent humidity conditions.

10. Mounted on a transport system appropriately sized for each pipe diameter.
11. Equipped with a tag line suitable for backward retrieval.
12. Focal distance adjustable from 6 inches to infinity.
13. Includes a winch, power winch, optic cable, powered rewind, or similar device for propulsion through the pipe.
14. When towed by winch and bind through the sewer, winches must be stable with locking or ratcheting drums, even under load. Binds shall be non-elastic and oriented to permit smooth extension and retraction through the pipe.
15. Certified by a Nationally Recognized Testing Laboratory (NRTL) for use in hazardous environments.

C. Camera Lighting:

1. Designed to minimize reflection.
2. Capable of achieving proper tint and brightness balance.
3. Suitable for a range of pipe diameters as defined in the project.
4. Provides clear, in-focus illumination of the entire internal pipe perimeter.

PART 3 EXECUTION

3.1 GENERAL

- A. The Contractor shall complete all restoration of disturbed areas immediately following cleaning and CCTV inspection of the sewer mainline. All restoration work shall be performed in accordance with the City's Standard Specifications and shall meet or exceed pre-CCTV conditions. This includes, but is not limited to: grading, seeding, mulching, pavement, sidewalks, driveways, storm drain pipes, curbs and gutters, sign replacement, and mailbox replacement. If the Contractor fails to comply with this requirement, all work will be suspended until compliance is achieved. The Contractor is responsible for installing all necessary erosion control devices. Restoration of private property disturbed during CCTV work shall be completed to the satisfaction of both the City and the affected property owner.
- B. The Contractor shall mark the pavement with green paint and encircle the label "SMH" to identify missing manholes.
- C. Clean-Up:
 1. During the course of work, the Contractor shall maintain the site in a clean and orderly condition. This includes washing streets with high-pressure water as necessary and as directed by the City. All refuse generated from cleaning operations shall be properly disposed of, and the entire work area shall be left in a neat, presentable condition.
 2. The area shall be left clean upon completion of work.
- D. If the Contractor's equipment becomes lodged in the sewer, the Contractor shall immediately notify the City. The Contractor is responsible for removing the equipment and shall not use intrusive methods other than those involving existing manholes or structures. If breaching the pipe is necessary to remove the equipment, the Contractor shall contact the City immediately to coordinate removal. The City will charge the Contractor for all associated work, including labor, materials, equipment, and overhead for repairs to pipelines, manholes, appurtenances, and surface restoration. All such incidents shall be documented in the incident log.
- E. The Contractor shall protect the sewer system and adjacent properties from damage resulting from cleaning and inspection activities. Any damage caused by the Contractor's operations shall be repaired at no additional cost to the City and to the satisfaction of the City.
- F. The Contractor shall be liable for all direct and indirect costs resulting from sanitary sewer overflows caused, in whole or in part, by its operations.
- G. The Contractor is responsible for managing and accommodating all existing wastewater flows during the work. Procedures for maintaining existing flows shall be reviewed with the City in advance of any flow interruption. Sanitary sewer overflows will not be tolerated.
- H. The City will provide a hydrant meter rental, including a backflow prevention assembly, at no cost to the Contractor for use in sewer cleaning. The hydrants, meter, and backflow prevention assembly shall

be operated only as directed by the City. Hydrants in use shall remain fully open at all times. In the event of an emergency, hydrants shall be released immediately for use by firefighters. The refill pipe to the tank must maintain a minimum 4-inch air gap to prevent backflow and contamination of the City's water system. The Contractor shall be responsible for any damage resulting from improper operation of the hydrants, meter, or backflow prevention assembly.

- I. The Contractor's project manager shall attend monthly progress meetings with the City's project manager. These meetings will cover topics including recent submittals, quality assurance/quality control (QA/QC) issues, look-ahead schedules, project budget, invoicing, site access, inspection obstacles, GIS corrections, and other relevant matters.

3.2 Cleaning

- A. The Contractor shall clean sewer lines by removing dirt, rock, sand, roots, grease, and other deleterious materials from the pipes and manholes. The cleaning equipment shall be capable of removing such materials and restoring at least ninety-five percent (95%) of the original internal pipe diameter.
- B. Cleaning is required for all sewer mains with a diameter less than or equal to 15 inches. Cleaning is not required, and shall not be performed, solely for camera access on sewer mains with diameters greater than 15 inches.
- C. Hydroflushing of sewer mainlines is not limited to a minimum or maximum number of passes. The Contractor is responsible for meeting the defined cleaning quality standards. Cleaning shall consist of advancing the hydroflush cleaning tool to the upstream manhole and then returning it to the entry manhole. The Contractor shall confirm that the cleaning tool reaches the upstream manhole, and the final pullback shall not exceed 30 feet per minute. Cleaning shall be conducted one mainline segment at a time, from manhole to manhole. All material dislodged during cleaning shall be removed at the downstream end of the sewer line before proceeding to the next segment. Routine cleaning shall begin at the most upstream sewer line identified in each work order and proceed downstream.
- D. All foreign materials, such as sludge, dirt, sand, grease, roots, and other solid or semi-solid substances, shall be removed at the downstream manhole of the segment being cleaned. Transferring debris from one manhole section to another is not permitted. The Contractor shall use a debris trapping system (e.g., a debris bucket) at the downstream manhole outlet. Trapped debris shall be removed prior to extracting cleaning equipment and before proceeding to the next sewer segment.
- E. Waste materials and debris resulting from cleaning operations shall be removed and transported by the Contractor to a City-approved disposal facility. The disposal site must be accessible during the Contractor's working hours. The Contractor shall be responsible for securing all required permits. Materials shall be drained in the collection system and disposed of at the debris drying beds at 304 Jackson Drive, Havelock, NC, 28532. If the debris drying beds are full, the Contractor shall coordinate with the City to remove debris prior to dumping additional debris. Liquids must be decanted before debris is deposited. Under no circumstances shall sewage or solids removed during cleaning be dumped onto streets, or into ditches, catch basins, or storm drains. Cleaning operations may continue without interruption while debris is transported for disposal.
- F. All materials removed during sewer cleaning must be taken offsite by the Contractor and disposed of at a permitted facility approved by the City. Dumping or spilling this material into streets, ditches, storm drains, or other sewer mains is strictly prohibited.
- G. If debris from the cleaning operation causes a downstream blockage, the Contractor shall bear full responsibility for cleanup costs and any resulting damages caused by their operations.
- H. The City recognizes that conditions such as collapsed pipes or major blockages may prevent cleaning or pose a risk of further damage if cleaning is attempted. If such conditions are encountered, the Contractor shall immediately notify the City to determine an appropriate course of action.
- I. The Contractor shall exercise appropriate caution in the use of cleaning equipment. When using hydraulically propelled tools or devices that restrict flow within the sewer, the Contractor shall ensure that water pressure does not damage infrastructure or cause flooding of public or private property.

3.3 CCTV Inspection

- A. CCTV inspections shall be conducted by NASSCO PACP-certified operators using City-approved, NASSCO-certified software and PACP defect coding.
- B. All inspection work must be performed by PACP-certified operators using standard PACP codes and observations, unless otherwise specified. The following data fields and associated codes are mandatory:
1. Surveyor's Name (1) – Use the Contractor's standard abbreviation
 2. PACP Certificate Number (1a)
 3. System Owner (2) – Enter "City of Havelock"
 4. Project Title – Use "2025 Collection System Condition Assessment"
 5. Project – Format as "ContractorName_YYYY_Batch#", where ContractorName is the company name, YYYY is the year, and Batch# is a sequential batch number (e.g., 1, 2, 3)
 6. WO_Number – Leave blank (NULL)
 7. Pipe Segment Reference (7) – Use the upstream and downstream MHID values in sequence
 8. Date (8)
 9. Time (9)
 10. Location (Street Number and Name) (10)
 11. Location Details (11)
 12. Upstream Manhole Number (12) – Use MHID from City-approved database only
 13. Downstream Manhole Number (16) – Use MHID from City-approved database only
 14. Direction (21) – Indicate "reverse" or "downstream" only
 15. Height (23) – Diameter for round pipe or height for non-round
 16. Width (24) – Only for non-round pipes
 17. Shape (25)
 18. Material (26)
 19. Lining Method (if applicable) (27)
 20. Pipe Joint Length (28) – Average length in feet, rounded to the nearest tenth; do not include partial pipe sections adjacent to manholes
 21. Total Length of Pipe (29) – From upstream manhole center to downstream manhole center
 22. Total Length Surveyed (30) – From edge of upstream manhole to edge of downstream manhole
 23. Pre-cleaning (36)
 24. Purpose (34)
 25. Additional Information (39) – Required if "other" codes are used
- C. Video Recording:
1. Do not provide voiceover descriptions of defects. Voiceover may only be used to document operational or equipment issues, or to explain image interruptions.
 2. Align the camera axis at the horizontal centerline of the pipe.
 3. Display continuous footage readings directly on the video image, clearly visible against the background.
 4. Inspections must follow the direction of flow (upstream to downstream), unless an obstruction requires a reverse setup.
 5. If reverse (upstream) setup is necessary, it shall be recorded as a separate inspection run. Submit both downstream and upstream footage together.
 6. Keep the camera lens clean and unobstructed. If visibility is impaired by debris or moisture, clean or replace the lens before proceeding.
 7. The camera lens must remain above the water level unless passing through a clearly identifiable sag or misalignment. Stop inspection if the lens becomes submerged due to flow; reschedule if needed. Surcharging caused by artificial means (e.g., plugs or flushing) is not an acceptable reason for poor video quality.
 8. Recordings shall clearly show all corrosion, cracks, fractures, and other notable features (e.g., joints, laterals). Use pan and zoom functions to inspect each service lateral, and adjust lighting and focus as needed.

9. Accurately represent the severity of each defect.
10. Immediately report any obstructions that restrict flow or interrupt the inspection to the City. Contact information will be provided at the kickoff meeting.
11. Provide still images of all moderate or severe defects. If no defects are present, provide representative images every 100 feet or where flow levels change, in accordance with PACP.
12. Maximum camera traverse speed is 30 feet per minute.
13. Video recordings with significant loss of color or red/green distortion may be rejected.
14. Recordings must be free of distortion and interference.
15. Each line segment must be televised continuously from structure to structure unless obstructed.
16. Video must clearly show the entire interior of the starting and ending structures, including a pan to confirm debris removal, unless defects prevent this.
17. Footage must be well-lit and sharply focused to reveal small defects.
18. A continuous, clear view of each structure-to-structure segment must be provided. If the video quality is substandard (due to poor lighting, blurry lens, distortion, interference, or color loss), the segment will be rejected and must be re-televised at no additional cost to the City.
19. The City may accept substandard video only if site conditions prevent re-inspection and sufficient information is still available for assessment. The City must be informed of such cases in advance.

D. Measurement:

1. Accurate measurement is critical for locating defects, service connections, material changes, and other PACP-recognized conditions, especially where future repairs may be necessary.
2. All measurements shall be recorded in English units.
3. Begin footage measurements at the centerline of the upstream manhole.
4. Continuous footage readings are required. Inspections may be rejected if footage meter inaccuracies or inconsistencies cast doubt on defect locations or total pipe length.
5. Pipe diameter must be physically measured at an access point (upstream or downstream) using a caliper or measuring rod.
6. Verify pipe material (e.g., RCP, VCP, CMP) and diameter prior to inspection.

E. Pipe Segment Reference

1. The City will provide the Contractor with an ESRI file geodatabase containing all sewer mains and manholes. The Contractor shall use the MHID to populate the Pipe Segment Reference with the upstream MHID followed by the downstream MHID.
2. If an unidentified pipe or structure is encountered that is not listed in the geodatabase, label it using the upstream MHID followed by a letter (starting with "A") for each unidentified structure along that segment. Notify the City of all such discoveries. The City will update the geodatabase and provide a corrected MHID. The Contractor shall update the database accordingly before submitting the final data.
3. For reverse setups, manhole numbers in the header file shall always be ordered upstream to downstream.

3.4 DOCUMENTATION

- A. All observations identifying defects, cracks, failed joints, root intrusion, or any other conditions requiring corrective action shall be recorded in the project database. All digital information, including video, audio, and photographs, shall be linked to the corresponding inspection data to enable efficient access within the centralized information system. Each digital file must correspond precisely to the related inspection data entry. When applicable, the Contractor shall provide additional descriptive comments in the "Remarks" section of the database, aligned with the relevant observation. Each defect or observation shall be rated by the Contractor in accordance with the NASSCO PACP method, and the rating shall be stored within the database and properly linked to the inspection data.
- B. The project database shall be in a NASSCO PACP-compliant format that is compatible with a variety of software platforms.
- C. All CCTV inspection deliverables shall include a continuous color digital video recording in MPEG-4 format.

- D. Video files shall have a minimum resolution of 352 x 240 pixels, a minimum interlaced frame rate of 24 frames per second, and a 1:1 aspect ratio (vertical to horizontal).
- E. Digital photographs shall be in JPEG format, with a minimum resolution of 640 x 480 pixels.
- F. File naming conventions for pictures, videos, and folders shall follow the default naming structure defined by the approved software.
- G. Electronic copies of all submittals shall be maintained by the Contractor for the duration of the project.
- H. Delivery of Data:
 - 1. Data shall be delivered on an external portable hard drive.
 - 2. The external label shall include:
 - a. "City of Havelock"
 - b. Project Title or Number
 - c. Date(s) of Inspection
 - d. Inspection Company Name
- I. Data submittals corresponding to each approved invoice shall be consolidated into a master file. This master file shall be submitted to the City upon completion of the project.
- J. All inspection reports, videos, and photographs shall become the property of the City of Havelock.
- K. As part of this contract, the Contractor shall submit an Excel spreadsheet documenting all cleaning activities performed. Required data fields for each mainline segment shall include (but are not limited to):
 - 1. Upstream MHID
 - 2. Downstream MHID
 - 3. Amount of debris, roots, and grease removed (categorized as none/light, medium, or heavy)
 - 4. Start and end dates
 - 5. Number of cleaning passes performed
 - 6. Whether cleaning was completed (Yes/No)
 - 7. Use of mechanical cleaning (Yes/No)
 - 8. Comments
 - 9. Length of segment cleaned
- L. This cleaning information will be used to track project progress and serve as supporting documentation for invoicing. The spreadsheet shall be submitted with each invoice for verification of work.
- M. Compensation for data management is considered incidental to the cleaning and CCTV inspection work. No additional compensation will be provided for data handling or reporting.

PART 4 Submittal ACCEPTANCE

- A. All submittals, including databases, videos, and photographs, will be reviewed by the City for data integrity and quality. Submittals may be accepted or rejected based on this review. If a submittal is rejected, the City will notify the Contractor, who shall be responsible for correcting all identified deficiencies. Once corrections are made, the Contractor must resubmit the revised materials for review and acceptance.
- B. If the inspection indicates that cleaning was unsatisfactory, the Contractor shall re-clean and re-inspect the affected sewer line until it meets the required standards. All costs associated with re-cleaning and re-inspection shall be borne by the Contractor.

PART 5 Invoicing and payment

5.1 invoicing

- A. Invoices shall be submitted monthly for work completed during the billing period. Each invoice must reflect pay items consistent with the corresponding submittals and must be accompanied by all required supporting documentation. Invoices must include the City project name and the purchase order number.

5.2 Compensation Schedule

- A. The quantity of sanitary sewer inspected shall be measured along the horizontal centerline of the pipe, from the inside face of the starting manhole or access structure to the inside face of the ending

structure, in accordance with the Contract Documents. If inspection equipment cannot complete a full run between two manholes, payment will be based on the length from the inside face of the starting structure to the furthest point of inspection reached.

- B. Payment will be made at the unit price per linear foot, for each pipe diameter group listed in the Price Schedule. The unit price shall constitute full compensation for furnishing all labor, materials, and equipment required for internal inspection of the existing sanitary sewer pipelines. This includes, but is not limited to: traffic control, locating structures, accessing manholes, performing inspections, and completing any incidental work not specifically described elsewhere in the specifications.
- C. Monthly payments to the Contractor will be processed only after the following conditions are met:
 - 1. All work for the billing period has been completed to the satisfaction of the City;
 - 2. All required reports and submittals have been received by the City; and
 - 3. The City has reviewed and accepted the data submittals for integrity and quality.

PART 6 Insurance Requirements

Contractor agrees to maintain, on a primary basis and at its sole expense, at all times during the life of this Contract the following coverages and limits. The requirements contained herein, as well as City's review or acceptance of insurance maintained by Contractor is not intended to and shall not in any manner limit or qualify the liabilities or obligations assumed by Contractor under this Contract.

Commercial General Liability – Combined single limit of no less than \$1,000,000 each occurrence and \$2,000,000 aggregate. Coverage shall not contain any endorsement(s) excluding nor limiting Product/Completed Operations, Contractual Liability or Cross Liability.

Automobile Liability – Limits of no less than \$1,000,000 Combined Single Limit. Coverage shall include liability for Owned, Non-Owned and Hired automobiles. In the event Contractor does not own automobiles, Contractor agrees to maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Auto Liability policy. Automobile coverage is only necessary if vehicles are used in the provision of services under this Contract and/or are brought on a COR site.

Worker's Compensation & Employers Liability – Contractor agrees to maintain Worker's Compensation Insurance in accordance with North Carolina General Statute Chapter 97 with statutory limits and employees liability of no less than \$1,000,000 each accident.

Additional Insured – Contractor agrees to endorse the City as an Additional insured on the Commercial General Liability, Auto Liability and Umbrella Liability if being used to meet the standard of the General Liability and Automobile Liability. The Additional Insured shall read '**City of Havelock is named additional insured as their interest may appear**'.

Certificate of Insurance – Contractor agrees to provide COR a Certificate of Insurance evidencing that all coverages, limits and endorsements required herein are maintained and in full force and effect, and Certificates of Insurance shall provide a minimum thirty (30) day endeavor to notify, when available, by Contractor's insurer. If Contractor receives a non-renewal or cancellation notice from an insurance carrier affording coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify the City within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is no longer in compliance.

The Certificate Holder address should read:

City of Havelock

1 Governmental Avenue Havelock, NC 28532

Umbrella or Excess Liability – Contractor may satisfy the minimum liability limits required above under an Umbrella or Excess Liability policy. There is no minimum Per Occurrence limit of liability under the Umbrella or Excess Liability, however, the Annual Aggregate limits shall not be less than the highest ‘Each Occurrence’ limit for required policies. Contractor agrees to endorse City of Havelock as an ‘Additional Insured’ on the Umbrella or Excess Liability, unless the Certificate of Insurance states the Umbrella or Excess Liability provides coverage on a ‘Follow-Form’ basis.

Professional Liability – Limits of no less than \$1,000,000 each claim. This coverage is only necessary for professional services such as engineering, architecture or when otherwise required by the City.

All insurance companies must be authorized to do business in North Carolina and be acceptable to the City of Havelock.

***** END OF SECTION*****