

Bid Notice

Sealed bids will be received by the City Manager of the City of Seaford, 414 High Street, Seaford, DE 19973, until 3:15 p.m., prevailing time on Wednesday, May 4, 2022 for **“Mainline Sewer Camera.”** All bids will be opened in the City Hall Council Chambers and read aloud at this time. The City Manager and staff will then evaluate them for compliance.

The bids may be presented to the Mayor and Council at their regular meeting on May 10, 2022 at 7:00 p.m., in the City Hall Council Chambers, 414 High Street. They may be awarded at this time. The Mayor and Council reserve the right to reject any and all bids.

Bids must be submitted in a sealed envelope, addressed ATTN: Charles Anderson, City Manager, City of Seaford, P.O. Box 1100, Seaford, DE 19973. The outside of the envelope must be marked **“Attn: City Manager, Mainline Sewer Camera,”** and the bidder's name shall be shown thereon. All proposals must be made on the bid form provided in the specifications. All proposals must conform to the bid documents. Faxed or e-mailed bids will not be accepted. Any exceptions will be evaluated for suitability and acceptance is at the sole discretion of the owner.

Complete specifications and contract documents will be available at the City of Seaford, 414 High Street, Seaford, Delaware 19973. Copies may be obtained by calling Berley Mears, Director of Public Works at (302) 629-8307 or Ashley Heinicke, City Clerk at (302) 629-9173

No bids may be withdrawn after the scheduled time from the receipt of bids for a period of thirty (30) days. The City of Seaford reserves the right to reject any and all bids and to waive any or all informalities in any bid or bids.

City of Seaford

Charles Anderson
City Manager

INFORMATION FOR BIDDERS

BIDS will be received by the City of Seaford (herein called the "Owner") at the office of the **City Manager, City Hall, 414 High Street, Seaford, Delaware until 3:15 p.m., prevailing time, on Wednesday, May 4, 2022**, and then at said location publicly opened and read aloud.

Each BID must be submitted in a **sealed envelope**, addressed to the City Manager, City of Seaford, City Hall, P.O. Box 1100, Seaford, DE 19973. Each sealed envelope containing a bid must be **plainly marked on the outside as "Attn: City Manager – Mainline Sewer Camera" and the envelope should bear on the outside the name of the BIDDER and their address**. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the OWNER. Any BID received after that time and date specified shall not be considered.

All BIDS must be made on the required BID proposal form. All blank spaces for BID prices must be filled in, in ink, or type written, and the BID form must be fully completed and executed when submitted. One copy of the BID form is required. BIDS and/or alternate bids submitted by FAX or e-mail will not be accepted.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of the BIDS or authorized postponement thereof. No BIDDER may withdraw a BID within thirty (30) days after the actual date of the opening thereof.

BIDDERS must satisfy themselves of the accuracy of the required work in the BID documents by a review of the CONTRACT DOCUMENTS. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the location, use of property or conditions outlined in the CONTRACT DOCUMENTS.

Information obtained from an officer, agent or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the VENDOR or relieve them from fulfilling any of the conditions of the contract.

The OWNER may make such investigation as they deem necessary to determine the ability of the BIDDER to provide the necessary EQUIPMENT and the BIDDER shall furnish to the OWNER all such information for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigations of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement. A conditional or qualified BID will not be accepted.

Award may be made to the lowest, responsible BIDDER. The Mayor and Council reserve the right to reject any and all bids. **The bids may be presented to the Mayor and Council at their Regular Meeting on May 10, 2022, at 7:00 p.m., in City Hall Council Chambers, 414 High Street, Seaford, DE.**

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Information for Bidders

Sewer camera is to be delivered within a maximum of sixty (60) days of contract award. Please note on the bid sheet the projected delivery date.

Each BIDDER is responsible for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure of the BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation respective to their BID.

Please send any questions to Berley Mears, Public Works Director, at bmears@seafordde.com or call 302.629.8307.

Detailed Specifications

Sealed bids are being accepted for the purchase of a complete Mainline Sewer Camera packaged system as outlined herein. The intent is to contract with one vendor for the complete turn key unit with all specified equipment, accessories, and training.

System Controller

An all-in-one control unit shall be supplied with the system. The controller shall include the following overall features at a minimum:

- Case designed for durability and shock resistance
- 8.4" minimum color display
- Dimensions not to exceed 18" x 12" x 5" in any direction
- Weight not to exceed 8 pounds
- I/O section with the following minimum connections:
 - Cable output to TV cable reel
 - (2) USB 3.0 ports
 - BNC connector for auxiliary video output
- All switches to be weather-resistant membrane-style
- An extended length tether for reel connection shall be included, 30ft minimum
- A camera control section shall be included and have the following features at a minimum:
 - Axial rotation control
 - Pan/tilt rotation control
 - Zoom control
- A transporter control section shall be included and have the following features at a minimum:
 - Speed control dial
 - Forward / reverse/ stop controls
- A reel speed control dial shall be included.
- A digital recording system shall be included for recording of inspection video. The video recording system shall include the following at a minimum:
 - Recording capability in MPEG4 compression
 - Typical recording functional controls (record, stop, pause, fwd/back)
 - Feature selection button(s), on-screen menus preferred
 - Still frame capture control
 - File storage via I/O panel USB port

The inspection system shall include a data display module and report writing "overlay" system. This system is to place pipeline condition messages on the screen for recorded video. The overlay system shall have a detachable QWERTY keyboard for data entry.

DETAILED SPECIFICATIONS

- The system shall have the following operational features at a minimum:
 - Menu-driven on-screen instructions
 - User-definable preset defect codes
 - Stored memory shall not rely on battery backup
 - Characters must be selectable in black or white text
 - Distance must display in tenths of feet accuracy
 - Basic screen display must include time, date, pull direction, (3) lines of user-definable text, and distance. The characters must be movable to different on-screen user-preferred locations.
- The reporting function shall include user-definable fields for the following header data:
 - (3) lines of user-definable text
 - Inspection date
 - Area
 - Location
 - Upstream manhole
 - Downstream manhole
 - Supervisor
 - Sewer type
 - Surface
 - Inspection length
 - Pipe type
 - Pipe size
 - Pipe length
 - Operator
 - Inspection
 - Work order
- Defects can be listed individually by either distance or associated pre-programmed code

Pan and Tilt Zoom Camera

- A color pan and tilt view camera shall be supplied. The camera shall use directional long-life-rated LED light sources to provide adequate pipe wall illumination in sizes up to 36".
- The camera shall have the following operational features at a minimum:
 - Usable in 6" pipes and larger
 - Transmits a color video signal through at least 1200' of multi-conductor cable
 - Designed with solid-state circuitry to withstand shock and vibration
 - Operates in climatic conditions from at least 0 °C to 50 °C with 100% RH

DETAILED SPECIFICATIONS

- The camera module shall have the following electronic features at a minimum:
 - CMOS sensor
 - **Collection matrix of 1945h x 1097v pixels, total of 2.13MP**
 - 720h TV lines of resolution
 - NTSC color image scanning - 525 lines a 60Hz, 2:1 interlaced
 - **Minimum illumination sensitivity of 0.05lux, with (4) user-selectable preset shutter settings**
 - Automatic light-compensating iris, with manual override
 - White balance optimization with minimum (4) user-selectable presets
 - Regulated DC power input range of 20-60V
 - Software resident on upgradeable EEPROM
 - 10x optical, 12x digital, 120:1 total zoom
 - Proportionally slowed camera movements when zooming
 - ½" to ∞ automatic focus, with manual override
- The camera chassis shall have the following electromechanical features at a minimum:
 - Overall length of 7½" or less
 - Head diameter of 3½" or less
 - Stainless steel and anodized aluminum construction
 - Infinite camera head axial rotation
 - **Infinite camera head pan/tilt rotation**
 - **Lens wiper system for clearing debris from lens during inspection**
 - Pan and tilt angle to view backward a minimum of 45°
 - Military-rated gold slip ring contacts
 - Scratchproof sapphire camera window
 - Sealed keyed military connector with gold plated contacts
 - DC motors with planetary gears, ball bearings, power all camera motions, with clutches to protect from overloads and impacts
 - Redundant dirt and pressure seals at all moving joints
 - **Automatic home feature to upright forward viewing, with forks at top and bottom of camera head**
 - Qty.6 minimum user-selectable location presets
 - Qty.2 minimum user-selectable scanning presets
 - Fast-check LED indicator for low camera head pressure
- The camera lighting system shall have the following features:
 - **Light emitting diode (LED) light sources, lifetime rated for 10,000 hours of use**
 - A maintenance-free directional true color warm white LED module for operation up to 36" pipelines

DETAILED SPECIFICATIONS

- Maintenance-free forward facing true color warm white LED modules, positioned in the arms of the camera
- Field-replaceable polycarbonate LED windows

The City of Seaford has evaluated different cameras and has determined that a 10,000-hour life rated LED light source is the only acceptable light source. Cameras that offer lighting through any style incandescent bulb with substantially shorter life ratings will be deemed unacceptable.

- The camera shall be equipped with the following diagnostic and safety features:
 - Internally pressurized with dry nitrogen to a minimum of 15psi
 - A set of diagnostic telemetry, including:
 - Camera module regulated Voltage
 - Light head current
 - Camera model, serial number, and software revision level
 - Internal camera head pressure
 - Operating hours

The City of Seaford has evaluated different cameras and has determined that only cameras with the aforementioned safety devices are acceptable.

- The camera shall include a field pressurization kit including:
 - Dry nitrogen pressurized container
 - Pressure delivery regulator
 - Pressure meter for system
 - Pressure delivery trigger
 - Enclosed valve port design

The City of Seaford has evaluated different cameras and has determined that only cameras with an enclosed pressurization valve port will be considered acceptable. Cameras that employ a design that allows a standard automotive-type air chuck to be attached shall be deemed unacceptable due to the possibility of over-pressurizing the system without proper equipment.

- The camera shall be shipped with a damage-resistant case. The case shall have foam lining, allowing shipping on commercial carriers.

Wheel Drive Steerable Transporter

- A remotely controlled steerable wheeled transporter shall be supplied. The transporter system shall be able to propel an inspection camera through relined 6" to 36" pipes to a distance of up to 1000' from point of entry.

DETAILED SPECIFICATIONS

- The transporter shall have the following operational features:
 - Usable in 6" relined pipes and larger
 - Capable of remotely lifting the camera head a minimum of 4"
 - Capable of free-wheeling, allowing retrieval by cable and reel combination
 - Capable of driving around debris or other obstacles in a pipeline
 - Capable of transporting a standard pan and tilt or mini-mainline camera
- The transporter shall have the following electronic features:
 - Continuous duty rated brushless drive motors, (1) motor per side
 - Transporter shall accept controls from system power control unit transmitted through a maximum of 1000' of cable
 - Complete solid-state design
 - No exposed wires shall be acceptable for the light head, camera, or lift operation
 - Articulated rear cable connector for added cable strain relief
 - Rearward viewing color camera with LED lighting, for viewing behind tractor during and inspection
 - Integral 512 Hz transmitting beacon
 - Auxiliary LED lighthouse for use in large pipes
- The transporter shall have the following mechanical features:
 - Maximum overall length of 16" including rear connector and miniature camera
 - Forward attachment for mounting miniature pan and tilt camera
 - Replaceable O-ring seals at all field-serviceable joint locations
 - Remotely-operated camera lifting mechanism with minimum 4" lift and integral design to tractor body
 - A transmission that includes:
 - Gears in oil bath for maximum cooling and lubrication
 - Neutral position to freewheel during retrieval
 - Heavy duty worm drive gear to absorb drive line shock
 - An enclosed drive train that includes:
 - (Qty.6) 3" wheels for use in 6" relined pipe
 - (Qty.4) 4" wheels for use in 8" to 18" un-relined lines
 - (Qty.4) 4" wheels with extended hubs for use in 12" pipes and larger
 - (Qty.4) 5" wheels with extended hubs for use in larger pipes
 - (Qty.4) 5" extended hub double wide "dually" wheels with extended hubs
 - (Qty.2) 3" wheels with carbide grit impregnation
 - (Qty.2) 4" wheels with carbide grit impregnation
 - (Qty.2) 4" wheels with extended hub and carbide grit impregnation
 - (Qty.2) 5" wheels with extended hub and carbide grit impregnation
 - All wheels must be interchangeable with a single fastener

DETAILED SPECIFICATIONS

The City of Seaford has evaluated different transporters and has determined that the following characteristics must be present in the transporter mechanisms to be acceptable:

- Articulated rear cable connector
- Overall length less than 16”
- Rear viewing camera to prevent cable entanglements
- Free wheeling capability during retrieval
- The transporter shall include a field pressurization kit including:
 - Dry nitrogen pressurized container
 - Pressure delivery regulator
 - Pressure meter for system
 - Pressure delivery trigger
 - Enclosed valve port design

The City of Seaford has evaluated different cameras and has determined that only transporters with an enclosed pressurization valve port will be considered acceptable. Transporters that employ a design that allows a standard automotive-type air chuck to be attached shall be deemed unacceptable due to the possibility of over-pressurizing the system without proper equipment.

- An add-on kit shall be supplied for the inspection of lines larger than 15”. The add-on kit shall include:
 - A pair of rails that install directly to the side of the transporter including reduction gearing for larger wheels
 - (Qty.4) 8” wheels that allow for inspections in 15” pipes and larger
- A spare parts kit shall be included with the unit that includes all parts that are expected to be replaced in the field. The kit shall also include any tools that are regularly needed in the servicing of the transporter.
- The transporter shall be shipped with a damage-resistant case. The case shall include a foam cradle, with solid exterior construction.

Transmission Cable and Mobile Reel System

- A portable reel with multi-conductor cable shall be supplied. The cable shall be used for closed circuit video transmission as well as retrieval of the downhole equipment. The reel shall be capable of providing adequate force to the cable for equipment retrieval.
- The reel shall have the following features:
 - High strength aluminum construction with anodized finish

DETAILED SPECIFICATIONS

- Cable storage drum and frame handle(s)
- Overall dimensions 18" x 26" x 30" maximum in any direction
- Weight not to exceed 125 pounds when fully loaded with cable
- Clutch system with freewheeling capability and manual override
- Mechanical drive chain between clutch and drum
- All chains and linkages enclosed and safety labeled
- Low friction greased bearings to minimize drag
- Cable level wind that automatically lays cable evenly across drum with manual override
- Removable drip pan under cable drum
- Electronic encoder to send distance data to display system, $\pm 2\%$ accuracy minimum
- Sealed continuous gold alloy contact slip ring assembly with the following features:
 - Voltage range from 1 μ V to 460V
 - Current range from 1nA to 25A
 - Pulse DC frequencies to 100MHz
 - Corrosion proof and maintenance free
 - 12 circuits minimum
 - Control cabinet with universal input power supply
 - Design to include casters and mounting pegs on the bottom of the reel assembly
- Detachable cable guide with directional roller and locking positions

The City of Seaford has evaluated different reels and has determined that the following characteristics must be present in the camera electronics to be acceptable:

- Gold contact slip rings
- All mechanical drive mechanism (drives with solenoids are deemed unacceptable)
- Enclosed drive assembly
- Free wheeling capability
- The cable shall have the following features:
 - Continuous length of 1000' minimum
 - Diameter of 0.28" minimum
 - Rated breaking strength of 1200 pounds minimum
 - Outer jacket of low-friction abrasion-resistant material
 - Continuous length terminated at resin-free 12-pin connector
 - Construction of (10) separate conductors of adequate gauge for delivering power and control signals to downhole equipment
 - Termination to field-replaceable resin-free sealed tapered connector
- The cable shall also include a repair kit for repairing the termination.

DETAILED SPECIFICATIONS

Downhole Guide System

- A downhole guide system shall be supplied for guiding and protecting the cable between the inspection system and the pipe. The system shall include the following devices at a minimum:
 - Topside roller with aluminum roller and steel frame
 - Durable plastic “tiger tail” ribbed downhole cable protector with tie rope
 - (Qty. 30') of fiberglass poles for attaching to downhole roller, quick-lock detachable sections
 - Hook for attaching to poles allowing for roller to be hung from manhole ring
 - Extraction pole assembly for lifting equipment from manhole or culvert, including:
 - Tractor lifting eye with attachment hardware

Training

- Within 30 days of delivery, a qualified factory representative shall fully instruct appointed personnel in the operation and maintenance of the sewer inspection equipment specified. At a minimum, this instructional course shall be one (1) day in duration. Topics covered shall include operational procedures, maintenance procedures, and safety procedures. Data handling procedures shall also be discussed, tailored to the data system specified. The required training shall be on-site at the City of Seaford Utility Building located at 8000 Herring Run Road, Seaford, DE.

Instructional Materials

- The following instructional materials must be delivered with the system:
 - Master set of equipment manuals, matched to specified system equipment
 - Copy set of equipment manuals, TV system only, matched to specified system equipment

Maintenance Kit

- A maintenance kit shall be included with delivery of the system. This kit shall include all the necessary common tools needed in the normal course of maintenance of the TV system equipment specified. Tools should include at a minimum:
 - Adjustable wrench
 - Combination wrench set
 - Allen wrench set
 - Side cutter pliers
 - Long nose pliers
 - Channel lock pliers

DETAILED SPECIFICATIONS

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- Vise-Grip pliers
- Screwdriver set including flat blade and Phillips
- 5/16 nutdriver
- Soldering iron
- Roll of 60/40 resin core solder
- Multimeter with AC and DC voltage, resistance, and continuity signal
- Wire cutter with terminal crimper
- Utility knife
- Electrical tape
- Any other Manufacture specific tool required for their system

Warranty

- The TV inspection system shall be warranted against manufacturing defects for a period of (12) months from the date of delivery at a minimum. Any installed equipment warranties that extend beyond this period (e.g. a vehicle 36 month / 36000 mile warranty) shall be passed on to the City of Seaford by the TV system manufacturer.

Delivery

- The system shall be delivered to the City of Seaford in first-class operating condition. Acceptance of the system shall be subject to inspection and approval by City personnel. The system shall be delivered to City of Seaford Utility Building located at 8000 Herring Run Road, Seaford, DE, during regular business hours Monday through Friday, excluding Holidays observed by the City.

An award will be considered to the qualified contractor who presents the proposal with the lowest cost that fully meets the required specifications. Experience will also be a factor in considering the award of the contract.

**BID PROPOSAL FOR
The City of Seaford – Mainline Sewer Camera**

To: City Manager
City Hall
414 High St.
Seaford, DE 19973

Gentlemen,

Proposal of _____ (hereinafter called "Bidder"), organized and existing under the laws of the State of Delaware doing business as _____ (insert "a corporation" "partnership", or "an individual" as applicable) to the City of Seaford, Delaware (hereinafter called "Owner.")

Camera must meet all specifications within in these bid document. Please note on a separate sheet which specifications, if any, that the unit proposed does not meet.

By submission of this BID, each BIDDER certified, and in the case of a joint BID each party thereto certified as to his own organization, that this BID has been arrived at independently, without consultation, communications, or agreement as to any matter relating to this BID, with any other BIDDER or with any competitor.

Furnish & install all materials and labor for the prices stated below:

MAINLINE SEWER CAMERA SYSTEM

TOTAL BID AMOUNT \$ _____

PROPOSED DELIVERY DATE _____

Officer of Company (please print or type)

E-mail Address

Title

Date

Signature

Phone Number

Business Address

Cell Phone Number