

# County of Henry

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MEMBER OF  
VAGP  
NIGP

PURCHASING DEPARTMENT

**JUNE 29, 2022**  
**REQUEST FOR PROPOSAL**  
**RFP # 22-07283-A266**  
**HENRY COUNTY PURCHASING DEPARTMENT**

The Henry County Public Service Authority (PSA) solicits firms to submit proposals for “Maintenance Management System.” The original and ten (10) submittals (FOR A TOTAL OF ELEVEN (11) PROPOSALS), and one (1) USB Flash Drive (see page 2 Proprietary Information Requirements) marked “Maintenance Management System” RFP #22-07283-A266 will be received in a sealed envelope not later than **3:00 p.m., Local Prevailing Time, JULY 28, 2022, in the:**

**Purchasing Department, Room 210**  
**Attn: Carole Jones, Chief Purchasing Agent**  
**Henry County Administration Building**  
**P.O. Box 7, Collinsville, VA 24078 (Postal Service) or**  
**3300 Kings Mountain Road, Martinsville, VA 24112 (UPS or FedEx).**

Facsimile and/or electronic proposals will not be accepted. Proposals received after the announced time and date of receipt, by mail or otherwise, will be returned unopened. **If the County closes its offices due to inclement weather or for other reasons, the scheduled Request for Proposal submission deadline will be extended to the first open business day at the same time, unless an addendum is done that states otherwise.** Nothing herein is intended to exclude any responsible firm or in any way restrain or restrict competition.

On the contrary, all responsible firms, small, local, faith-based, women-owned and minority-owned, (SWAM) are encouraged to submit a proposal.

The County/PSA reserves the right to reject any or all of the proposals, to waive informalities and to award in part or in whole any or all proposals to multiple vendors or a single vendor as a result of this solicitation. Any proposal submitted **MUST** be signed by an individual authorized to bind the offeror.

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Enclosed is a ***“Proposal Requirements and Non-Collusion Statement”*** that must be signed and returned with the proposal or proposal may be rejected.

If you desire not to quote on this proposal, please forward your acknowledgement of NO PROPOSAL SUBMITTED to the above address. Otherwise, your name shall be removed from our vendors list after three (3) non-responses.

**Proprietary Information Requirement**

Any proprietary information submitted by a vendor shall be in a separate sealed envelope and duly marked as proprietary along with the RFP number and company name. A cover sheet must be attached on the front of all proprietary documents, within the envelope, stating the reason why protection is necessary. No vendor is allowed to mark their entire Request for Proposal (RFP) as proprietary per the Code of Virginia 2.2-4342 (F).

Also, if a USB Flash Drive is required it shall have proprietary information listed in separate documents on the Flash Drive, from the rest of the RFP and be clearly named as proprietary documents. If these requirements are not met then the vendor may be rejected for not complying. All other documents are subject to the Freedom of Information Act and open to public viewing.

**Contract Period**

A notice of award will be signed and publicly posted in the County/PSA of the Purchasing Office once this RFP has been awarded. The date on the notice of award will be when the RFP becomes effective (not date of service). Initial contract shall be good for **the terms set forth on page 7 of this proposal**. Under the VA Procurement Act, the County/PSA reserves the right to negotiate extending this contract for not more than one (1) additional year after original contract terms. **The above terms shall override any other written terms in this RFP and/or verbal comments made during negotiations, unless authorized by Chief Purchasing Agent.**

**Piggy Back Clause**

This contract shall be available for piggy backing for any other state and local agency or government agency.

**Illegal Aliens**

Vendor promises they will not hire illegal aliens. By signing this proposal document the vendor confirms this promise.

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**Permits/Licenses**

Vendors shall be responsible for acquiring all the proper permits/licenses required by local and state authorities in conjunction with this proposal. Proposal prices shall include these fees and no additional costs are to be assessed to the County/PSA. Vendor's attention is directed to the requirements of title 54, chapter 11, of the code of Virginia pertaining to registration of contractors. (if applicable)

**Contact for RFP**

Please contact Mike Ward at [mward@co.henry.va.us](mailto:mward@co.henry.va.us) for any questions pertaining to this RFP.

**SPECIAL TERMS AND CONDITIONS**

During the performance of any contract awarded pursuant to this RFP, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin, or handicaps, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the operation of the contractor. The Contractor agrees to post in conspicuous places, available to provisions of this nondiscrimination clause.
- B. The Contractor, in all solicitations or advertisements for employees placed on behalf of the contractor, will state that such contractor is an equal opportunity employer.
- C. Notices, advertisements, and solicitations placed in accordance with federal law, rule or regulations shall be deemed sufficient for the purpose of meeting the requirements of this section.

The Contractor shall include in provisions of the foregoing paragraph A, B, and C in every subcontract or purchase order over \$10,000 so that the provisions will be binding upon each subcontractor or vendor.

**PROPOSAL REQUIREMENTS AND NON-COLLUSION STATEMENT**

My signature certifies that the proposal as submitted complies with all Terms and Conditions as set forth. My signature also certifies that the accompanying proposal is not the result of, or affected by, any unlawful act of collusion with another person or company engaged in the same line of business or commerce, or any act of fraud punishable under Title 18.2, Chapter 12, Article 1.1 of the Code of Virginia as amended. Futhermore, I understand that fraud and unlawful collusion are crimes under the Virginia Governmental Frauds Act, the Virginia Bid Rigging Act, and Virginia Antitrust Act, and Federal Law, and can result in fines, prison sentences, and civil damage awards.

I hereby certify that I am authorized to sign as a Representative for the Firm:

NAME OF FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

SIGNATURE \_\_\_\_\_

NAME (TYPE/PRINT) \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

TELEPHONE(     ) \_\_\_\_\_

FAX(     ) \_\_\_\_\_

**RFP# 22-07283-A266**

SINCE BECOMING EFFECTIVE ON JULY 1, 2007, HENRY COUNTY HAS REQUIRED ALL VENDORS TO ABIDE BY THE FOLLOWING LEGISLATION.

CODE OF VA § 22.1 - 296.1

PROVIDES THAT AS A CONDITION OF AWARDED A CONTRACT FOR THE PROVISION OF SERVICES THAT REQUIRE THE CONTRACTOR OR HIS EMPLOYEES TO HAVE DIRECT CONTACT WITH STUDENTS ON SCHOOL PROPERTY DURING REGULAR SCHOOL HOURS, THE SCHOOL BOARD MUST REQUIRE THE CONTRACTOR TO PROVIDE CERTIFICATION THAT ALL EMPLOYEES WHO WILL HAVE DIRECT CONTACT WITH STUDENTS HAVE NOT BEEN CONVICTED OF A VIOLENT FELONY SET FORTH IN THE DEFINITION OF BARRIER CRIME IN SUBSECTION A OF § 19.2 - 392.02; ANY OFFENSE INVOLVING THE SEXUAL MOLESTATION OR PHYSICAL OR SEXUAL ABUSE OR RAPE OF A CHILD; OR ANY CRIME OF MORAL TURPITUDE. THE BILL ALSO PROVIDES THAT THE REQUIREMENT BE WAIVED IN EMERGENCY SITUATIONS WHEN IT IS REASONABLY ANTICIPATED THAT THE CONTRACTOR OR HIS EMPLOYEES WILL HAVE NO DIRECT CONTACT WITH STUDENTS.

PLEASE INDICATE APPROPRIATE BOX BELOW.

\_\_\_\_\_ I AGREE TO ABIDE BY LEGISLATION CODE OF VA § 22.1 - 296.1.

\_\_\_\_\_ THIS LEGISLATION DOES NOT APPLY TO THIS SOLICITATION.

THE AWARDED VENDOR MAY BE REQUIRED TO PROVIDE ADDITIONAL PAPERWORK BUT ONLY A SIGNATURE IS NECESSARY AT THIS TIME.

\_\_\_\_\_  
AUTHORIZED VENDOR SIGNATURE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
PRINTED NAME AND TITLE

**Subcontractor Information**

**Must fill form out completely even if no subcontractors are being used.**

You must check appropriate box below and list any subcontractors that will be used for this RFP# 22-07283-A266 for Maintenance Management System.

\_\_\_\_\_ I will be using subcontractors. (See list below)

\_\_\_\_\_ I may or may not be using subcontractors. Not sure at this time. If you are the awarded vendor, you are responsible for contacting Commissioner of Revenue's Office at (276-634-4691) with subcontractor information. Payment of invoices is contingent upon receiving required information.

\_\_\_\_\_ I will not be using subcontractors.

1.) Subcontractors Company Name \_\_\_\_\_

Contact Person \_\_\_\_\_ Telephone # \_\_\_\_\_

2.) Subcontractors Company Name \_\_\_\_\_

Contact Person \_\_\_\_\_ Telephone # \_\_\_\_\_

3.) Subcontractors Company Name \_\_\_\_\_

Contact Person \_\_\_\_\_ Telephone # \_\_\_\_\_

4.) Subcontractors Company Name \_\_\_\_\_

Contact Person \_\_\_\_\_ Telephone # \_\_\_\_\_

5.) Subcontractors Company Name \_\_\_\_\_

Contact Person \_\_\_\_\_ Telephone # \_\_\_\_\_

6.) Subcontractors Company Name \_\_\_\_\_

Contact Person \_\_\_\_\_ Telephone # \_\_\_\_\_

**Vendors Company Name** \_\_\_\_\_

**Vendors Authorized Signature** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Vendors Telephone #** \_\_\_\_\_ **Federal ID #** \_\_\_\_\_

\*Note- Add a separate sheet if you need additional space for subcontractors.

**HENRY COUNTY PUBLIC SERVICE AUTHORITY  
COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM WITH  
ASSET AND OPERATIONS MANAGEMENT**

**1.1 SCOPE**

The Henry County PSA (HCPA) owns and operates water and wastewater facilities within Henry County, Virginia. The Henry County PSA is soliciting proposals from qualified vendors for providing and the implementation of an Asset Management/Computerized Maintenance Management System (AM/CMMS). The software system will incorporate existing data into a cloud based centralized maintenance, asset information, and facilitate the processes of maintenance operations. The system will be used by utility staff to generate an automated electronic maintenance system with work order generation, single source of asset technical information, asset condition and management that will increase staff efficiency. The system should also be able to maintain an inventory of assets in a hierarchal format and have the ability to rank assets for replacement using a risk based approach. The ideal system should include robust reporting to improve management decisions about each asset and asset class. The firms should propose options that will provide the optimum in system performance, system growth, system flexibility and reliability. The awarded firm shall include software license, installation, training, support and long-term maintenance in addition to services related to a full turn-key transition to an AM/CMMS.

**1.1a. TERM OF CONTRACT**

The Henry County PSA reserves the right to extend/broaden the scope of this RFP to the awarded vendor for this project and any future projects of the same/similar scope. This contract shall be for 10 years from the notice of award and extended on a year-by-year basis as necessary. The length of the yearly renewal contracts could last till June 30, 2032. This contract conforms with the Virginia Public Procurement Act and is allowed to be used by Henry County, Henry County Schools and other localities within the Commonwealth of Virginia.

## 1.2 DESCRIPTION

The HCPSA owns both water and sewer infrastructure as detailed in the chart below:

Henry County PSA List of Assets		
Water Main	375 miles	
Sewer Gravity & Force Main	243 miles	
Sewer Manholes	5,262 each	
Pressure Reducing Valves	45 each	
Booster Pump Stations	10 each	
Water Storage Tanks	13 each	
Sewer Lift Stations	17 each	
Water Filtration Plant	1 each	6 MGD
Sewer Pumping & EQ Facility	1 each	Koehler
Wastewater Treatment Plant	1 each	(LSR decommissioned 6 MGD)
Heavy Equipment & Generators	58 each	
Truck Fleet	22 each	
Sewer Lagoon System	2 each	0.04 MGD
Well Systems	3 each	

This project involves uploading existing utility system information to a cloud-based platform and the ability to easily upload new information into the system using GIS or configurable forms. The system would need to be the authoritative source for asset information and have the ability to view and edit asset attribute data. A water model has been completed in WaterGems and would need to be pulled over into the new system with all relevant data for access and use by staff. Forms related to data collection and work order systems will need to be customizable and easy to use. The HCPSA would like to implement the transition to an AM/CMMS in multiple phases with certain items needed first as a priority and to allow HCPSA staff to transition. The departments initially affected by these changes will be Engineering, Treatment Maintenance, Wastewater Operations, Water Operations, PSA Shop (water & sewer line maintenance) and Information Services.

### Phase I

- Backflow Prevention
- Lead service line inventories
- Vertical asset preventative and reactive maintenance work order system
  - Vertical assets including pumps, motors, valves, control systems, telemetry, building infrastructure
- Water Hydrant data and maintenance
- Sewer Manholes
- Sewer Lift Station Inspection

### Phase II

- Water Pressure Reducing Valves



- Horizontal assets preventative and reactive maintenance work order system
  - Horizontal assets include water and sewer lines and force mains
- Heavy equipment and truck fleet
- Grease trap inspection program
- Possibly Industrial pretreatment if existing data can be pulled over without much difficulty
- Air Release Valves for water and sewer

Phase III

- Incorporate risk based system to evaluate infrastructure and prioritize replacement time lines and cost.

**1.3 PROPOSAL CONTENT**

Each proposal addressing the scope of work shall be presented in a written report, which shall include, but not limited, to the following:

1. A statement of understanding of the work to be done and a description of the approach and procedures which will be employed in completing the project.
2. An implementation schedule giving length of time required to complete the project.
3. Brief outline of the firm's qualifications. Biographies, including professional experience of individuals who will be assigned to the project.
4. Project references within the past two years with names, addresses, and telephone numbers of person knowledgeable about quality of work on similar projects and who may be contacted for reference.
5. Software demonstrations based on the attached demo scripts
6. Project cost proposal must include the initial integration cost as well as charges per user (if applicable) and yearly subscription costs. Alternative or additional service costs not included in this RFP may be listed separately as "add on" items to be considered.

**1.4 Selection Criteria**

The HCPSA reserves the exclusive right to select or reject firms that it deems to be in its best interest to do so. The selection of the Company(s) to accomplish this project will be based on a point system with the following criteria:

1. The Firm's understanding of the HCPSA's needs and capability to successfully demonstrate the ability to complete the attached demonstration scrips, including the work involved and the overall responsiveness of the proposal. (10 points)
2. Quality of the Firm's technical approach, with emphasis on techniques for incorporating existing data into a GIS format to meet the HCPSA's needs. (10 points)

3. The quality and depth of the experience and expertise of the individual(s) who will do this work in providing similar successful assistance with other projects of similar nature. (10 points)
4. The Firm shall include resumes of key personnel assigned to the project, including the Project Manager. The proposal should specify the particular company office from which the work will be performed. (10 points)
5. The ability of the Firm to complete any aspect of this assignment in a timely manner. (10 points)
6. Software Demonstrations based on the attached demo scripts (30 points)
7. Results of reference checks. The firm shall include a list of references of similar projects with similarly sized utilities and services completed by the firm within the last five (5) years. List the name and telephone number of the utility managers that would be most familiar with the projects. A listing of the individuals assigned to these projects shall be provided. Should the Firm receive a negative reference, this may result in disqualification. At least three (3) references should be within a 200 mile radius of Henry County, VA. (10 points)
8. Project cost proposal must include the initial integration cost as well as charges per user (if applicable) and yearly subscription costs. Alternative or additional service costs not included in this RFP may be listed separately as "add on" items to be considered. (10 points)

## **1.5 Selection Process**

A selection committee will review all responses. Formal or informal discussions may take place with firms that the committee selects as the most qualified. The Henry County Public Service Authority reserves the right to final selection of the firm, waive informalities and/or irregularities, accept or reject any or all proposals for services and award the contract as deemed to be in the best interest of the HCPSA.

1.6 RFP Schedule

RFP Available to Firms	July 1, 2022
Questions Received Until 3:00 pm	July 22, 2022
Proposals due by 3:00 pm at Henry County	July 28, 2022
Demonstrations/Interviews	August 8 – August 12, 2022
Selection of Qualified Firm	August 19, 2022
Project Kick-Off	August 29, 2022
Completion of Initial Projects	November 29, 2022

For additional information, contact Mike Ward, Director of Regulatory Compliance and Technical Applications, at [mward@co.henry.va.us](mailto:mward@co.henry.va.us) or 276-634-2540.

# Henry County PSA CMMS Demo Scripts

The following demo scripts were prepared to demonstrate a Computerized Maintenance Management System for Henry County Public Service Authority (PSA). The vendor may use demo data or data that the PSA has provided before the demo. The PSA will send four (4) shape files that will help the vendor demonstrate the requirements in the demo script.

<b>Demo Specification: Data Management / Asset Inventory</b>	
<b>Data Source: Demo Data</b>	<b>Objectives: Asset Inventory Creation and Maintenance</b>
<p><b>Test Case #: 1</b></p> <p><b>Description:</b></p> <p>Add assets into the system inventory. The goal is to see the added asset reflected both spatially and in a tabular fashion. We would like to see the following:</p> <ul style="list-style-type: none"> <li>• Add an asset spatially</li> <li>• Is the added data part of the water network or not?</li> <li>• Does meta-data on the change reflect who added the data and when it was added/ edited?</li> </ul>	<p><b>Demo Steps:</b></p> <p>Add a new Pressure Reducing Valve (PRV) to the system along a water line.</p> <ol style="list-style-type: none"> <li>1) Enter the following attribute data:               <ol style="list-style-type: none"> <li>a. A unique id:                   <ol style="list-style-type: none"> <li>i. Can your system provide a unique id and how does that work?</li> </ol> </li> <li>b. Elevation of the PRV in feet.</li> <li>c. Label in text format.</li> <li>d. Pressure in decimal.</li> <li>e. Tracking on who added the data</li> <li>f. Tracking on when the data added /modified</li> <li>g. Information on how the data was added                   <ol style="list-style-type: none"> <li>i. Can your system use domains or drop-downs?</li> </ol> </li> </ol> </li> <li>2) Show the added record on a map.</li> <li>3) Show the added record in a table.</li> </ol>

1-2	<p>Modify attributes that are already in the system. We are looking to see the following:</p> <ul style="list-style-type: none"> <li>• Changes from a map.</li> <li>• Changes from a tabular display.</li> <li>• Does the "last edited date" change?</li> <li>• Does the "who edited" field change?</li> <li>• How are changes tracked?</li> </ul>	<p>Select a Pressure Reducing Valve (PRV) with the goal of changing attributes:</p> <ol style="list-style-type: none"> <li>1) Modify the elevation to 745' from the map.</li> </ol>
1-3	<p>We would like to see how spares in a parent child relationship are handled. In this scenario a large valve is removed from one location, refurbished, and placed in another location. We want to track and maintain the work history and location of the valve as it moves from one location to the other. We are looking to see the following:</p> <ul style="list-style-type: none"> <li>• Does the work history follow the valve?</li> <li>• What happens to the useful life of the valve?</li> <li>• How are changes tracked?</li> <li>• Can we track location history?</li> </ul>	<p>Create a work order to refurbish a valve, perform work on the valve, and relocate the valve to a new location.</p> <ol style="list-style-type: none"> <li>1) Create a work order to refurbish a Pressure Reducing Valve (PRV).</li> <li>2) Open the work order, virtually do the work, and close the work order.</li> <li>3) Place the refurbished valve in a new location</li> <li>4) Show the complete history of the valve</li> <li>5) Show the location history of the valve</li> </ol>

1-4	<p>We would like to see how work that is not on an asset is tracked. In this script we want to see how a flooding incident is handled. We would like to see the following:</p> <ul style="list-style-type: none"> <li>• The location of the work order</li> <li>• The resolution</li> <li>• Heat Mapping</li> </ul>	<p>There is flooding at the Intersection of Pine St. &amp; Seventh St., Fieldale. Send a crew out to explore what might be causing the flooding.</p> <ol style="list-style-type: none"> <li>1) Create a work request to explore the flooding and assign it to a crew.</li> <li>2) Show the work request on a map</li> <li>3) Query for all SSO work request on the map</li> <li>4) Query for all SSO work requests in a tabular format</li> <li>5) Show potential duplicate work requests at the Intersection of Pine St. &amp; Seventh St., Fieldale</li> </ol>
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## Demo Specification: Work Management

Data Source: Demo Data		Objectives: Relationship of Work Request and Work Orders
Test Case #:	Description:	
2-1	<p>Build on Test Case 1-4 and show how work management takes place. We are looking to see the following:</p> <ul style="list-style-type: none"> <li>• How a service request can be created from a citizen portal</li> <li>• How a service request can be input through a mobile application by a crew member</li> <li>• How a service request can be entered using mapping to highlight the location of the flood</li> </ul>	<p>Demo Steps:</p> <p>Create a work request for flooding in the road</p> <ol style="list-style-type: none"> <li>1. Enter citizen information</li> <li>2. Enter information of incident               <ul style="list-style-type: none"> <li>• location of the call / incident</li> <li>• Request code for the incident</li> </ul> </li> <li>3. Assign Crew(s) to investigate the call</li> </ol>
2-2	<p>Show an investigate Sanitary Sewer Overflow (SSO) work request and a scenario where the work request gets closed since there was no work to be performed.</p> <ul style="list-style-type: none"> <li>• Show Equipment, Labor and Material (ELM) tracking</li> <li>• Show a scenario where no work order is created "the call was a garden hose that wasn't shut off" but time and equipment was still tracked</li> </ul>	<p>Close the work request for flooding in the road</p> <ol style="list-style-type: none"> <li>1) Enter citizen information</li> <li>2) Enter information of incident</li> <li>3) Respond to the citizen the discovery, "garden hose that wasn't shut off"</li> <li>4) Enter Equipment, Labor and Material (ELM)</li> </ol>

2-3	<p>Show an investigate Sanitary Sewer Overflow (SSO) work request and a scenario where the work request gets turned into a SSO work order.</p> <ul style="list-style-type: none"> <li>• Can water shut-off be automated e-mail based on a citizen database?</li> <li>• We will show reporting of this SSO in another script.</li> <li>• Can many work requests be aggregated into one work order?</li> </ul>	<p>Investigate the SSO Work Request incident into a work order that will eventually be turned into the DEQ for SSO Tracking</p> <ol style="list-style-type: none"> <li>1) Turn the work request into a work order upon discovering that the flooding on Intersection of Pine St. &amp; Seventh St., Fieldale is actually a SSO that has dumped 6000 gallons of sewage into Jordan Creek.</li> <li>2) Assign a priority to the work order</li> <li>3) Assign a Crew(s) to replace a collapsed clay pipe</li> <li>4) Notify Citizens that water will be shut off</li> <li>5) Assign Equipment, Labor and Materials to the job</li> <li>6) Assign failure code and take notes on the job</li> <li>7) Close the work order</li> </ol>
2-4	<p>Show the number of types of work request called in by citizens.</p>	<p>Monthly Reporting:</p> <ol style="list-style-type: none"> <li>1) Create a report or dashboard where the number of citizen calls is tracked by work request code</li> <li>2) Show a spatial relationship between calls</li> </ol>



<b>Demo Specification: Preventative Maintenance Work Management</b>	
<b>Data Source: Demo Data</b>	<b>Objectives: Recurring Work Orders</b>
<b>Test Case #:</b> 3	<b>Demo Steps:</b>
3-1	<p>Create a scheduled work order for instrument calibration</p> <p>Create a recurring work order for instrument calibration that occurs every 6 months</p> <ol style="list-style-type: none"> <li>1) Assign labor and materials to the work order</li> <li>2) Track tasks on work</li> <li>3) Assure the work-order reoccurs 6 months in the future</li> </ol>
3-2	<p>Report on work performed and upcoming calibration activities</p> <p>Generate .pdf report on the calibrations that have been completed and upcoming maintenance activities for instrument calibration</p>

<b>Demo Specification: Work Order and Inspection Relationship</b>	
<b>Data Source: Demo Data</b>	<b>Objectives: Show the relationship between work orders and inspections</b>
<b>Test Case #:</b> 4	<b>Demo Steps:</b>
4-1	<p>Create a scheduled work order for sanitary sewer CCTV for root control lines.</p> <ul style="list-style-type: none"> <li>• Can the work order be pushed to GraniteNet?</li> <li>• Can the system add or delete to the root list</li> </ul> <p>Create a recurring work order for sanitary sewer CCTV that occurs every year</p> <ol style="list-style-type: none"> <li>1) Assign labor and materials to the work order</li> <li>2) Track tasks on work</li> <li>3) Add a root line to the inspection work order</li> <li>4) Delete a root line from the inspection work order</li> <li>5) Assure the work-order reoccurs 12 months in the future</li> </ol>

4-2	<p>Report on work performed and upcoming root control activities.</p> <ul style="list-style-type: none"> <li>• Show how work can be assigned to a crew.</li> <li>• How does the crew get notified of that work for next week?</li> <li>• Is there a dashboard where a crew can see its weekly schedule?</li> </ul>	<p>Generate .pdf report on the root control lines that have been completed, and upcoming maintenance activities for CCTV of problem areas.</p> <ol style="list-style-type: none"> <li>1) Add a single root removal work order after the inspection</li> <li>2) Assign the work order to a crew and schedule the maintenance for next week.</li> </ol>
4-3	<p>Open inspection from work order</p> <ul style="list-style-type: none"> <li>• Show how to open inspection from GIS.</li> <li>• Show inspections on mobile devices.</li> <li>• Can inspections use PACP / MACP?</li> <li>• Do inspections integrate and sync with Granite Net CCTV Software?</li> </ul>	<p>Open a CCTV inspection from a work order and / or a map</p> <ol style="list-style-type: none"> <li>1. Click on an asset to see the history of inspections</li> <li>2. Watch a video of the pipe inspection</li> <li>3. Assign condition and review rating of the pipe segment</li> </ol>

## Demo Specification: Reporting Capabilities

Data Source: Demo Data		Objectives: Show the relationship between work orders and inspections
Test Case #:5	Description:	Demo Steps:
5-1	Show specific maintenance done on a single and then on an asset class.	<p>Click through reporting:</p> <ol style="list-style-type: none"> <li>1) Click on an asset on the map and get a history of the work completed on that asset</li> <li>2) Create a report of the work performed on PRV's in the last month</li> </ol>
5-2	<p>Produce a report that shows progress on the value exercise program</p> <ul style="list-style-type: none"> <li>• Show progress in a pie chart or dashboard as percentage of PM's complete.</li> <li>• Demonstrate how backlog is maintained</li> <li>• Show what has been complete on the GIS</li> </ul>	<p>Produce a report that shows progress on the value exercise program in a dashboard and / or .PDF report.</p> <ol style="list-style-type: none"> <li>1) Show a chart of the percentage complete of a PM Work Order</li> <li>2) Show a report of the work orders that didn't get complete in a given time period.</li> <li>3) Highlight PM's completed in a map.</li> </ol>

## Demo Specification: Asset Management

<b>Data Source: Demo Data</b>		<b>Objectives: Decision Support, Reporting and Asset Management</b>
<b>Test Case #: 6</b>	<b>Description:</b>	<b>Demo Steps:</b>
6-1	Show specific maintenance done on one or more asset classes.	Create a report that documents the maintenance done on specific asset classes. For instance, how many sewer lines have been CCTV'ed this year.
6-2	Show the remaining useful life of sanitary sewer lines so that a 5-year and a 10-year replacement budget can be created.	<p>Demo remaining useful life curves in your system:</p> <ol style="list-style-type: none"> <li>1) Use inspection data to adjust the remaining useful life curve</li> <li>2) Show how current lines are performing against a national average (family curve)</li> <li>3) Create a CIP Budget of critical projects that need to happen in the next 5 and 10 years based on remaining useful life.</li> </ol>