



REPORT TO THE CITY COUNCIL BY THE CITY INTERNAL AUDITOR

AUDIT OF THE CITY OF SHREVEPORT
Field Operations Division
Department of Water and Sewerage

INTERNAL AUDIT REPORT
(IAR) 650018-05

November 16, 2018

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Report Highlights

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- Standard Operating Procedures not current nor disseminated to staff 7
- Need to fully implement CityWorks Software 9
- Employee Safety Requirements and need for additional training 12



The Council
City of Shreveport

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November 16, 2018

Councilman Jerry Bowman, Jr.
Chairman, Shreveport City Council

Dear Councilman Bowman:

Subject: IAR 650018-05 – Audit of the City of Shreveport Field Operations Division of the Department of Water and Sewerage

Attached please find the report mentioned above. Management comments are included in the report.

Sincerely,

Leanis L. Steward, CPA, CIA
City Internal Auditor

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EXECUTIVE SUMMARY
AUDIT OF CITY OF SHREVEPORT FIELD OPERATIONS DIVISION
DEPARTMENT OF WATER AND SEWERAGE
INTERNAL AUDIT REPORT (IAR) 650018-05

Why We Did This Audit

We have completed a performance audit of City of Shreveport Field Operations Division of the Department of Water and Sewerage. This audit was conducted as a regularly scheduled audit included in the annual audit plan. Our objectives included documenting and assessing the processes in place for inventory management and control, and work order initiation. We also reviewed the Division's role and effectiveness in the City's ongoing compliance with the EPA Consent Decree. Also, we reviewed the Division's implementation of new software for managing its processes, and providing reports. Finally, we reviewed the training needs of the Division's employees.

What We Recommended

To strengthen understanding and management of the use of the CityWorks Software for managing its workflow and reporting processes, we recommend that the Field Operations Division:

- Complete the training of employees and management in utilizing the system to control and manage its work and reporting.
- Consider assigning the Implementation Administrator full time to Field Operations to complete full implementation of CityWorks.

To enhance the Division's safety practices and its safety record, we recommend:

- Management assess its safety training needs and establish a formal training program that addresses those needs.
- Mandate attendance at safety training events.

Performance Audit of the City of Shreveport's Field Operations Division of the Department of Water and Sewerage

What We Found

Implementation of the CityWorks Software has been slower than expected. Many of the Division's employees had never used a computer prior to their introduction to this system, requiring additional training.

The Capacity, Management, Operations and Maintenance (CMOM) Plan prepared in response to the EPA Consent Decree included Standard Operating Procedures (SOPs) for Field Operations, many of which were newly written to address requirements of the Decree. Training on these SOPs has been limited, and some employees having critical roles were not provided copies of SOPs governing their roles until August 2018, and have had no formal training on them as of this writing.

While we found no evidence that citizens' concerns and reports are not timely and appropriately handled, there is no formal management oversight of this function, thus it is possible that some concerns may not be addressed timely.

The Division utilizes both employees and external paving contractors to facilitate restoration of streets to normal use after infrastructure repairs and replacements are complete. Working with Purchasing to implement a repair/maintenance type contract for the paving work could speed this process.

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Introduction and Background

This audit was originally included in the annual audit plan as a performance audit of the Field Operations Division of the Department of Water and Sewerage.

On May 13th, 2014 the City entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the United States Department of Justice that requires the City to inspect and assess its wastewater collection system and treatment plants. As the inspection progresses, the City is required to replace or rehabilitate these infrastructure assets. The Decree also requires the City to implement rigorous measures to address Sanitary Sewer Overflows, which fall under the responsibilities of the Field Operations Division.

Internal Audit was asked to review two additional aspects of the Division's work; namely its response to citizens' reports of leaks and other issues, and its coordination with other Divisions and Departments.

The objectives of this audit were to determine the following:

- The Division's role and responsiveness in meeting its requirements under the EPA Consent Decree
- Documenting the processes in place to perform and control its work, including inventory management and work order initiation.
- Identify systems in place to track its workflow and provide management reports
- Identify the training requirements of its employees and the extent to which they are met
- We were asked to identify the processes in place to receive and respond to citizens' reports and issues





Recommendation Evaluation Risk Criteria

The chart below summarizes the recommendations outlined in the report and our evaluation of risk for the recommendations. The risk levels, as defined in the chart below, were determined based on the possible results for the entity if the recommendation is not implemented. This report contains five findings with six recommendations.

Risk Levels	Recommendations
<p style="text-align: center;">High Risk</p> <p>Represents a significant level of risk exposure to City assets, public safety, or achievement of objectives or mission. Corrective action should have the highest priority.</p>	None
<p style="text-align: center;">Medium Risk</p> <p>Represents a moderate level of risk exposure to the City from extensive operating inefficiencies or high-level non-compliance issues. Corrective action should occur expeditiously.</p>	<ul style="list-style-type: none"> ➤ Water and Sewer Administration and Field Operations Management review and update the Standard Operating Procedures (SOPs); and provide mandatory training when SOPs are brought current. (Finding: Need for Updated Standard Operating Procedures (SOPs) and Related Training) ➤ Complete the training of Field Operations management and personnel on the use of CityWorks Software. (Finding: Full Implementation of the CityWorks Software) ➤ Water and Sewer Administration consider assigning the Implementation Administrator to Field Operations full time to complete the full implementation of the CityWorks Software. (Finding: Full Implementation of the CityWorks Software) ➤ Management assess its safety training needs; establish a safety training program; and mandate attendance at training events. (Finding: Employee Safety Requirements and the Need for Additional Training)
<p style="text-align: center;">Low Risk</p> <p>Represents a minimal level of risk exposure to the City from inefficiencies or low-level non-compliance issues. Corrective action should occur as appropriate.</p>	<ul style="list-style-type: none"> ➤ Management implement a weekly report providing updates on the status of citizens “concerns” received on the City website. (Finding: Responding to Citizens’ Reports of Water Leaks, Overflows and Other Issues) ➤ The Division work with Purchasing to issue blank repair/maintenance contracts with its paving contractors. (Finding: Facilitating Paving and Dress Up Following Infrastructure Repairs)



Scope and Methodology

The scope of this audit includes the City of Shreveport's Field Operations Division of The Department of Water and Sewerage. To answer our objectives, we reviewed internal controls surrounding their operations and activities and developed audit procedures including, but not limited to, the following:

- Interviewing personnel in the Department of Water and Sewerage Administration Section and its Field Operations Division; the Department of Engineering and its Environmental Services Division; The City Attorney's Office; and other City Departments regarding controls and reporting
- Reviewing City ordinances and administrative procedures
- Reviewing the Division's Safety records and Safety training
- Analyzing the Emergency Contractor's invoices and payments
- Documenting walkthroughs of the work order and inventory management processes
- Reviewing the implementation progress of the CityWorks Software system and its integration within the processes of the Division's work

We conducted this audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings, conclusions, and recommendations based on our audit objectives.

We thank the personnel in the various Offices and Departments identified above, as well as personnel in other City Departments, for their cooperation and assistance in gathering information provided to us in our work on this project.

We noted that the Division has increased the number of personnel holding state certifications from 17 as of August 14, 2014 (reported in the February 4, 2015 Capacity, Management, Operations and Maintenance (CMOM) Plan) to 27 as of August 31, 2018; and commend them for their continued pursuit of excellence in their work.





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FINDINGS

AND

RECOMMENDATIONS



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Need for Updated Standard Operating Procedures (SOPs) and Related Training

New Standard Operating Procedures (SOPs) for the Field Operations Division were first published February 4, 2015 as Appendix K of the Capacity, Management, Operations and Maintenance (CMOM) Plan developed in response to the EPA Consent Decree of May 13, 2014. Some of these SOPs were drafted specifically for inclusion in the CMOM Plan; however, some were brought forward from as far back as 2000, but had not been updated since their original writing. The most extensive new SOP was the Sanitary Sewer Overflow Response Plan (SORP). Some employees with critical roles in the SORP were not trained on the requirements of their roles; and in fact did not see these SOPs until August 2018.

Many employees and some supervisors were not aware that the SOPs existed; and so may not have been operating in accordance with them. The SOPs should be readily available to the Department's employees; and be current and descriptive of the processes and procedures as currently utilized and enforced.

The Consultants tasked with developing the SOPs provided some training to Field Operations personnel; but it was restricted to sewer and lift station maintenance supervisors and mechanics. The training agendas provided to Internal Audit show the training sessions were one and one half hours in length and focused primarily on an overview of the Consent Decree and its requirements.

Division Management had not prioritized the need for training on the SOPs; therefore it was never planned or scheduled.

Recommendation #1: Water and Sewerage Administration and Field Operations Division management should review the existing version of the SOPs; and expedite the creation of an updated version that includes necessary changes. When completed, a comprehensive training program should be developed and several training sessions established to ensure all of the Division's personnel have an opportunity to attend. The training should be mandatory so that all the Division's personnel are on the same page.



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Management Response:

The SOPs for the CMOM were developed by the consultant in consultation with Engineering, Water and Sewer Administration, Wastewater/Lift Stations and Field Operations staff. Meetings were held to provide input before and after the CMOM was submitted to EPA. Copies of the SOPs were provided to staff on more than one occasion during the development of the SOPs and subsequent review sessions. Management agrees that not all employees participated and that some critical employees, such as dispatch and office staff were not included and should have been. Management also agrees that additional training should be provided and all pertinent staff should participate.

We will work with the consultant to update all SOPs that were included in the CMOM. Copies of the SOPs will be included in CityWorks for easy reference and paper copies will be made available to staff that do not have access to CityWorks. Mandatory training sessions on current SOPs will be scheduled within the next 30 to 60 days. The training sessions will be scheduled again when all SOPs have been updated.

Due Date: Less Than 6 Months





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Full Implementation of the CityWorks Software

Planning for the implementation of the CityWorks software in the Field Operations Division, which was to replace the Approach software, began in September 2015. January 1, 2016 was the target date for the change.

An Implementation Administrator was appointed and began training Field Operations employees in conjunction with CityWorks trainers. CityWorks is designed to capture data at a very early point in the maintenance process. It anticipates much of the data input happening in the field. Division management expected the field employees to initiate work orders and material requisitions; however, many of the field employees had never turned a computer on before.

Basic training has been provided along with the CityWorks specific training; but many employees still struggle with very basic computing issues. The user training did not anticipate the number of personnel that would be first time computer users. Field Operations management has not been fully educated in the reports available from the software and how these reports can assist them in managing the work of the Division. The Implementation Administrator is divided between the Customer Service Division and the Field Operations Division; and her availability to provide additional training and assistance to Field Operations management and personnel is limited.

Field Operations management has recently begun running a few limited reports, and finding them useful; but need to expand their knowledge and use of other available reports to improve their efficiency and effectiveness.

Recommendation #2: Water and Sewerage Administration and Field Operations senior management work together to quantify the training needs of Field Operations personnel necessary to bring them up to an established standard of competence in the use of the CityWorks software. This should be followed by a planned regimen of training to bring the Field Operations personnel up to this standard. Management should be educated on the content and use of the various reports available from the system; and directed to utilize them for controlling their work flow and outcomes.



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Management Response:

Cityworks has been fully implemented in Field Operations. Multiple training sessions have been provided and the Implementation Administrator provides additional training to any staff that request it. The Implementation Administrator (IA) is tasked with maintaining both the Cityworks application as well as the billing software. This has not impeded the IA's ability to provide training or any other requested services to Field Operations staff.

While Cityworks includes multiple standard reports and some custom reports that are utilized by staff, most of the information needed to manage information and workflow is obtained by queries run on the system. It is practically impossible to develop a "canned" report for every type of information needed at any given time. We agree that additional training on features available within the system is needed, however we do not agree that a significant number of standard reports are required to fully utilize the system.

The Implementation Administrator will set-up monthly training in Field Operation's training room for those who are still struggling with performing work order, service request and inspection activities in Cityworks. This training will also be available to those who want to improve and expand their skill set in Cityworks or any application that has been approved by Water Administration. The employees will be encouraged to use any downtime, such as inclement weather, to practice and explore further uses for the software that is currently being used by the City.

The employees will also have access to more Cityworks' manuals to assist with performing many activities in Cityworks as training will be a continuous task.

Due Date: Less Than 6 Months





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Recommendation #3: Department Administration should consider assigning the Implementation Administrator presently assisting the Field Operations Division to full time status in that Division. That person presently expends the majority of her time working with Field Operations; and the additional time would allow her to provide more training for Field Operations personnel on the use of the hardware and work order software, as well as the reports available. Bringing the CityWorks software system to full operational status as quickly as possible is a key element in meeting the objectives of the CMOM Plan and requirements of the Consent Decree.

Management Response:

Although we are in the process of deploying a mobile version of the software that can be deployed on tablet devices, Cityworks is fully operational in Field Operations. Some of the users may not be familiar with all the features of Cityworks so there has been continuous training, both by the consultant and the Implementation Administrator. This training has been implemented to help with software upgrades and changes to the GIS map contained within Cityworks. We will continue to review any changes and schedule training as needed.

To further assist Field Operation management staff, we will schedule monthly in-house training including creating reports, focusing on higher level queries and greater emphasis on how to maneuver the features surrounding the map and map layers. We do not feel that it is necessary to assign the IA full time to assist the Field Operations Division. Additional training can be provided to staff within her current job duties.

Due Date: 6 to 12 Months





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Employee Safety Requirements and the Need for Additional Training

The nature of the work Field Operations personnel perform is hazardous, and requires them to maintain vigilance and awareness of their surroundings constantly. We found that in the 19 month period from February 2017 through August 2018, the Division had 65 reportable incidents that resulted in lost time and property damage, or one incident for each two employees in the Division. Of these incidents, 44 were injuries and incidents requiring medical attention, including two incidents of heat exhaustion occurring in the month of August 2018. This despite two training events targeted on the prevention of heat exhaustion within 90 days of the happenings.

There were also 21 property damage incidents during that same period. Twenty of these incidents were motor vehicle crashes in which the City's employees were at fault. We also saw reports of unannounced inspections by City safety specialists that found employees in violation of established safety requirements and standards.

Weekly safety meetings are led by supervisors or zone managers, and are relatively short. The presentations appear to be anecdotally oriented, based on the topics observed in the documentation presented to Internal Audit. The monthly safety meetings are presented by a safety specialist from Engineering's Environmental Services Division. They are longer and more structured; but the impact on employees is difficult to measure.

Recommendation #4: The Division makes an assessment of its critical operational and safety training requirements; then work with the City's safety specialists to establish a more formal training plan for its employees. Attendance at these meetings should be mandated; and management should be visible and vocal at training sessions, emphasizing the importance of the knowledge being imparted and the expectation that it will be put to use in the daily operations of the Division. Management should also establish a plan of discipline for employees who fail to follow City safety standards.



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Management Response:

Attendance at safety meetings is mandated. Weekly meetings are led by supervisors and zone managers (management staff) and all staff are required to attend the monthly safety meeting. Upper division management attends safety meetings when possible to support their management staff. We will ensure more upper management involvement with regular safety meetings, supporting their management staff and emphasizing the importance of the safety training and knowledge gained. We will work to ensure information provided to employees during the weekly meetings is better structured. As always, we will work to continue to improve the quality of the materials and training.

Employees are currently held accountable when they fail to follow City safety standards.

We will work with Division management and Risk to develop additional safety programs that are relevant to their specific areas. We will also work with Risk to ensure that Water and Sewerage Administration is provided information from the Safety Review Board concerning employee accidents.

Due Date: Less Than 6 Months





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Responding to Citizens Reports of Water Leaks, Overflows and Other Issues

Citizens' reports come into Field Operations principally in one of three ways.

- Citizens call the Field Operations Dispatch office, a 24/7/365 operation, when they see or have an issue that they believe requires immediate attention.
- Other reports may come in to the Water and Sewer Customer Service Division; and are then forwarded to Dispatch when appropriate.
- Others come in through the **Report an Issue** portal on the City's web site.

Response priorities are established most often by the dispatchers, who initiate service requests in the CityWorks software system. The requests are electronically forwarded to field supervisors for investigation and corrective action. Perceived emergencies are communicated to field personnel on a priority basis.

Web site reports are automatically forwarded to an Administrative Assistant within the Field Operations Division. She categorizes the reports, e-mails an acknowledgement to the citizen, and initiates action to resolve the issue. She follows up weekly, and e-mails the citizen when resolution of the issue is completed.

Reports of service requests issued and completed are available from the CityWorks system, but are not presently being produced; therefore no record of oversight exists. The reports received through the City's web site are not a part of the Division's software systems; and are not susceptible to any automated oversight within the Division. In the past, these reports were recorded and followed to conclusion on an Excel ® spread sheet reviewed weekly by the Superintendent. The spread sheet was discontinued earlier this year.

We found no evidence that citizens' concerns and reports are not timely and appropriately handled; however, without regular oversight, some reports and requests may be overlooked; and others may not be timely resolved.

Recommendation #5: Management should work with IT to develop reports from the Request Tracker software that would provide status/progress information on the open citizens' reports and issues.



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Management Response:

Queries of Service Requests and Work Orders in CityWorks are utilized by management to analyze performance. While these are not specific reports, they do provide management with metrics needed to allocate resources and determine deficiencies.

The output report available from Request Tracker is utilized by management to oversee the handling of issues and concerns; however the format is a bit cumbersome. We will work with IT to see if an alternate output of information is available.

Due Date: Less Than 6 Months





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Facilitating Paving and Dress Up Following Infrastructure Repairs

As the City's efforts in response to the EPA Consent Decree accelerated the number and scope of work sites on the City's streets, the time lag between completion of the repair or replacement of underground infrastructure and the resurfacing and dress up of the street increased.

In 2015, at the direction of the Department Director, Field Operations began utilizing the services of four of the City's Fair Share paving contractors to restore the street surfaces and perform dress up following repair completion. This change accelerated streets' return to normal traffic conditions. There are still some delays in this process, and Field Operations has recently repurposed some personnel to perform the concrete paving repairs and dress up to improve efficiency and timeliness. As this transition takes place asphalt repair and some concrete work is still outsourced.

Although Field Operations personnel monitor repair work and request purchase orders on an expedited schedule as soon as the underlying repair is complete; there are times when delays acquiring the purchase orders cause the paving to be delayed.

Recommendation #6: We recommend the Department/Division work with Purchasing to establish repair/maintenance type blanket contracts with their paving contractors that would allow them to issue same day work orders against the contracts as the repair work becomes ready for the paving and site clean-up.

Management Response:

The delays that occur "acquiring the purchase orders" are often the result of the contracting requirements of either the City of Shreveport, or public bid law. In acknowledgement of these constraints, a similar solution has already been in the works in conjunction with Engineering, Purchasing, and Legal to address "on demand" paving needs. The specifics for this is being worked out between Engineering, Water & Sewerage, Purchasing, and Legal, in order to prepare the requisite documents to advertise for bids in accordance with public bid laws. This work will continue until such solution is in place.

Due Date: Less Than 6 Months



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Prepared by:

A handwritten signature in blue ink that reads "S. Ben Hebert".

S. Ben Hebert, CPA, CFE, CMA, CISA, CLEA, CLAA, CGMA
Staff Auditor III

Approved by:

A handwritten signature in blue ink that reads "Leanis L. Steward".

Leanis L. Steward, CPA, CIA
City Internal Auditor

bh:dw

- c: City Council
- Clerk of Council
- Mayor
- Director of Finance
- Chief Administrative Officer
- Carr, Riggs & Ingram
- Director of Water and Sewerage
- Deputy Director of Water and Sewerage