



REPORT TO THE CITY COUNCIL BY THE CITY INTERNAL AUDITOR

AUDIT OF THE PUBLIC WORKS DEPARTMENT, STREETS AND DRAINAGE DIVISION

INTERNAL AUDIT REPORT (IAR) 090219-02

April 10, 2019

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Report Highlights

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- Lack of Continuous Operational Training 16



The Council
City of Shreveport

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April 10, 2019

Councilman Jerry Bowman, Jr.
Chairman, Shreveport City Council

Dear Councilman Bowman:

Subject: IAR 090219-02 – Audit of the Public Works Department, Streets and Drainage Division

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 THE PUBLIC WORKS DEPARTMENT,
STREETS AND DRAINAGE DIVISION
(IAR) 090219-02

Why We Did This Audit

We have completed an audit of the Streets and Drainage (S&D) Division of Public Works Department of City of Shreveport. It was one of our regularly scheduled audits included in the 2018 Annual Audit Plan developed by the City Internal Auditor. Our objective was to determine if the Public Works Department was operating efficiently and effectively in accordance with the City standards and procedures as it relates to Streets and Drainage functions.

What We Recommended

To improve efficiency and effectiveness we recommend the City:

- Implement integrated work order system.
- Follow up with incomplete/late service requests.
- Create standardized processes and procedures for the warehouse.
- Have formal up-to-date procedures and operating manuals for the division.
- Add a standard safety record program.
- Ensure training records are being kept and current.

Performance Audit:
Public Works Department,
Streets and Drainage Division

What We Found

S&D's primary responsibilities are to maintain and repair dedicated City streets, alleys, underground drainage structures, roadside ditches, drainage canals, mowing, litter control of City street rights-of-way, and contracted State rights-of-way within the City limits. S&D is responsible for small street repairs. Major street repairs are overseen by the Engineering Department.

Generally, we found that operational and administrative controls within entity were adequate. However, we found areas that the Public Works Department could improve to enhance efficiency and effectiveness as it relates to the Streets and Drainage Division.

We found the following issues that should be improved:

- **S&D Division is using paper-based work order system and, therefore, not able to efficiently follow up on incomplete/late service requests.**
- **No standardized processes and procedures for the warehouse.**
- **Procedures and operating manuals for the division were not up-to-date.**
- **Safety records were not maintained.**
- **Training records were not readily available.**

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Introduction

Street & Drainage's primary responsibilities are to maintain and repair dedicated City streets, alleys, underground drainage structures, roadside ditches, drainage canals, mowing, litter control of City street rights-of-way, and contracted State rights-of-way within the City limits.

Assets maintained include: 1,050 lane miles of concrete streets, 1,202 lane miles of asphalt streets, 930 miles of roadside ditches, 408 miles of major drainage canals and ditches.

The division is managed by the Superintendent with assistance from Assistant Superintendent. The division includes the following employees: Chief Supervisors, stock clerk II, warehouse supervisor, carpenter, construction technicians, heavy equipment operators, light equipment operators, maintenance mechanic I, maintenance mechanic III, small equipment mechanic, crew leaders, crew members, and administrative support staff.

The Street Maintenance section is managed by the Assistant Superintendent. He manages crews that perform repairs and/or maintenance on: concrete street repairs, potholes, asphalt maintenance, drainage maintenance, curb and gutter systems, public city building parking lots and sidewalks, street shoulder repairs, inspection and repair of city maintained bridges.

The Drainage Maintenance section is also managed by the Assistant Superintendent. He manages the crews that perform maintenance on all roadside right-of-way ditches and canals, which may include: unclogging existing driveway pipes; reestablishing ditch grades; erosion control on the drainage ditches; underground drainage system maintenance; responding and/or repairing plugged or leaking systems; repairing sink holes caused by these systems. Drainage Maintenance can also arrange for other maintenance entities to take care of drainage systems that fall outside of the City's jurisdiction.

The objectives of this audit were to determine the following:

- Whether resources are employed efficiently and effectively.
- Compliance with laws, regulations, policies, and procedures.
- Whether internal control over operations is effective.



Recommendation Evaluation Risk Criteria

This report contains five findings with six recommendations. The chart below summarizes our evaluation of risk for the recommendations outlined in the report. Each recommendation was assessed a high, medium, or low risk level based on a qualitative assessment of exposure and/or corrective priority.

Risk Levels	Recommendations
<p style="text-align: center;">High Risk</p> <p>Represents significant level of risk exposure to City assets, public safety, or achievement of objectives or mission. Corrective action should have the highest priority.</p>	<p style="text-align: center;">None</p>
<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"> ➤ Acquire an integrated work order system (Finding: Integrated Work Order System) ➤ Have up-to-date operating procedures (Finding: Operating Procedures) ➤ Add a standard safety record program (Finding: Safety Program and Records) ➤ Create continuous operational training (Finding: Formal Continuous Employee Training)
<p style="text-align: center;">Low Risk</p> <p>Represents 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"> ➤ Create standardized processes and procedures for the warehouse (Finding: S&D - Warehouse and Small Engine Shop)



Scope and Methodology

The scope of this audit includes Public Works Department – Streets and Drainage Division (S&D) operating activities and performance occurring during the period January 2014 – November 2018. To answer our objectives, we reviewed relevant internal controls and developed audit procedures that included but were not limited to the following:

- Interviewing S&D management and staff members
- Reviewing compliance with established or stated policies and procedures
- Reviewing S&D operating reports
- Reviewing work order and inventory policies and procedures
- Reviewing safety records and training reports
- Reviewing City Ordinances and administrative procedures
- Reviewing sample of service requests completed and verified the work performed

We conducted this performance 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.





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FINDINGS AND RECOMMENDATIONS

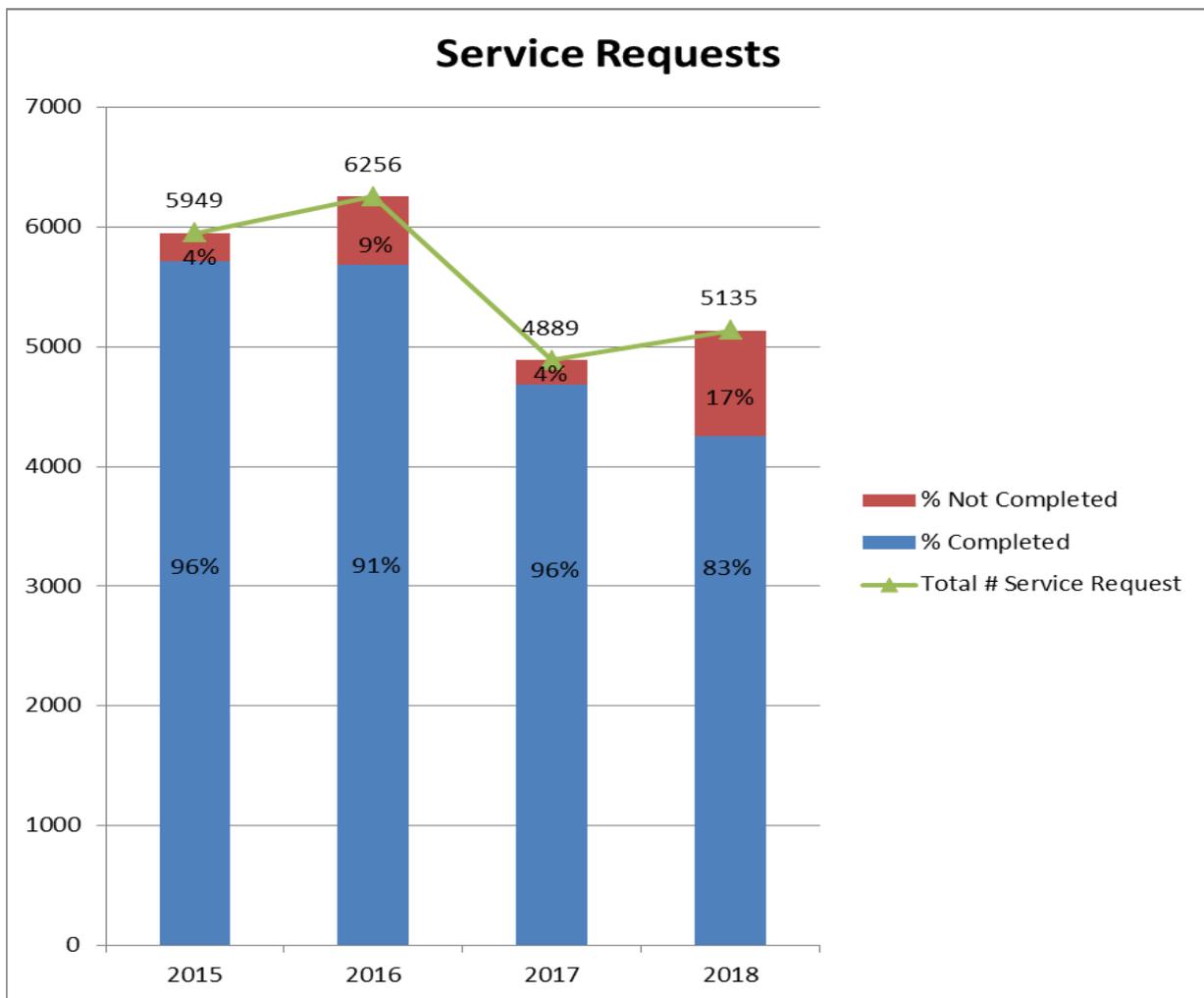


Requests for Service forms are also summarized in an Excel spreadsheet indicating:

1. Whether the request originated from WebQA or CivicPlus. WebQA is a computerized automating workflow and online process system. CivicPlus is a computerized integrated record management system for government entities. CivicPlus is currently being used by the City website.
2. Who initiated the concern or request.
3. The supervisor who is responsible to complete the work order or request.
4. The open/close status of the work order or request.

However, the spreadsheet does not indicate the reasons that work orders are still open and how many work orders are initiated by citizens and how many are initiated by City Departments, City Council members, and City officials.

The chart below shows summary Requests for Service data for the last four years (2015-2018):

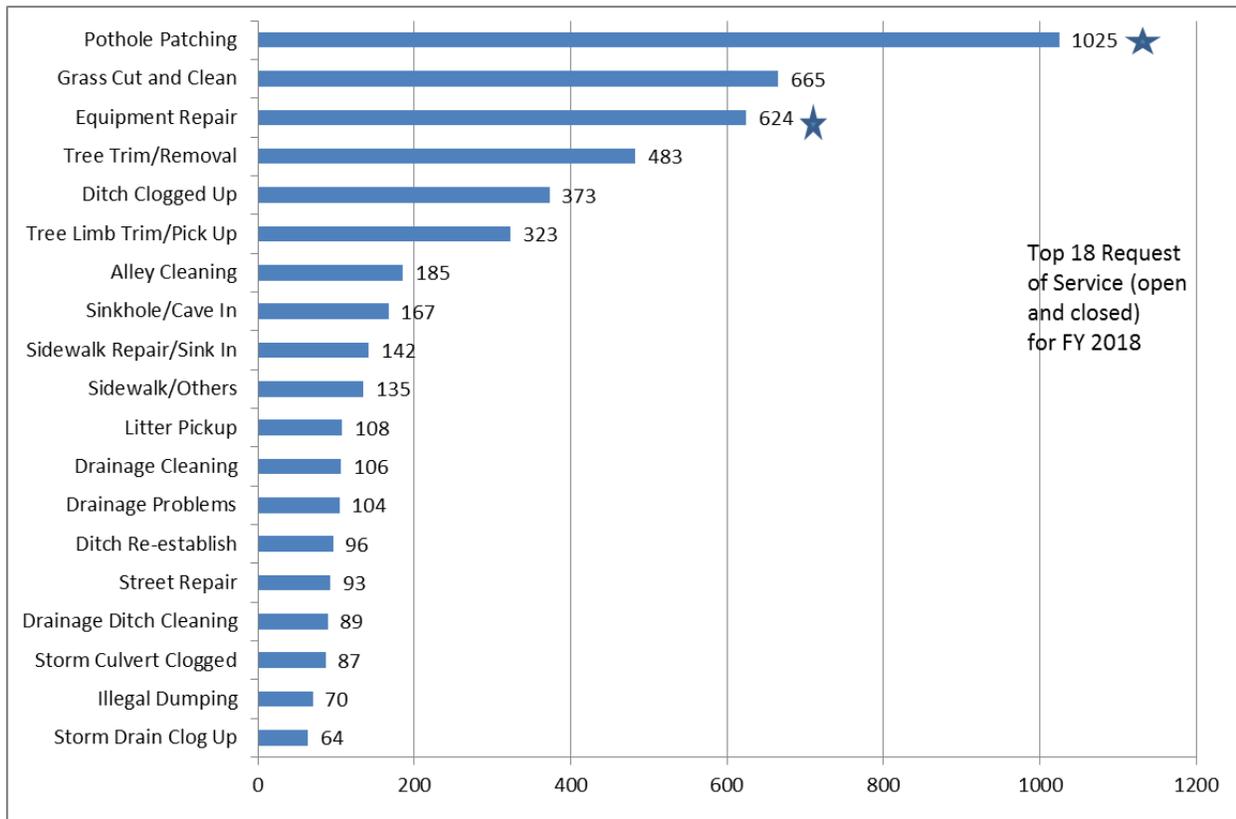


Source: Work Log from S&D



Repair Work

Although the service request form has a space to complete priority, S&D currently does not prioritize incoming repair requests (e.g., severity of condition, risk to the City). Pothole patching is the most requested service for S&D. For the last few years, pothole patching/repairs are 20% of total requests for service in 2018; 19% for 2017; 21% for 2016; and 29% for 2015. The chart below illustrates types and number of service requests for year 2018.



★ Items mentioned in the current finding
Source: Work Log from S&D

We selected a random sample of 11 service requests during the previous six months (July-December 2018) and verified the work performed. The work was completed in all cases. However, there is no follow up on the current condition of completed service requests. In one instance we noted a worn out pothole patch that may need additional follow up work. We observed this was a high traffic area as shown in the picture on the next page.



800 Havens. Example of pothole patch completed 4 months ago now worn out.



1858 Chester. Example of pothole patch completed 2 months ago in excellent condition.

Equipment failure accounts for an additional 12% of service requests, and may affect the ability of crew members to perform their work on a timely basis. It is difficult to analyze the root cause of the equipment failures because of the manual process of recording service requests.

Recommendation 1: A new integrated work order system with Geographic Information System (GIS) based reporting would help S&D management improve efficiency of operations by: reducing duplication of effort, automatically calculating the total cost of repair, help analyze the root cause of work service requests, better determine if performance metrics are being met, provide more transparency in the work flow process, and help to prioritize the incoming service requests to determine which ones should be addressed first based on needs and risks to the City (e.g., those that may specify holes, slips, trips and/or falls).



Recommendation 2: Until an integrated work order system is in place, for the spreadsheet that summarizes Requests of Service, S&D management should add status updates and add a category that identifies the source of the concern as citizen or department. Requests for Service should have all pertinent data and information.

Management Response:

I agree that the Department of Public Works needs work order management software. Permits and Inspections Division is in the process of implementing the new My Government Online (MGO) software. This software has additional modules for work order management and we have seen a demonstration of how it works. City's IT Department is very interested in single vendor solutions and the addition of this module would be my preference. Funding for this upgrade will be in excess of \$50,000 and we don't have the money available in the current budget. Also I want to make sure the Permitting Software performs as advertised prior to purchasing additional modules. Until that time a follow up on incomplete or late work order request will be reviewed weekly. The work order will be evaluated to identify why it is late and a new completion date will be assigned based on the time frame to complete the work.

Due Date: Less Than 6 Months





S&D - Warehouse and Small Engine Shop

Warehouse



A warehouse in good standing should have a formal operation procedure manual for its daily activities. Items should be properly counted and be recorded on individual work order indicating materials used. All employees of a warehouse should follow established rules and protocols of the warehouse.

S&D Warehouse does not have any formal procedure of operation for its daily activities. Employees did not follow warehouse processes such as turning in the material requests on time. Auditor did review randomly picked thirty different items on the shelves at the warehouse and six of them had discrepancies. One of them was off substantially (off by 10). The inventory spreadsheet is saved on the Warehouse Supervisor computer and not on the City computer network.

Small Engine Shop

In 2016 there was an Internal Audit Fraud Hotline complaint that a S&D employee was taking hydraulic fluid at the Small Engine Shop for personal use. Because of weaknesses in physical and administrative controls, management is unable to reconcile how much fluid or supplies were being used by S&D Small Engine Shop and there is no accountability for possible hydraulic fluid loss. Also, there was no administrative control over inventory items by S&D management at the facility such as ongoing tracking of inventory items in stock. Small Engine Shop employees did not fill out complete work orders with name, job description, and amount of supplies being taken. Management had no adequate check and balance or oversight on the amount of supplies used by employees.



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Management stated that S&D also suffered loss of batteries from unauthorized after hour entry in 2017. Management was planning to install new surveillance cameras and better fencing as a remedy but it was on hold due to budget constraints.

Recommendation 3: S&D management should establish formal procedures and operation protocols for the day to day operation of the warehouse. Management should provide more training to improve the process of daily operation and require that all employees follow rules and regulations of the warehouse. The inventory spreadsheet should be saved on the City computer network so it can be backed up nightly by IT personnel.

S&D management should have better controls of inventory items at the Small Engine Shop by having ongoing tracking inventory of items in stock and installing a door and locking device at the supply location. Employees should fill out all work orders completely for tracking purposes. S&D also needs to install better fencing and new surveillance camera system.

Management Response:

A warehouse daily procedure and process is being written for review and discussion. A key component to the implementation of an electronic work order system will have to be inventory control to track not only how much of an item we have but where the inventory goes when removed from the warehouse.

Due Date: **Less Than 6 Months**



Operating Procedures

Formal standardized procedures and daily operating manuals should be updated and available for all employees as a training and reference tool, and to expand their work related knowledge. By having current standardized procedures and manuals, management could reduce mistakes and increase morale of employees.

S&D does have an operating procedures manual; however, it has not been reviewed by management to determine if any updates are needed.

Recommendation 4: S&D management should have current procedures and work related manuals. Those documents should be available for all S&D employees. The documents should reside in electronic format in a common area accessible to employees with computer access. Employees without computer access should have a current hardcopy document available.

Management Response:

We are in the process of updating the operations and procedures manual for the Streets and Drainage Division of the Public Works Department.

Due Date: **Less Than 6 Months**



Objective: Determine the Efficiency of Safety and Training Process at Streets and Drainage Division

Safety Program and Records

Valid and up-to-date information and data are critical for management to study the root cause(s) of any safety problems and work related incidents/injuries in order to prevent them from happening again or reduce the number of injuries and incidents.

S&D does not have a list of remediation/follow-up of noncompliance of safety reviews and work related injuries/accidents that were identified through the City's Risk Management Department. Risk Management maintains the list of injuries/accidents and performs periodic work site visits to determine compliance with regulations such as wearing hard hats, safety vests, and placing street cones around the work site. Additionally, the Public Works Safety Specialist tailors safety training programs based on accidents/injuries and noncompliance issues.

S&D Management does not review or study the root cause(s) of safety violations and work related incidents.

Recommendation 5: S&D management should maintain a list of remediation/follow-up of accidents/injuries, safety violations, and noncompliance issues.

Management Response:

We will begin keeping records of all Safety Meetings and Safety Training. The records will include the subject matter, instructors name and attendees.

Due Date: Less Than 6 Months



Objective: Determine the Effectiveness of Employee Training

Formal Continuous Employee Training

Continuous training is necessary for employees to understand how to do their work promptly and safely.

S&D currently does not have any formal type of training for employees, especially for mechanical equipment such as backhoes, loaders, and mowers. New employees were trained by senior employees on the fly and then were asked to use tools and equipment with assistance from senior employees to fulfill service requests, and no further formal training was given. Management does not measure the proficiency of employees operating equipment.

By not having any continuous training program, S&D Division is running a risk of potential safety violations due to lack of knowledge and not fully understanding protocols and procedures. This creates the possibility of lower productivity due to not knowing how to do tasks promptly and correctly.

Recommendation 6: S&D management should create a formal training program to ensure that all employees are trained in the proper use and handling of equipment. Follow up with training and updates for employees should also be included.

Management Response:

Records will be maintained on all in house training as well as contract training on the proper use of the equipment our employees operate. The records will reflect the name of the instructor, type of equipment and the name of the trainee.

Due Date: **Less Than 6 Months**



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Prepared by:

A handwritten signature in blue ink that reads "Brian Nguyen".

Brian Nguyen
Staff Auditor
City of Shreveport

Approved by:

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

Leanis L. Steward, CPA, CIA
City Internal Auditor

bn:dw

c: City Council
Clerk of Council
Mayor
Chief Administrative Officer
Director of Public Works
Superintendent of Streets and Drainage Division
Carr Riggs and Ingram