

AGENDA	Monday, October 5, 2009		
Informational Sioux Falls City Council			
	4:00 p.m. at Carnegie		
Town Hall			
	235 West 10th Street		

1. Call To Order
  2. City Council Staff Report
    - A. Updates by Debra A. Owen, City Clerk
  3. Mayor Munson
  4. Audit Committee
  5. Fiscal Committee
  6. Land Use Committee
  7. Public Services Committee
  8. City Council Open Discussion
  9. Presentations
    - A. Water Reclamation Internal Audit Report by Rich Oksol, Lead Internal Auditor
- Water Rec Audit Report 09-08
10. Adjournment

Date: 2009-10-05  
SIRE Meeting ID: 918  
Meeting Type: Informational Meeting

YouTube:<https://youtu.be/et7v6t-Dckc>  
Agenda Item: Not Assigned  
Item ID: 40064

The following document(s) are public records obtained from the  
City of Sioux Falls.

**Water Reclamation  
Audit  
August 2009**

Internal Audit  
City of Sioux Falls, South Dakota

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## **WATER RECLAMATION AUDIT INTERNAL AUDIT REPORT 09-08**

### **INTRODUCTION**

The City of Sioux Falls City Council authorized this audit in the 2009 Annual Audit Program. This is the first internal audit of this area.

### **BACKGROUND**

The City of Sioux Falls Water Reclamation Department (Water Rec) provides sanitary sewer and storm sewer services to the residents of Sioux Falls, two sanitary sewer districts, and the City of Brandon, SD. Water Rec will also provide wastewater collection and treatment for Harrisburg, SD, potentially by the end of 2010.

The sanitary sewer services include the collection and treatment of wastewater. As of December 2008, Water Rec manages and maintains 4,218,720 feet (799 miles) of sanitary sewer lines. These lines transfer all of the wastewater to the Water Reclamation Facility where the wastewater is treated.

Water Rec also manages and maintains 2,112,000 feet (400 miles) of storm sewer lines. The storm sewer lines handle all of the surface runoff from sources such as rain storms, snow melt, and miscellaneous sources. This water usually does not require treatment so the storm sewer system connects directly back into the nearest water body or water way where the water is released.

Water Rec organizes employees into four groups for administrative purposes:

- Collections
- Operations
- Maintenance
- Siouxpergrow Biosolids Program

The Water Rec Collections Division manages and maintains the sanitary and storm sewer lines. They also maintain twenty-three lift stations which help get the wastewater moved from areas of the system that cannot flow to the Water Rec facility by gravity flow alone. Collection Division duties include sewer cleaning, root cutting, and chemical treatment of lines, inspections of manholes, televising of lines, smoke and dye testing, flow monitoring, grouting and sealing of pipe joints, and operation and maintenance of the lift stations.

[www.siouxfalls.org/PublicWorks/reclamation](http://www.siouxfalls.org/PublicWorks/reclamation))

The Water Rec Operations Division manages and maintains the City of Sioux Fall's wastewater treatment facility. The wastewater treatment facility has an average design flow of 21.0 million gallons per day with an average daily flow of 15.24 million gallons per day in 2008. The Water Rec facility provides primary, secondary, and tertiary treatment of wastewater.

[www.siouxfalls.org/PublicWorks/reclamation](http://www.siouxfalls.org/PublicWorks/reclamation) and Water Reclamation Facility Master Plan – Executive Summary)

The Water Rec Maintenance Division manages and maintains all the pumps, motors, mechanical equipment, and facilities at the Water Rec facility and all the pump station locations around the Water Rec system. The Maintenance Division also maintains the supplies and materials inventory for Water Rec. The Maintenance Division does projects for other departments of the City as time permits.

The Siouxpergrow Biosolids Program recycles 100 percent of the biosolids produced during the treatment process at the Water Rec facility. The biosolids are stored in two facultative basins, lagoons, during the year with the biosolids removed and land applied during the spring, summer, and fall months of the year. During the winter months, the lagoons act as a storage facility for the biosolids. The Water Rec facility has enough storage in the two lagoons that they could go without applying biosolids for two years.

Water Rec has three permits it must comply with. South Dakota Department of Energy and Natural Resources (DENR) administer all three permits. The three permits are:

- 1) Title V Air Quality Operating Permit
- 2) Biosolids Permit
- 3) Surface Water Discharge System Permit.

Water Rec must submit monthly Discharge Monitoring Reports (DMR's) to the United States Environmental Protection Agency (EPA). EPA has the results of current and past DMR's available on their website on the Enforcement & Compliance History Online (ECHO) page. The ECHO shows all the statistical information about the Water Rec facility along with the compliance record.

## **OBJECTIVES**

Audit objectives were as follows:

1. Determine if the overall internal control structure over Water Rec operations is properly designed and operating effectively.
2. Determine if there is a work order system used by employees to track maintenance and upkeep of the Water Rec assets. If so, is it effective and efficient.
3. Determine if fixed assets are accounted for and in good condition.
4. Determine if Water Rec accounts for and properly safeguards supplies and materials inventories.
5. Determine if Water Rec complies with local, state, and federal laws.
6. Determine if Water Rec maintains the infrastructure through routine maintenance and replacement planning.

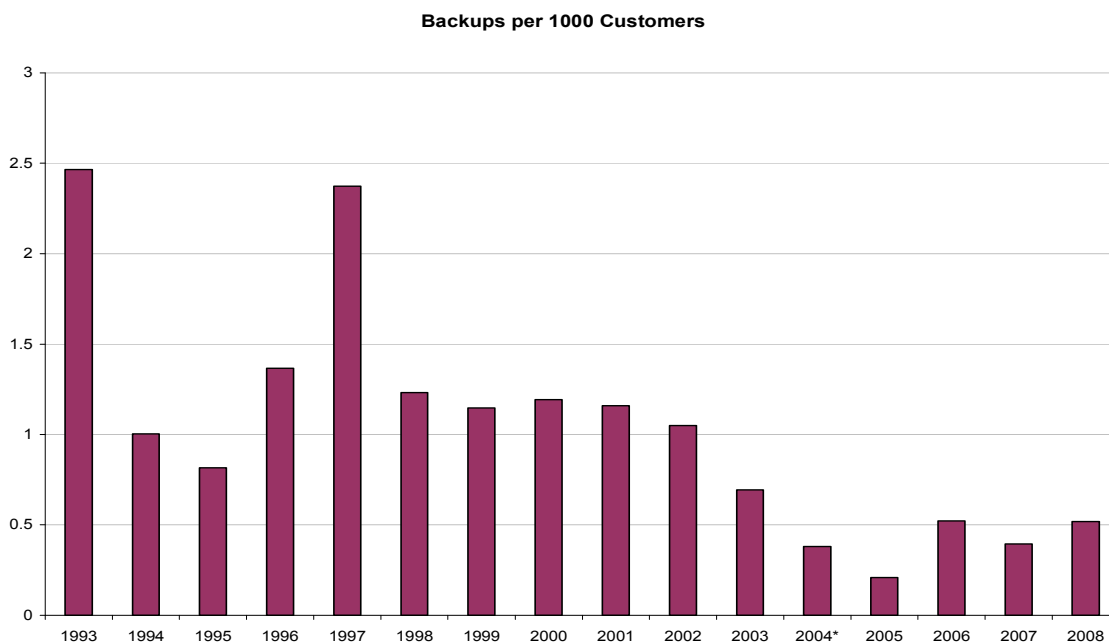
## **SCOPE AND METHODOLOGY**

This audit focused on the policies and procedures of collection and maintenance of the Water Rec sanitary sewer system and compliance with Federal, State and Local laws. While most aspects of the audit covered the period from January 2007 to June 2009, we utilized some historical data back to 2000. We reviewed the Water Reclamation Facility Master Plan dated February 20, 2009; interviewed management and staff; toured the Water Rec facility; observed Collections crews, Maintenance crews, and Biosolids crew performing their duties; analyzed work orders and work order systems; performed fixed asset and inventory verifications; examined documents including the City's Capital Improvement Program; and read audit reports

from other local governments on this subject. We then gathered evidence to determine if the controls in place were effective.

### **NOTEWORTHY ACCOMPLISHMENTS**

In 2002, Water Rec hired Black & Veatch to conduct a study of the sanitary sewer collection system. Black & Veatch made several recommendations for ways to improve performance of the sanitary sewer collection system. Water Rec implemented several of their recommendations including reducing storm event inflows which contributed to sanitary sewer overload during large rainstorm events. Water Rec targeted and improved several areas of sanitary sewer lines with improvement continuing to occur. Improvements made to storm sewer lines have also helped reduce rainstorm inflows that previously exhausted the performance ability of the sanitary sewer system. The following chart provided by Water Rec staff illustrates how the above mentioned changes have reduced the amount of backups:



The chart shows that backups per 1000 customers have reduced from above one backup per 1000 customers from 1996 to 2002 to .5 backups per 1000 customers since 2005. (2004 number does not include back up data from the significant rain fall events of the summer of 2004.)

Another area of note is City's Public Works Department investment of significant resources in improving the storm sewer system that attributed to the catastrophic flooding of residential and commercial properties from the two major storm events of 2004 mentioned above. Public Works determined that ineffective storm sewer systems caused the majority of flooding in residencies. These inadequate storm sewers allowed storm water to backup into homes which in turn entered the sanitary sewer system through floor drains. The above factors and other factors such as property owners with sump pumps connected to the sanitary sewer system caused both the storm and sanitary sewer systems to be overloaded. The City has spent millions of dollars on improving storm sewer services and has implemented an ordinance making it illegal for property owners to deposit water from sump pumps directly into the sanitary sewer system.

Water Rec recently completed a multi-year endeavor of televising and recording all the storm sewer lines throughout Sioux Falls. This project gives management the ability to visually assess the needs of a certain area and make appropriate plans for maintenance or total replacement.

We observed the efficiency and effectiveness of the Collection, Maintenance, and Biosolids crews in performing their duties (we did not observe the operations crew so no assessment was completed). All three areas observed appear to have qualified and capable staff.

The Water Rec department and staff have received the following awards and honors:

- 1) DENR – Excellence in Operation and Maintenance Award given to Water Rec Department in 2008, 2007, 2006, 2005, and prior years.
- 2) SD Water and Wastewater Association – 2008 Rookie of the Year Award given to Joe Montis, Collection Technician.
- 3) City of Sioux Falls – 2007 Employee Safety Award given to Walter Eaves, Lead Wastewater Operator and David Dirks, Lead Wastewater Operator.
- 4) SD Water and Wastewater Association – 2006 Price-Rees Award given to Curt Brynjulson, Chemist; Darrell Gabel, Lead Wastewater Operator; and Bob Kappel, Environmental Compliance Manager.
- 5) SD Water and Wastewater Association – 2006 Siger Bies Award given to Lyle Johnson, Operations Supervisor.

## **RESULTS INCLUDING AUDIT FINDINGS AND RECOMMENDATIONS**

We determined for our audit objectives, controls exist to provide reasonable assurance that Water Rec collection and maintenance activities are properly controlled. We did have audit findings regarding the ineffectiveness of internal controls in the tracking of supplies and materials inventories and inspection of grease traps. We have recommendations to address the audit findings and recommendations that do not address audit findings but present opportunities for improvement.

### **OBJECTIVE ONE; OVERALL INTERNAL CONTROL STRUCTURE**

Internal control<sup>1</sup> consists of five interrelated components that work together to help achieve:

- Effectiveness and efficiency of operations (including the safeguarding of assets)
- Conformity with laws, regulations and policies
- Reliability of financial information

The five components of internal control are:

1. Control environment
2. Risk assessment
3. Control activities
4. Information and communication
5. Monitoring

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<sup>1</sup> Committee of Sponsoring Organizations of the Treadway Commission (COSO) website, [www.coso.org](http://www.coso.org)



*Control environment:* also known as “tone at the top”. It is the most important component of internal control. Control environment includes the control consciousness of management and staff as well as experience and competence.

What we considered when assessing the control environment:

- Responses to an internal control questionnaire given to a randomly selected group of employees.
- Observations and impression from the auditor regarding management operating style.
- Adequate staffing levels maintained to complete all needed activities and the level of staff turnover.
- Existence of written policies and procedures and assignment of authority and responsibility among staff and management.
- Experience of management in operating a water reclamation operation.

*Risk assessment:* Risk assessment is the identification and analysis of various risks that can interfere with the accomplishment of objectives.

What we considered:

- Security of facility and any measures in place to safeguard operations.
- Risks have been identified and managed.
- Fixed assets and supplies and materials inventories are properly safeguarded and existence verified.
- Segregation of duties exists so that one employee does not have the ability to start and complete a transaction from beginning to end.

*Control activities:* Control activities are the policies and procedures that help ensure that management directives are achieved. They help ensure that the risks identified in the risk assessment process are effectively mitigated. Control activities may include such things as authorizations, management oversight, reconciliations, physical security of assets, and segregation of duties.

What we considered:

- We identified the key controls used to mitigate the risks identified by management.
- We tested the operation of the controls.

*Information and communication:* Information and communication underlies the other four components of the internal control integrated framework. Effective information and communication provides information in a form and time frame that allows employees to carry out their duties.

What we considered:

- Employees are well informed as to departmental policies and procedures.
- Management and staff meetings are held on a frequent basis to communicate any revisions to policies and procedures and to remind staff of all policies and procedures.
- Information is made available in a reasonable format to which staff has access and can easily obtain if needed.

*Monitoring:* Monitoring refers to oversight by management or external parties of how well controls are operating. It could also involve an assessment by employees using such methodologies as checklists.

What we considered:

- DENR and EPA review wastewater treatment and collection activities for compliance with Federal and State regulations.
- Management reviews purchases of supplies and materials inventories and any other large purchases and must sign off prior to purchase being made.
- External and Internal Auditors review the internal control structure on a regular basis.

**Our conclusion based upon our audit work is that the overall internal structure is properly designed and operating effectively.** We did identify one audit finding in the supplies and materials inventory area, an opportunity to strengthen internal controls in facility security, and an opportunity to strengthen communications between management and staff. We discuss the audit finding in more detail under Objective Four on pages seven, eight, and nine of this report. We discuss the opportunities to strengthen internal controls under the opportunities for improvement section on pages eleven and twelve of this report.

#### OBJECTIVE TWO: WORK ORDER SYSTEM IN PLACE AND FUNCTIONING EFFECTIVELY AND EFFICIENTLY

We reviewed the two work order systems in place for both the Collections Division and the Maintenance Division. We reviewed a sample of work orders completed in the last few months. We found that the Collection and Maintenance staff complete work orders in a timely fashion.

The Collections Division uses a computer software program called Hansen. This software offers the Collections Division the ability to review and enter data out in the field and also provides reports of work completed which management can customize to show different types of work performed and when staff completed the work. This work order system appears to be working well; however, we did identify an opportunity for improvement which we mention under the opportunities for improvement section on page twelve of this report.

The Maintenance Division uses a shared Excel spreadsheet combined with the AS400 work order system. The Excel spreadsheet allows anyone in Water Rec to enter a maintenance work request. Then the Maintenance Supervisor reviews the work request and approves or denies the work request. If approved, the Maintenance Supervisor assigns a priority level to the work request and assigns a Maintenance Worker to complete the work request. Once approved by the Maintenance Supervisor, assigned a priority level and assigned a Maintenance Worker in the Excel spreadsheet, the Parts Worker creates a hard copy work order and distributes the work order to a Maintenance Worker. The Maintenance Worker completes the work requested and returns the work order to the Parts Worker who enters the completion date in the AS400 work order system and any other pertinent information provided by the Maintenance Worker. The Parts Worker also puts a completion date on the work request on the Excel spreadsheet.

The Maintenance Supervisor's addition of the Excel spreadsheet to better track the work requests and work orders greatly improved the work order system for the Maintenance Division. However, we did have a recommendation which presents an opportunity for improvement. We mention this recommendation under the opportunities for improvement section on page twelve of this report.

**OBJECTIVE THREE: FIXED ASSETS ARE ACCOUNTED FOR AND IN GOOD CONDITION**

We verified the existence of a sample of Water Rec's fixed assets and also evaluated the condition of the fixed assets. Our verification included physically locating all of the items on the sample. Once physically located, we examined each asset to make sure the item was in good working condition.

**We found that all of the sampled items did exist and were in good working condition.** Water Rec has some of the items on the list scheduled to be on the surplus auction in September. We noted that these items were probably still in working condition but the items were worn and may not have looked the best. These items appeared to have completed their useful life and we concur with Water Rec that these items should be surplus. One newer item was not working, but was awaiting repair in the maintenance shop. This item did not appear to be broken because of misuse, but more than likely faulty manufacturing at the time of purchase.

**OBJECTIVE FOUR: SUPPLIES AND MATERIALS INVENTORY ARE ACCOUNTED FOR AND PROPERLY SAFEGUARDED**

We verified the existence of a sample of Water Rec's supplies and materials inventory and also evaluated the procedures used to safeguard the inventory from loss. Our verification included recording the amount of items that the inventory database said were present at Water Rec, also known as the perpetual inventory. We then physically counted each of the inventory items selected and matched the physical count to the perpetual count. We also discussed with management and staff what measures were in place to safeguard supplies and materials inventories. Our review of this area found several deficiencies in inventory sampled as well as holes in the internal control structure of the inventory area.

**AUDIT FINDING ONE**

**We could not properly account for some of the inventory items and also noted some of the items are not properly safeguarded.** We found that the sample of items physically counted did not match to the perpetual count. Several items counted either showed more or less than the perpetual count and in some cases the amount the items were off was significant. Although the end net result of the verification did not show a large dollar value loss, it did reflect that a problem in this area does exist.

We identified several areas that Water Rec should improve such as tighter security of inventory items. We also found that different individuals were not recording inventory items as they were taking the items from the parts room. The current procedures have the Maintenance staff taking items from the parts room, using the items, and upon completion of a work order the Maintenance Worker notes the inventory used on the work order. The problem with this method is that items can be unaccounted for in the inventory system for up to 2 to 3 weeks depending on

how long it takes a Maintenance Worker to complete a work order form and return it to the Parts Worker for her to input into the system.

We also noted that certain areas of the parts room are highly unorganized. We ran into difficulty finding certain inventory items as several items were not located in the places Water Rec data showed if found at all.

We also identified a group of inventory items that were in another building and were in complete disarray. Management could not identify a strong reason for these items to be in a separate location.

We noted that this issue has existed for quite some time with management being aware of the problem. Water Rec has hired a new parts worker in the last six months who has done many things to get the parts room back into order. This worker unfortunately has a daunting task ahead of her.

**Recommendation One:** Lock the parts room at all times. Currently the parts room is only locked when the Parts Worker is not in the area. Only the Parts Worker, Maintenance Supervisor, and the employee that is on standby have keys to unlock the parts room door. We would recommend locking this door at all times and possibly changing the locks so that management can be assured that those listed above are the only employees that have a key to this area. This recommendation would not be fool proof, but would bring a first step in securing the parts room. The second solution that would be a little more costly but seems to be the most practical for all involved would be to fit the parts room door with key card swipes. This would allow management to give access to those employees that need the parts room and would make it easier to track who is going in and out of the parts room.

*Public Works Response: Water Reclamation will establish a protocol that the Parts Room door is secured at all times. The target date for this implementation would be immediately.*

*Water Reclamation believes the controlled key program is adequate at this time. Currently the facility uses a controlled key system (single keys are cut for access to multiple areas based on job duties) from Medeco. This program offers Water Reclamation control over key duplication procedures because a strict written key control agreement with Medeco is created to protect keys and prevent unauthorized key duplication or proliferation. Only the Medeco vendor can cut the keys.*

**Recommendation Two:** Water Rec staff should record all items entering and exiting the parts room before staff puts the items on shelves or removes them from the parts room. This recommendation depends on staff making a conscious effort to record items going out of the parts room. Currently it appears the current Parts Worker is doing a good job of recording the items coming into the parts room. However, the Parts Worker has little control in knowing what is exiting the parts area because all Maintenance Workers can come into the parts room and take parts, but not all make a conscious effort to let the Parts Worker know what they take. The Parts Worker has put a clipboard on the parts room door for staff to record what items they are taking, but it has not be utilized by staff on a consistent basis. Management should encourage staff to abide by this policy and make it clear that this is the policy and staff must follow it.

The parts room is built with a front window area similar to what most retail establishments have. We recommend that once management and staff secure the parts room and whenever the Parts Worker is in the parts room that only she be allowed to remove parts from the shelves. She then could record the items as she hands them to staff.

*Public Works Response: Water Reclamation will reinforce the established parts room management controls with all staff including writing down all incoming and outgoing items.*

*At this time it seems inefficient for the Parts Worker to dispense parts through the window as long as the Parts Worker imposes the controls and monitors incoming and outgoing parts.*

*Water Reclamation does pledge to monitor compliance and cyclical inventory counts and will consider implementing this higher level of control in the future if compliance and accuracy does not improve.*

**Recommendation Three:** Management and staff should put all inventory items in the parts room. This recommendation only speaks to those items that would realistically fit into the parts room. We do understand that some supplies and materials are too large or cannot realistically be stored in the parts room. However, the items located in Energy Recovery should be moved to the parts room because they are small and do not appear to be well accounted for in their current location.

*Public Works Response: Water Reclamation agrees and will move the small parts to the parts room. Some engine parts that are heavy and less mobile will be cataloged and left in the energy recovery building. A target for this implementation would be October 1, 2009.*

**Recommendation Four:** Staff should conduct weekly or monthly cyclical counts of the supplies and materials inventory. Staff currently does an annual inventory verification which is time consuming and does not give management and staff a chance to rectify inventory issues on a timely basis. We would recommend that the Parts Worker create a small list of 15 to 20 items each week that another employee, who is familiar with what the parts are, would come in and verify. This would segregate the duties a bit to give management a better idea how the inventory is being maintained.

*Public Works Response: Water Reclamation agrees and will implement regular cyclical counts no later than September 1, 2009.*

We do acknowledge that all of the previous four recommendations will reduce the convenience to staff, but we feel it is more critical to increase the security and accountability of the supplies and materials inventory. The potential financial losses as a result of mismanaged supplies and materials inventories could be serious if management does not make immediate and substantial changes.

We do want to point out that management has previously identified this area as a problem area and they have made strides to improve the area. They have made changes to their purchasing

habits going from a reactive purchasing method to a more proactive method. The old method involved the Parts Worker sometimes going on several trips a day to different vendors to pick up parts that Water Rec should have had in stock. This process involved significant time losses to the Parts Worker and also involved high usage of procurement cards.

The new method involves trying to stock highly used items and more critical items. The Parts Worker is also making less off-campus trips to pick up parts. Instead of going on a parts run for one item or two items a day; she now tries to go once a week to pick up several items. Management acknowledged that this process only works well if maintenance staff does not need the part immediately, thus the reason Water Rec has made getting the parts room restocked a priority.

#### OBJECTIVE FIVE: COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS

We reviewed Water Rec's compliance with federal, state, and local laws. We reviewed reports completed by the EPA and DENR on compliance with federal and state laws and regulations. We also reviewed City Code for compliance with local laws. It appears that Water Rec is in compliance with all relevant federal and state laws and regulations. However, a local law places responsibility on Public Works to verify that grease traps in commercial properties are being properly maintained and they are to review the records that each commercial property requiring grease traps are required to maintain. According to City of Sioux Falls Code, it is the responsibility of the Public Works Director to verify that these actions are occurring. The code reads as follows:

##### City of Sioux Falls Code Section 41-117. Grease, oil and sand traps.

“Grease, oil and sand interceptors shall be provided when, in the opinion of the manager, they are necessary for the proper handling of liquid wastes containing floatable grease in excessive amounts, or oil, sand, or other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the manager, and shall be located as to be readily and easily accessible for cleaning and inspection. **In the maintaining of these interceptors the owner shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain records of the dates, and means of disposal, which are subject to review by the manager.** Any removal and hauling of the collected materials not performed by the owner's personnel must be performed a by currently licensed liquid waste hauler.” (Emphasis added.)

The definition of **manager** according to the same chapter of City of Sioux Falls Code is:

##### City of Sioux Falls Code Section 41-1. Definitions.

*Manager* means the public works director appointed by the mayor or the mayor's duly authorized representative.

### **AUDIT FINDING TWO**

**No inspection or review of grease trap cleaning and maintenance appears to be occurring.** City Code charges the Public Works Director with verifying that all commercial properties that have been fitted with grease traps are maintaining those grease traps appropriately. Water Rec has identified grease as a contributing factor to reduction in collection efficiencies. Several areas of Sioux Falls that have high concentrations of restaurants require Collections crews to do multiple inspections and cleaning of the sanitary sewer lines each year. Water Rec Collection crews have found grease build up in these areas leading Water Rec to believe that some restaurants are not properly maintaining their grease traps. Without a formal inspection process, we cannot substantiate this hypothesis.

**Recommendation Five:** Water Rec should institute a formal inspection process of all commercial facilities that have grease traps. Commercial properties that have grease traps in place and are not properly maintaining them are in violation of City Code. Water Rec does have the responsibility to inform these property owners of this violation. Implementation of this process will involve Water Rec dedicating an employee specifically for these duties. It may require the addition of a full time employee if no other suitable means to complete these duties exists with current staffing levels.

We understand that the Public Works Environmental Division has conducted surveys of commercial properties in the past to get an understanding of what kind of grease traps each facility has, if they have any at all. The dedicated employee will need to work with Environmental Division to identify these establishments and also may need to work with Building Services representatives to identify any new locations that have had grease traps installed since Environmental Division conducted their survey. The process will also include an educational element since most establishments may not be aware of this requirement to comply.

We do want to acknowledge that Water Rec has previously identified this need. Prior to this audit, Water Rec had begun researching the best way to meet this requirement in the most cost effective manner possible.

*Public Works Response: Water Reclamation agrees that more resources need to be dedicated to eliminating Fats Oils and Greases from the Collection and Treatment Systems. Furthermore Water Reclamation agrees that more coordinated efforts are required for the program to be successful. A successful Fats Oils and Greases program will take a singularly tasked employee and Water Reclamation agrees to evaluate re-tasking existing staff and/or the merits of adding an employee reporting to the Water Reclamation Superintendent. The position will develop an educational and enforcement program for Fats Oils and Greases. Budgetary impacts could be compensated significantly in offset maintenance and increased energy production. Water Reclamation commits to having an individual dedicated to Fats Oils and Greases education, inspection, and enforcement no later than May of 2011.*

### **OBJECTIVE SIX: INFRASTRUCTURE PROPERLY MAINTAINED**

We reviewed maintenance activities and the replacement plans for Water Rec's infrastructure. We interviewed Collections and Maintenance staff and observed Collections and Maintenance staff conducting their daily routine maintenance. We analyzed the Capital Improvement

Programs (CIP) for 2007, 2008, and 2009 and compared this to actual expenditures during those same years.

We found that Collection, Maintenance, and Operation staff is maintaining the current infrastructure properly. We also found that significant resources have been budgeted and spent on infrastructure repair and expansion.

Collection staff spends significant time and resources on cleaning and maintaining the sanitary sewer system. They also use video equipment to record the condition of sanitary sewer lines making notes of areas that need to have work done to improve the performance of the system.

In the last three years Water Rec has spent millions of dollars repairing and expanding the sanitary sewer system around Sioux Falls. This has happened through projects that were in conjunction with other City departments such as Street or Water Purification. Water Rec has completed projects on their own as well. Please refer to exhibits A and B for further information.

### **OPPORTUNITIES FOR IMPROVEMENT**

- 1) We discussed with management potentially increasing security measures throughout the entire Water Rec facility. Management mentioned that they have been considering making some changes to increase security. For purposes of not revealing any areas of concern to the public, we will not be mentioning the areas discussed in this report, but encourage management to continue reviewing security measures and look to make some of their ideas reality. We would also highly encourage management to verify that staff follows all established security measures.

*Public Works Response: Water Reclamation agrees and will evaluate the areas of risk in the facility for changing security needs. Water Reclamation will also continue to establish with staff to monitor and challenge those who are not properly ID'd.*

- 2) We recommend that management have quarterly or annual meetings to remind staff of department policies and procedures. We do know that management does hold daily or weekly meetings with staff, but think that a quarterly or annual meeting would be more conducive to discussing policies and procedures that are not usually discussed during the daily or weekly meetings. During interviews with staff, they expressed that current staff meetings do not include any reminders of departmental policies and procedures. For example, several employees suggested that they were not familiar with what the current ethics policy was. The employees said they were aware that there was a policy, but were not familiar with the language in the policy.

*Public Works Response: Water Reclamation is aware that policy review meetings are happening irregularly. Water Reclamation will include communication about policy in future meetings and look at improving the quality of communication about policy issues.*

- 3) We recommend that management, with assistance from the Information Technology (IT) Department, fully implement the Hansen software system throughout the whole Collections Division including putting laptops and wireless network connections in all



Vactor trucks. In the vehicles, such as the TV vans, that have this technology already, staff reports that major time savings have occurred, reducing work to all parties involved. We would encourage this system be fast-tracked in whatever way possible, so that the time and cost savings can be fully realized as soon as possible.

Management has stated that it is working to implement the system and have budgeted in coming years to make some of the up-grades necessary to implement the system. Management also informed Internal Audit staff that they have been delayed in the past because of challenges in converting from old software to the new Hansen software. Management added that they have gotten by those challenges, but not without having to push back the full implementation of Hansen software.

*Public Works Response: Water Reclamation agrees that an accelerated implementation of the mobile product is desirable and would be beneficial for staff and management. Water Reclamation also believes that the current schedule is appropriate at this time to advance the goals of the department and reduce impacts for the initial costs. The current goal to have the mobile roll out completed is 2011.*

- 4) We recommend that Water Rec identify and implement a software program to track Maintenance work orders as soon as possible. Management stated that they have identified a couple of software programs that might fit there needs but have not yet decided on which one to go with. The current system of the combination of using an Excel spreadsheet and the AS400 work order menu does appear to be working, but is inefficient and cumbersome. We feel that implementing a work order system designed for the needs of the Maintenance Division will greatly increase efficiencies and will provide a way to better track the work completed by the Maintenance staff.

*Public Works Response: Water Reclamation agrees and is in the process of evaluating the appropriate software with the assistance of the Information Technology Division. Potential vendors at this time are Hansen and MP2. A product will be purchased by the end of 2009.*

## **AUDIT CONCLUSION**

The Water Rec management and staff are knowledgeable, experienced, and competent in their different positions. All residents of the Sioux Falls, Brandon, and two sanitary sewer districts serviced by Water Rec should be confident that their wastewater is being collected and treated by a very capable Water Rec department. Management informed Internal Audit staff that they are very willing to work with the Internal Audit staff and City Council to continue to improve wherever possible.

We would like to thank Water Rec management and staff for their cooperation and assistance during this audit.

WATER REC – CIP – EXHIBIT A		2007		2008		2009		TOTAL	
CIP #	PROJECT DESCRIPTION	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL
1077	CENTRAL MAIN INTERCEPTOR REPLACEMENT	1,404,000	1,295,825	0	2,568,973	0	0	1,404,000	3,864,798
25077	EAST SIDE SANITARY SEWER SYSTEM	95,000	964,102	0	0	1,950,000	0	2,045,000	964,102
64077	SCADA FOR THE WATER REC FACILITY	0	0	184,000	34,740	0	22,505	184,000	57,245
75077	MANHOLE REHABILITATION PROJECT	100,000	0	0	0	100,000	0	200,000	0
78077	LIFT STATION #224 IMPROVEMENTS	223,000	122,480	0	0	0	0	223,000	122,480
110077	DIGESTER GAS PIPING REPLACEMENT	0	123,435	0	0	0	0	0	123,435
112077	PIPE LINING PROJECT	0	0	0	0	558,000	28,900	558,000	28,900
116077	BASIN #13 TRUNK SEWER	0	0	3,355,000	1,872,668	1,638,000	0	4,993,000	1,872,668
118077	WATER REC FACILITY HVAC UPGRADE	30,000	0	0	45,000	232,000	0	262,000	45,000
119077	ELIMINATION OF RICE & KIWANIS LIFT STATIONS	0	0	0	0	33,000	30,533	33,000	30,533
125077	WATER REC FACILITY STANDBY POWER SUPPLY	1,296,000	1,245,168	0	65,700	0	0	1,296,000	1,310,868
126077	WATER REC FACILITIES PLAN	200,000	186,428	0	0	0	0	200,000	186,428
133077	WEST SIDE FUTURE INTERCEPTORS	25,000	0	25,000	0	25,000	0	75,000	0
134077	WESTRN INTRCPTR SAN SEWR PIPE LINING/ODR CONTRL	220,000	231,177	0	0	0	0	220,000	231,177
135077	WATER REC FACILITY CHLORINE FEED CONVERSION	70,000	0	0	0	0	0	70,000	0
136077	WATER REC FACILITY FLOW EQUALIZATION BASIN	94,000	27,851	0	0	0	0	94,000	27,851
137077	EAST SIDE SANITARY SEWER SYSTEM - PHASE 2	0	0	722,000	0	0	0	722,000	0
138077	WATER REC FACILITY ROOF REPLACEMENT	0	0	0	0	561,000	14,169	561,000	14,169
139077	WATER REC FACILITY PROCESS PUMPING STATION	0	0	580,000	1,549,486	1,197,000	0	1,777,000	1,549,486
140077	EAST SIDE FUTURE INTERCEPTORS	0	0	10,000	0	125,000	0	135,000	0
141077	SANITARY SEWERS - OTHER MAINS	415,000	276,109	404,000	305,152	540,000	11,875	1,359,000	593,136
142077	ODOR CONTROL COLLECTION SYSTEM	582,000	0	0	0	520,000	0	1,102,000	0
143077	EAST SIDE SANITARY SEWER WATER REC FACILITY	0	0	50,000	0	3,200,000	0	3,250,000	0
145077	COLLECTION SYSTEM FLOW METERING IMPROVEMENTS	0	0	0	0	290,000	0	290,000	0
146077	WATER REC FACILITY LIME FEED SYSTEM	0	0	0	0	689,000	3,325	689,000	3,325
147077	WATER REC FACILITY CHLORINE SYSTEM CONVERSION	0	0	0	0	179,000	0	179,000	0
148077	PUMP STATION IMPROVEMENTS	0	0	0	0	174,000	0	174,000	0
149077	WATER REC FACILITY ENERGY RECOVERY	0	0	0	0	92,000	0	92,000	0
150077	WATER REC FACILITY DIGESTER MIXING IMPROVEMENTS	0	0	0	0	27,000	6,241	27,000	6,241
	TOTALS	4,754,000	4,472,575	5,330,000	6,441,719	12,130,000	117,547	22,214,000	11,031,841

MULTIPLE DEPTS – CIP – EXHIBIT B		2007		2008		2009		TOTAL	
CIP #	PROJECT DESCRIPTION	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL
132014	85th St from Louise Ave to Minnesota Ave	0	0	590,000	143,761	0	0	590,000	143,761
148014	Right-of-Way Acquisition for Public Works	0	0	50,000	0	50,000	0	100,000	0
177072	Update Existing Flood Control Structures for Water Quality	0	0	0	0	9,000	0	9,000	0
153075	Western Heights Water Main Replacement	28,000	0	4,000	0	56,000	0	88,000	0
164075	Air Base Area Water Main Replacement	0	0	5,000	0	68,000	0	73,000	0
40088	Development Driven Arterial Street Projects	375,000	0	375,000	0	375,000	0	1,125,000	0
101099	Neighborhood Restoration Projects	0	0	0	0	150,000	0	150,000	0
120099	Downtown Area - Street and Utility Improvements	0	0	0	0	2,000	6,921	2,000	6,921
135099	33rd St from Spring Ave to Center Ave	25,000	57,384	0	0	0	0	25,000	57,384
194099	Cliff Avenue from Benson Rd to Chambers St	168,000	68,436	0	0	0	0	168,000	68,436
198099	Concrete Pavement Restoration and Joint Rehab	50,000	14,755	50,000	20,000	50,000	0	150,000	34,755
281099	57th St from Cliff to Minn	0	0	0	16,191	0	0	0	16,191
305099	I-90 and Marion Rd Interchange	0	0	305,000	0	0	0	305,000	0
319099	Southeastern Ave from 49th St to 57th St	7,000	5,177	0	0	0	0	7,000	5,177
363099	49th Street Extension	0	0	0	0	20,000	0	20,000	0
380099	6th St from Blauvelt Ave to Lewis Ave	18,000	8,049	0	0	0	0	18,000	8,049
388099	57th St from Cliff to Sycamore	0	130,677	295,000	126,228	0	0	295,000	256,906
399099	SD100 and Arrowhead Parkway Construction	135,000	0	20,000	0	103,000	0	258,000	0
410099	69th St from Louise Ave to East	7,800	34,275	0	0	0	0	7,800	34,275
423099	Sycamore Ave from 26th St to 37th St	10,000	231,177	0	0	0	0	10,000	231,177
424099	26th St from Berkshire Blvd to Sertoma Ave	21,000	0	21,000	2,920	0	0	42,000	2,920
434099	Southeastern Ave from 57th to 1320' South	0	0	0	2,106	0	0	0	2,106
435099	Railroad Crossing Improvements	10,000	0	10,000	0	10,000	0	30,000	0
438099	26th St from Sycamore Ave to Eastside	0	24,958	0	0	0	0	0	24,958
441099	85th St from Louise Ave to Minnesota Ave	230,000	0	0	0	0	0	230,000	0
448099	Solberg Avenue & I-229 Overpass	0	0	0	0	279,000	0	279,000	0
453099	SDDOT Project Coordination	50,000	0	50,000	0	50,000	0	150,000	0
466099	Career Ave from Benson to Tickman	0	0	0	6,852	0	0	0	6,852
468099	Bahnson Ave from Madison to Rice	0	0	0	8,627	0	0	0	8,627
469099	Valley View Rd from 12th to 16th	0	0	0	10,329	0	0	0	10,329
472099	Hillcrest Ave from 54th St N to 57th St N	0	0	0	64,967	0	0	0	64,967
475099	41st St from Hwy 11 to 6 Mile Rd	0	0	0	147,636	0	0	0	147,636
479099	26th St West of Ellis Rd	0	0	0	6,384	0	0	0	6,384
482099	Willowwood Ave from 6 Mile Rd to East	0	0	0	60,049	0	0	0	60,049
485099	Galaxy Ln from Cushman to Aruba	0	0	0	25,505	0	0	0	25,505
	<b>TOTALS</b>	<b>1,134,800</b>	<b>574,889</b>	<b>1,775,000</b>	<b>641,555</b>	<b>1,222,000</b>	<b>6,921</b>	<b>4,131,800</b>	<b>1,223,365</b>

