



# CITY OF SAN ANTONIO

SAN ANTONIO TEXAS 78283-3966

May 31, 2013

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Councilman, District 8

**Elisa Chan**  
Councilwoman, District 9

**Carlton Soules**  
Councilman, District 10

SUBJECT: Audit Report of the Public Works Department Infrastructure Management Plan

Mayor and Council Members:

We are pleased to send you the audit report of the Public Works Department Infrastructure Management Plan. This audit began in October 2012 and concluded with an exit meeting with department management in May 2013. Management's verbatim response is included in Appendix B of the report. The Public Works Department management and staff should be commended for their cooperation and assistance during this audit.

The Office of the City Auditor is available to discuss this report with you individually at your convenience.

Respectfully Submitted,

Kevin W. Barthold, CPA, CIA, CISA  
City Auditor  
City of San Antonio

Distribution:

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**CITY OF SAN ANTONIO**  
**OFFICE OF THE CITY AUDITOR**



Audit of the Public Works Department:

Infrastructure Management Plan

Project No. AU13-014

May 31, 2013

Kevin W. Barthold, CPA, CIA, CISA  
City Auditor

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## Executive Summary

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As part of our annual Audit Plan approved by City Council, we conducted an audit of the Public Works Infrastructure Management Plan. The audit objective, conclusions, and recommendations follow:

**Are projects included in the Infrastructure Management Plan (IMP) completed within the timeline, scope and budget described in the plan?**

Street maintenance projects included in the IMP were completed within the appropriate fiscal year timeline, scope and within the total budget allocated. However, in-house street maintenance project expenditures are not tracked at the project level; therefore, we could not determine budget compliance at the project level.

We identified one street maintenance project that was labeled as complete when in fact it was never started. Also, we noted one instance where a scope change was not properly approved. Public works acknowledged these oversights and will implement additional controls in the future.

Drainage projects lacked documentation that defined project limits to determine whether projects were completed within scope. Therefore, we could not determine if the appropriate scope of the project was completed in accordance with the IMP.

Sidewalk projects were determined to be completed within the timeline, scope and budget allocated in the IMP.

Finally, Policies and Procedures related to the IMP were not sufficient regarding the development and implementation process of the IMP.

We recommend the Public Works Director

- Implement comprehensive monitoring controls that will ensure all projects in the IMP are completed and scope changes are approved by City Council. Also, reevaluate the 2012 IMP to ensure that all in-house projects were completed as intended.
- Continue to develop a process that will facilitate the reporting of actual costs on a per project basis.
- Ensure sufficient documentation is maintained that clearly identifies the scope of work completed for each project along with a supervisor's signature for accountability.

- Document formal policies and procedures to provide guidance for all significant business processes related to the IMP.

The Public Works Department's verbatim response is in **Appendix B** on page 7.

## Table of Contents

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Executive Summary .....	i
Background.....	1
Audit Scope and Methodology .....	3
Audit Results and Recommendations .....	4
A. SMP In-House Project Management Controls Need Improvement.....	4
B. Documentation Lacking for Drainage Projects.....	4
C. Sufficient Policies and Procedures Not Documented for the IMP .....	5
Appendix A – Staff Acknowledgement .....	6
Appendix B – Management Response.....	7

## Background

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The Public Works Infrastructure Management Program (IMP) is a five-year rolling program which focuses on the maintenance of San Antonio’s infrastructure. The goal of the IMP is to provide the best possible maintenance for the City of San Antonio. Public Works citywide service needs are identified and scheduled for street maintenance, alley maintenance, drainage maintenance, sidewalks, traffic signals, pavement markings and Advanced Transportation District (ATD) related projects. (See table below)

INFRASTRUCTURE MANAGEMENT PLAN PROGRAM	FISCAL YEAR 2012		
	# of Projects Planned	Amount Budgeted (in millions)	% of Total Budget
Contractual	200	\$24.6	
City Forces (In-House)	793	10.5	
<b>Street Maintenance (Total)</b>	983	35.1	60%
Drainage	99	3.8	7%
Sidewalks	52	6.0	10%
Alley Maintenance	24	2.3	4%
Traffic Signals	6	1.2	2%
Pavement Markings	48	1.0	2%
ATD (Advanced Transportation District)	N/A	9.0	15%

The IMP is intended to provide the City with a structured program schedule, potential for additional multiple year contract awards and improved utility coordination. The IMP is presented to City Council each year for approval along with any unforeseen modifications that occur during the year. Amendments may occur throughout the year due to coordination with utilities or unforeseen conditions, such as inclement weather. The following are various programs included in the IMP:

- **Street Maintenance Program**

Street maintenance projects are completed by in-house and City contractors on an annual basis. Each street project improves the integrity of the City’s streets and rehabilitates roadways citywide. In addition, a comprehensive Pavement Preservation Program was established in 2011 to help minimize deterioration through the use of sealant applications. These projects are funded by the City’s general fund. The funding of projects in each district is

driven by street evaluations performed by Public Works. Those funds budgeted for projects, but are not used, are reallocated to the general fund.

- **Drainage Maintenance Program**

The maintenance of creekways and their tributaries is important to help reduce flooding that may occur during inclement weather. This program included projects related to channel restoration and creek way maintenance. Funding for this program is provided through the Stormwater Utility fund. A budget is provided and the funds are allocated evenly amongst the ten City Council districts.

- **Sidewalks Program**

Sidewalks projects are constructed annually throughout the City to help make San Antonio a more walkable community. In 2009 the first Americans with Disabilities Act (ADA) Sidewalk Transition Plan was established Citywide. Keeping the same walkable goal in mind, focus is on ensuring that sidewalks and crosswalks are ADA compliant and available to all citizens. This program is funded mainly through the ATD.

- **Alley Maintenance Program**

Through a collaborative effort between Public Works and Solid Waste Management, the conditions of various alleys are improved Citywide on an annual basis. Each alley is completely reconstructed and equipped with cart pads. This program is funded by Solid Waste and the Stormwater Operation fund.

- **Traffic Signal Program**

There are over 1,300 traffic signals Citywide, some of which are positioned upon wood poles. As part of the Traffic Signal Program, these signals are being upgraded from wood poles to mast arm assemblies. New traffic signals are also being installed annually.

- **Pavement Markings Program**

This program ensures the pavement markings on the City's roadway network are adequate to ensure traffic safety. An estimated 1,100 miles of roadway have some type of marking that must be maintained.

- **ATD Improvements Program**

The ATD program provides the City with the opportunity to implement projects that will improve transportation mobility. Improvements are made to areas such as school crosswalks, bicycle facilities and traffic lights city wide.

## **Audit Scope and Methodology**

The audit scope included a review of projects from the IMP for Fiscal Year (FY) 2011 and FY 2012. Specifically, we reviewed projects from Streets Maintenance (SM), Sidewalk Maintenance and the Drainage Maintenance Programs.

We interviewed the Assistant Director of Public Works and operations managers from the various programs responsible for the IMP. We observed processes related to the implementation of the “in-house” and contracted projects within the SM program. Finally, we obtained an understanding of processes related the Sidewalk and Drainage programs.

We performed physical observations of street maintenance within each of the ten City Council districts to ensure the scope of work done was in accordance with the IMP for FYs 2011 and 2012. Additionally, we performed physical observation of sidewalks completed in various districts to ensure the scope was completed in accordance with the IMP in FYs 2011 and 2012.

We verified that street maintenance projects were performed timely and within scope in accordance with the IMP. Additionally, we determined whether projects were completed within budget. We judgmentally selected a sample of 50 projects from 10 City Council districts. Specifically we tested timeliness by comparing proposed project dates provided by Public Works to actual dates from daily logs.

To determine if a project was completed within scope, we used daily logs as well as photographs of streets prior to and after the maintenance was performed. Next, we tested the monetary budget of each project by comparing estimated budget to the actual costs. Finally, we applied the aforementioned testing methodology to the Sidewalk and Drainage programs. We judgmentally selected a sample of ten projects from both programs.

We conducted this audit from October 2012 to February 2013 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 audit results and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our audit results and conclusions based on our audit objectives. Our audit included tests of management controls that we considered necessary under the circumstances.

## Audit Results and Recommendations

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### A. SMP In-House Project Management Controls Need Improvement

Monitoring controls over in-house projects need improvement to ensure that the scope of work is completed in accordance with the IMP. During testing of FY 2012 projects, we identified two street projects that were not completed as approved in the IMP. One project was entirely overlooked by staff and never started. This occurred because staff unintentionally labeled the project as complete in their official records.

The other project was reduced in scope without proper authorization from City Council. This project was labeled as rehabilitation on the IMP. However, when staff went out to survey the road, they determined rehabilitation was not needed so the road was patched with a crack seal. Although the change was warranted, Public Works utilizes "Concurrence Memos" to obtain approval from Council Districts for the re-prioritization of projects in the IMP. Project deferrals, accelerations or replacements must be approved by the impacted Council Member. In this instance, City Council was not properly informed of the scope change to the IMP.

Finally, Public Works staff does not track actual costs for the in-house IMP on a per project basis. Therefore, we were not able to test the in-house projects to ensure they were completed within budget. According to Public Works, this has been a challenge because it is a multi-departmental effort. However, they are currently in the process of developing a system that will facilitate the reporting of actual costs on a per project basis.

#### Recommendation

The Public Works Director should implement comprehensive monitoring controls that will ensure all projects in the IMP are completed and scope changes are approved by City Council. Also, reevaluate the 2012 IMP to ensure that all in-house projects were completed as intended.

Finally, the Director should continue to develop a process that will facilitate the reporting of actual costs on a per project basis.

### B. Documentation Lacking for Drainage Projects

The adequacy of scope for Drainage Projects could not be determined for various projects reviewed due to lack of sufficient documentation. We attempted to test 10 Drainage Projects for FYs 2011 and 2012 to ensure they were completed within scope and budget. We determined Public Works does not track drainage project budgets on a per project basis. Therefore, we could not

determine if any of the 10 projects were completed within budget. However, in total, the drainage program was completed within budget.

Additionally, we could not determine if the scope of work completed was sufficient for 5 projects because the documentation provided did not identify the upper and lower limits of the drainage projects completed. Therefore, we could not determine if the projects were completed in accordance with the IMP.

Without adequate support documentation, operation managers cannot be certain that the scope of work was completed in accordance with the IMP.

### **Recommendation**

The Public Works Director should ensure sufficient documentation is maintained that clearly identifies the upper and lower limits of work completed for each project along with a supervisor's signature for accountability.

### **C. Sufficient Policies and Procedures Not Documented for the IMP**

Public Work did not have sufficient documented policies and procedures regarding the development and implementation processes associated with the IMP. Without thorough policies and procedures, staff is not always aware of management's expectations for carrying out key duties associated with the IMP. Additionally, thorough policies and procedures will facilitate training and provide consistent guidelines in the event there are changes in personnel.

### **Recommendation**

Public Works Director should document formal policies and procedures that document all significant business processes related to the IMP.

## **Appendix A – Staff Acknowledgement**

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Danny Zuniga, CPA, CIA, Auditor in Charge

## Appendix B – Management Response



### CITY OF SAN ANTONIO

SAN ANTONIO TEXAS 78283-3966

May 22, 2013

Kevin W. Barthold, CPA, CIA, CISA  
 City Auditor  
 San Antonio, Texas

RE: Management's Corrective Action Plan for the  
 Audit of the Public Works Department: Infrastructure Management Plan

Public Works has reviewed the audit report and has developed a Corrective Action Plan corresponding to report recommendations, as shown below:

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
1	<b>SMP In-House Project Management Controls Need Improvement</b>  <b>Recommendation:</b>  <b>1(a).</b> The Public Works Director should implement comprehensive monitoring controls that will ensure all projects in the IMP are completed and scope changes are approved by City Council.	4	Accept	Anthony Chukwudolue/ Asst Director & Mike Rogers/ Asst Director	May 31, 2013
	<b>1(b).</b> Reevaluate the FY 2012 SMP IMP to ensure that all in-house projects were completed as intended.	4	Accept	Mike Rogers/ Asst Director	Complete
	<b>1(c).</b> The Director should continue to develop a process that will facilitate the reporting of actual costs on a per project basis.	4	Accept	Anna Resendez/ Dept Fiscal Administrator	Jan 15, 2014

1	<p><b>Action plan:</b></p> <p><b>1(a).</b> Public Works has begun the implementation of an improved four-part process to strengthen monitoring controls in the Infrastructure Management Program (IMP), prevent future unauthorized scope changes and ensure the completion of budgeted projects. This includes 1) organizing project materials into individual folders for each project, 2) drafting concurrence memoranda for each project scope change, 3) establishing a formal set of Standard Operating Guidelines (SOG), and 4) conducting bi-annual training for assigned personnel based on the SOG in February and August.</p> <p>Creating individual folders for each project will increase efficiency by providing a single location for all project materials. Concurrence memoranda will be drafted for changes in project scope, as well as for any significant deviation from the original project plan, and will require a signature from the Councilmember of the affected district. Changes to project scope will not commence until the proper signatures and authorizations are gathered.</p>
	<p><b>1(b).</b> Staff has verified that all other in-house SMP FY 2012 projects have been constructed, and on-site visits have been made to each project location. Additionally, supervisors are required to make a site visit and sign inspection documentation to verify that each project has been completed in accordance with program parameters.</p>
	<p><b>1(c).</b> Fiscal staff has begun working with Finance and ITSD to develop a method by which IMP projects can be tracked on a per project basis. In the interim, a fiscal database is being used to track costs for individual projects. Additionally, staff will maintain financial records, which can be reconciled with actual expenditures in SAP for each project.</p>

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
2	<p><b>Documentation Lacking for Drainage Projects</b></p> <p><b>Recommendation:</b></p> <p>The Public Works Director should ensure sufficient documentation is maintained that clearly identifies the upper and lower limits of work completed for each project along with a supervisor's signature for accountability.</p>	5	Accept	Frank Newberry/ Operations Manager	Complete

Audit of Public Works Infrastructure Management Plan

<b>2</b>	<p><b>Action plan:</b></p> <p>Public Works has evaluated all current drainage projects in the IMP and prepared detailed information sheets which contain project location, description, scope, budget, funding source, and assigned project manager. Information sheets clearly identify project limits approved in the IMP and require multiple supervisor signatures to ensure compliance with the SOG and project limits.</p>
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Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
<b>3</b>	<p><b>Sufficient Documented Policies and Procedures Lacking for the IMP</b></p> <p><b>Recommendation:</b></p> <p>Public Works Director should document formal policies and procedures that document all significant business processes related to the IMP.</p>	<b>5</b>	Accept	Majed A. Al-Ghafry/ Director	May 31, 2013
<b>3</b>	<p><b>Action plan:</b></p> <p>Public Works has developed a comprehensive SOG for execution of the five year IMP. The SOG will address noted issues in the Public Works Audit as well as other performance measure parameters vital to project detail and fiscal responsibility.</p>				

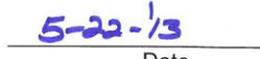
We are committed to addressing the recommendations in the audit report and the plan of actions presented above.

Sincerely,

  
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 Majed A. Al-Ghafry  
 Director  
 Public Works Department

  
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 Date

  
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 Peter Zanon  
 Deputy City Manager  
 City Manager's Office

  
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 Date