



Council Meeting: December 16, 2008

SUBJECT: Transmittal of the FY 2006/2007 Performance Results Audit of Program 216 – Roadside and Median Right-of-Way Services

REPORT IN BRIEF

This report presents the audit of performance results reported during FY 2006/2007 by Program 216 – Roadside and Median Right-of-Way Services in the Department of Public Works.

The purpose of a performance results audit is to ensure budgetary and management decisions were based on valid and complete information. The program's performance reporting system was evaluated for: 1) reporting accuracy; 2) language transparency; 3) documentation/data integrity; and 4) the integration of reporting systems within workflow. The evaluation was performed through staff interviews, documentation review, and the recalculation of reported results. Findings and recommendations are presented in the attached audit report.

BACKGROUND

Measuring program performance has been a key feature of Sunnyvale's management and budgeting system for more than two decades. Funding for City programs is not budgeted by line item, but rather by the efforts or tasks undertaken in each program. These tasks are called activities. In the budget structure, activities are grouped into service delivery plans, which are further grouped into programs. Each activity has a budgeted number of dollars and staff hours to perform the tasks. The activities also have a budgeted number of "products" that the activity is expected to produce with the given resources. Expenditures and product counts are used to calculate product cost, products per hour, and hours per product. Each program also has a series of performance measures which quantify how well the services are performed. Service level and funding decisions are made based on these measures and Council priorities.

The audit verifies measure results and activity product counts by reconciling the reported numbers to source documentation and by recalculating the results using the City approved methods outlined on the Measure Definition and Documentation Procedures document (the SOP). The language of SOPs,

measures, and activity titles is reviewed to ensure that calculation instructions are easy to understand and the reported numbers reflect the intent of the measure, SOP, and product text. Documentation systems are reviewed for completeness and to determine if easier ways to collect the data exist by integrating reporting systems into operational workflow.

EXISTING POLICY

The Fiscal Sub-element of the General Plan includes the following policies:

- Long Range Goal - VII: To ensure accuracy and policy consistency in City processes and reporting through regular financial and performance audits of programs.
- Internal Control - G.2.5: Performance audits will be conducted regularly on a schedule set by Council to verify that the performance data reported by each department is complete, valid, and accurate.

Per Council policy, performance results audits are performed on all operating programs over an eight year period. The audit presented in this report is part of the current audit plan's sixth year.

DISCUSSION

Program 216 – Roadside and Median Right-of-Way Services in the Department of Public Works maintains the landscape and hardscape¹ surfaces in or along City roads, medians, fire stations, water well sites, and at the Water Pollution Control Plant (WPCP). The program also maintains the connection sites to the Hetch Hetchy water system, provides for the cleaning of the restrooms at Caltrain's Multimodal Transit Station (MTS) on West Evelyn Avenue, and oversees a groundskeeping service contract to maintain both landscape and hardscape conditions at the MTS. Overall, the program maintains well over 370,000 square yards of landscaping which supports over 6,000 trees and 26,000 shrubs.

The reporting structure for the program consists of twelve (12) performance measures, nine (9) data points, and forty-nine (49) activities for a total of seventy (70) reported results. Results are organized and reported by service area, not by service type. Thus, a task performed in a median area is reported by a different measure (or activity number) than if it was performed at a fire station. To accommodate this reporting structure, the program uses an Excel spreadsheet which tracks work efforts and plant inventory at more than 150 locations.

¹ Brick, concrete, river rock cobbles, asphalt, crushed rock, and sound walls.

For the audit, the accuracy of a reported result is verified by recalculating the number using source documents and the calculation procedures in the SOP. Results are considered accurate if the recalculated numbers are within $\pm 3\%$ for measure results and within $\pm 5\%$ for activity products. Sampling is used to verify results when data sets are too large to be reconciled within the time constraints of the audit. If a data set is sampled, statistical procedures are followed to ensure an acceptable confidence level for the result is achieved.

The table below summarizes the results of the audit:

AUDIT STATISTICS		
Number of Results Reported Within 3% & 5%	21	78%
Number of Results Not Reported Within 3% & 5%	4	15%
Number of Results Unable to Verify	2	7%
Total Number of Measures/Activities Reviewed	27	100%
Total Number of Measures Not Reported	0	
Number of Results Not Audited	43	
Total Number of Measures/Activities in the Program	70	
Number of SOPs Missing	0	

Twenty-one (21) of the 27 results reviewed were reported correctly (78%) according to the calculation guidelines approved by City management on the *Measure Definition and Documentation Procedures* document, commonly known as the "SOP." Four results (15%) were reported outside the acceptable margins of error. Two results (7%) could not be verified.

As mentioned above, the program tracks work efforts and plant conditions at more than 150 locations. The complexity of the tracking system leads to two issues for the program. The first is that organizing by location rather than by type of work portrays an incomplete picture of the program's workload and often understates the scope of the work performance. The second is that the complexity by its nature can lead to mistakes. The primary reason that certain of the measures or activities could not be verified as accurate is the design of the current tracking system. The audit makes eight (8) recommendations to simplify and improve the current reporting systems. The audit also contains two operational recommendations regarding reevaluation of the spreadsheet tracking system and the amount of information that is being tracked. The Public Works Department agrees with the recommendations and has already implemented several of the improvements.

FISCAL IMPACT

Costs associated with preparation of these audit reports were included in the City of Sunnyvale's operating budget in Program 745 — Program Performance Audits.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, in the Council Chambers lobby, in the Office of the City Clerk, at the Library, Senior Center, Community Center, and Department of Public Safety; posting the agenda and report on the City's Web site; and making the report available at the Library and the Office of the City Clerk.

ALTERNATIVES

1. Receive the audit report and concur with management's acceptance of recommendations.
2. Receive the audit report and direct staff to hold a study session to discuss the audit findings and recommendations.
3. Receive the audit report and give alternative direction regarding specific recommendations.

RECOMMENDATION

Staff recommends Alternative 1: Receive the audit report and concur with management's acceptance of recommendations.

Reviewed by:

Mary J. Bradley, Director of Finance
Prepared by: Sue English, Sr. Internal Auditor

Reviewed by:

Marvin A. Rose
Director of Public Works

Approved by:

Gary Luebbers
City Manager

Attachments

- A. City of Sunnyvale FY 2006/2007 Performance Results Audit, Department of Public Works, Program 216 — Roadside and Median Right-of-Way Services

City of Sunnyvale
FY 2006/2007
Performance Results Audit



Department of Public Works

Program 216
Roadside and Median Right-of-Way Services

August 2008

Auditor: Sue English, Sr. Internal Auditor
City of Sunnyvale

Field Work Start Date: July 2008

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AUDIT OBJECTIVE

The goal of a performance results audit is to ensure that budgetary and management decisions are based upon valid and complete performance information. This is accomplished by evaluating the following components of a program's performance reporting system:

- **Accuracy:** Auditor count or calculations are within ± 3.0 percent for program measures and within ± 5.0 percent for activity product counts.
- **Language:** Measure/Product text accurately represents the numbers portrayed in the reported result.
- **Documentation/Data Integrity:** Documentation systems are complete and data accurately reflects a program's operations. Each measure should have a Standard Operating Procedures (SOP) document describing data sources and calculation methodologies.
- **Integration:** Data collection systems are automated and integrated into the operational workflow of the organization whenever possible.

The evaluation is performed through staff interviews, documentation review, and by recalculating the reported results. The audit considers the year-end report to the City Manager as final. Handwritten corrections in the year-end report are acceptable.

AUDIT SCOPE

The City of Sunnyvale uses performance-based budgeting — a method in which the General Plan's goals are directly supported and accomplished by specific programs. Performance-based budgeting quantifies both performance and expenditures; it also presents the interrelation between the two. This interrelation is called "performance results" and is the focus of this audit.

To quantify performance, each program's function is defined by a program performance statement. The program performance statement provides the purpose of the program and how this purpose will be achieved. Performance measures are the benchmarks and data points are the statistics that provide context to the measures.

To quantify expenditures, each program is separated into service delivery plans (SDPs), which are separated further into activities [also referred to as organizational cost accounts (OCAs) or charge codes]. They are the "place" where all work hours, direct expenditures, and units of production (products) are charged.

The auditor reviewed the FY 2006/2007 performance results as reported by *Program 216 — Roadside and Median Right-of-Way Services*. The program's reporting structure

consists of 12 performance measures, 9 data points, and 49 activities for a total of 70 reported results. Of the total results, 27 were tested (12 measures, 9 data points, and 6 measure supporting activities). The remaining results were not audited because the products are either work hours, training-related, allocated costs, or the activities were not directly related to a performance measure, thus not needed to verify a program measure. Work hours were not evaluated because there is no practical method to verify reported hours were actually worked. Training products were not audited because they are not a main operational function of the organization. Allocated costs are funds distributed to other programs to cover internal services.

Statistical sampling was used to verify some of the results in this audit because the data sets were too large to efficiently count manually. The sampling methodologies used follow accepted statistical theories and practices to provide reliable results at an acceptable confidence level.

PROGRAM BACKGROUND

Program 216 — Roadside and Median Right-of-Way Services is part of the Department of Public Works with offices at the City’s Corporation Yard (221 Commercial Street).

The program has always been known as “*Roadside and Median Right-of-Way Services*” but changed program numbers from 215 to 216 when the Department of Public Works reorganized its budget structure in FY 2004/2005. The program experienced a change in management midway through FY 2006/2007. The Urban Landscape Supervisor for the past five years retired after 35 years with the City. Reported results were due four months after the new supervisor was appointed. Table 1 below shows the program’s operating expenditures and work hours for the past three years.

Table 1:

	FY 2004/2005	FY 2005/2006	FY 2006/2007
Operating Expenditures	\$ 1,306,389.86	\$ 1,279,148.54	\$ 1,345,344.12
Work Hours	23,855	22,867	23,577

Program 216 provides cleaning and landscaping services to the city’s roadside and median areas. Landscaping services include planting, pruning, trimming, edging, weeding, fertilizing, pest abatement, and watering. Hardscape¹ areas are kept clean and weeded. Both hardscape and landscape areas are kept free of litter and debris.

In addition to roadside and median areas, the program provides the same landscape and hardscape services to the following public areas: bike lanes, pork chop islands,² fire

¹ Brick, concrete, river rock cobbles, asphalt, crushed rock, and sound walls.

² Pork chop islands refer to the triangular features between turn lanes and the main roadway.

stations (six), city owned water well sites (twelve), Hetch Hetchy water system connection sites (five), and Sunnyvale’s Water Pollution Control Plant (WPCP). The program also maintains the Multimodal Transit Station³ by cleaning the restrooms, providing landscaping services via outside contractors, and by monitoring overall conditions including the condition of electrical/mechanical systems. Repairs are organized by the program but performed by outside contractors or other city programs.

In total, the program maintains well over 370,000 square yards of landscape/hardscape features within Sunnyvale. Table 2 shows estimated inventory figures for the areas maintained by the program. Inventory figures are in the process of being updated.

Table 2:

Location	Square Yards	Trees	Shrubs
Roadside/Median Areas	256,444	4,481	24,760
City Water Wells (12)	47,777	223	109
Hetch Hetchy Connection Sites (5)*	Unknown	Unknown	Unknown
Fire Stations (6)	16,187	77	347
Water Pollution Control Plant (WPCP)	43,777	158	600
Downtown Locations (6)	5,888	1073	89
Multimodal Station**	Unknown	Unknown	Unknown
TOTAL	370,073	6,012	25,905
* Inventory figures could not be located for the five (5) Hetch Hetchy water system connection sites maintained by the program.			
** The Multimodal Station refers to the CALTRAIN Station, parking lot, and the parking garage located at 121 W. Evelyn Avenue. Inventory calculations performed by the previous manager can not be located. Area for the three lots equals 11,355 sq. yds.			

The program organizes its forty-nine (49) service activities into the following three service delivery plans:

1. Roadside and Median Streetscape Maintenance
2. Sunnyvale Multimodal Transit Station Maintenance
3. Sunnyvale’s Fire Station, Water Pollution Control Plant (WPCP) and Water Wells Landscape Maintenance

³ The Multimodal Transit Station refers to the CALTRAIN station, parking lot, and the parking garage located at 121 W. Evelyn Avenue

The structure of the budget groups service activities by location not by type. Thus similar service products can be found in multiple service delivery plans. For example, activity 216370 reports the number of trees pruned in median and streetscape areas (Service Delivery Plan #1) and activity 216710 reports the number of trees pruned at fire stations and other locations in Service Delivery Plan #3. Products from both activities need to be added together to report all the trees pruned by the program.

AUDIT SUMMARY

The table below summarizes the results of the audit:

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Results Not Reported within Acceptable Margins of Error:

Four results (three measures and one data point) were reported outside the margin of error limits.

RESULTS NOT REPORTED WITHIN ACCEPTABLE MARGINS OF ERROR						
PROGRAM MEASURES						
Meas#	Measure	Data Point	Reported Result	Auditor Calculation	Accurate	
					Y/N	+/-
7	Median island plant material areas have no noticeable weeds protruding above landscaped areas as determined by quarterly quality surveys.	Percent	52.000%	56.090%	No	(4.1%)
10	Customers are satisfied with the condition, appearance and timely response of City Roadsides, Median Landscape services.	Percent	93.000%	68.000%	No	25.0%
14	Median island ground cover is edged four (4) times each fiscal year.	Percent of Total Inventory	60.000%	79.055%	No	(19.1%)
14	Median island ground cover is edged four (4) times each fiscal year.	Square Yards of Ground Cover Edged	313,791.00	413,812.00	No	(24.2%)

Calculation formulas on the spreadsheet tracking system were not capturing all the data which caused Measure #7 to be incorrect. Management has reviewed the spreadsheet and corrected the errors found but the design of the spreadsheet makes it very difficult to be sure that all errors are caught. Product tracking and spreadsheet design will be discussed further in the Operational Issue(s) section of this report.

Measure #10 was initially calculated correctly at 68%, but the result is 11% lower than previous years. The calculation instructions on the SOP do not specify which responses on the four-point scale (*Excellent, Good, Fair, Poor*) should be used to calculate the reported result. The result of 93% is based on the number of *Excellent, Good, and Fair* responses received while the current standard is to report percentage of *Excellent* and *Good* responses. Calculation instructions on the SOP need to be improved to avoid future confusion about which responses to use for calculating the results. The issue has been addressed in the FY 2008-2009 budget structure by creating two measures. One measure will report the percentage of *Excellent* and *Good* responses while the other will report the percentage of *Excellent, Good, and Fair* responses. These measures have the budgeted targets of 68% and 93%, respectively.

Product numbers for the square yards of groundcover edged were corrected at the activity level (216470) but were not corrected at the measure level. This caused the number and percentage of square yards edged reported in Measure #14 to be outside acceptable margins of error. Referencing the activity number on the SOP as the source of product information could have prevented the error. The program should also consider automating the spreadsheet tracking system to calculate measure results from the raw data. This will give managers a source other than the financial system to double check the results before reporting the final figure.

Results Unable to Verify:

The inventory amount for the square yards maintained at the Multimodal Transit Station is larger than the lot size of the facility. The results could not be verified as the products

in the activities for the Multimodal Transit Station do not report on the area maintained. Also, the inventory amount was determined by the previous manager and the calculation sheets can not be located. The station covers three parcels that equal 11,355 square yards. There is a multi-story parking garage on the property. It is possible that the 24,215 square yards of inventory includes the area from each parking level. The program is in the process of updating all inventory amounts and will document how the new inventory is calculated.

RESULTS UNABLE TO VERIFY						
PROGRAM MEASURES						
Meas#	Measure	Data Point	Reported Result	Auditor Calculation	Accurate	
					Y/N	+/-
8	Hardscape and elevator areas are clean at Sunnyvale's Multimodal Transit Station based on quarterly quality surveys.	Square Yards of Multimodal Hardscape Maintained	24,215.00	UTV	N/A	N/A
9	Sunnyvale Multimodal Transit Station landscape areas are clean and weed free based on quarterly quality surveys.	Square Yards of Multimodal Landscape Maintained	1,135.00	UTV	N/A	N/A

Results Reported within Acceptable Margins of Error:

Twenty-one out of the twenty-seven results were reported within the acceptable margins of error outlined for the audit. Four recommendations were made for thirteen of these measures/activities to improve the overall soundness of the reporting system.

RESULTS REPORTED WITHIN ACCEPTABLE MARGINS OF ERROR						
PROGRAM MEASURES						
Meas#	Measure	Data Point	Reported Result	Auditor Calculation	Accurate within 3%	
					Y/N	+/-
5	Hardscape areas, bike lanes and pork chop islands are free of weeds and debris, providing positive visual appeal as determined by quarterly quality surveys.	Percent	72.000%	72.000%	Yes	0%
6	Median island plant material areas are free of litter and debris, providing positive visual appeal as determined by quarterly quality surveys.	Percent	57.000%	57.968%	Yes	(1.0%)
		Square Yards of Plant Material Maintained	3,249,770.00	3,208,871.83	Yes	1.3%
7	Median island plant material areas have no noticeable weeds protruding above landscaped areas as determined by quarterly quality surveys.	Square Yards of Plant Material Maintained	2,879,940.00	2,910,924.12	Yes	(1.1%)
8	Hardscape and elevator areas are clean at Sunnyvale's Multimodal Transit Station based on quarterly quality surveys.	Percent	79.000%	78.542%	Yes	0.5%
9	Sunnyvale Multimodal Transit Station landscape areas are clean and weed free based on quarterly quality surveys.	Percent	76.000%	76.458%	Yes	(0.5%)

Program 216 – Roadside and Median Right-of-Way Services
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RESULTS REPORTED WITHIN ACCEPTABLE MARGINS OF ERROR (continued)						
PROGRAM MEASURES						
Meas#	Measure	Data Point	Reported Result	Auditor Calculation	Accurate within 3%	
					Y/N	+/-
11	Fire station, WPCP, and City Water Well landscaping areas have healthy growth patterns indicative to specific species as determined by quarterly quality surveys.	Percent	77.000%	74.000%	Yes	3.0%
		Square Yards of Fire Station Landscape Maintained	16,187.00	Sample	Yes	2.9%
12	Median island trees are pruned each fiscal year for structural integrity and liability mitigation.	Percent of Total Inventory	16.500%	16.090%	Yes	(0.4%)
		Number of Trees Pruned	739.00	721.00	Yes	2.5%
13	Median island shrubs are pruned each fiscal year.	Percent of Total Inventory	55.900%	55.666%	Yes	0.2%
		Number of Shrubs Pruned	13,808.00	13,950.00	Yes	(1.0%)
15	The cost per irrigation system repair will not exceed the planned cost.	Cost of an Irrigation Repair	\$ 55.31	\$ 54.90	Yes	0.7%
		Number of Repairs Per Year	938.00	945.00	Yes	(0.7%)
16	Actual total expenditures for Roadside and Median Landscape Services will not exceed planned program expenditures.	Total Program Expenditures	\$ 1,345,344.00	\$ 1,345,344.12	Yes	0%
ACTIVITY PRODUCTS						
Charge Code	Charge Code Title	Product Title	Reported Result	Auditor Calculation	Accurate	
					Y/N	+/-
216340	Repairing Irrigation Lines, Heads and Valves	An Irrigation Repair	938.00	945.00	Yes	(0.7%)
216370	Pruning Trees	A Tree Pruned	739.00	721.00	Yes	2.5%
216410	Pruning Shrubs	A Shrub Pruned	13,808.00	13,950.00	Yes	(1.0%)
216440	Weed Removal and Control	A Thousand Square Yards of Landscape Area Weeded	2,879.94	2,910.92	Yes	(1.1%)
216460	Litter/Debris Control	A Thousand Square Yards of Landscape Area Littered	3,249.77	3,208.87	Yes	1.3%
216470	Edge Ground Cover	A Hundred Square Yards of Streetscape Groundcover Edged	4,154.08	4,138.12	Yes	0.4%

Recommendation for Measure 12: Consider expanding the measures to report program performance by activity not by location for comprehensive workload and performance information. The recommendation was specifically made for Measure 12, but should be considered globally. Reporting performance by location rather than by task portrays an incomplete picture of the program's workload and performance. In short, the performance measures do not cover the entire scope of an activity.

To illustrate, the table in Exhibit 1 below was created to correlate the program's major landscape and hardscape tasks by location to the current measures reported. The

white boxes and the grayed “by contract” boxes represent areas that produce products that can be reported. The darker gray boxes represent areas that do not produce products for these activities (i.e. turf is planted in landscaping area but not in hardscape areas or restrooms). The measure number is identified in the white box if the products are reported. Products produced by contract services are currently not reported.

The table shows that most measures report on products in the median areas. This is not wrong but does diminish the workload and accomplishments of the program. For example, the tree pruning products reported by Measure 12 (PM #12) excludes over 1,500 trees maintained by staff or by contract employees at the other locations. Excluding these trees from the reporting structure gives a false impression that the pruning workload (tree inventory) maintained by the program is 25% smaller than actual. Accomplishments are also minimized as pruning products in these areas are not being reported.

Exhibit 1 – Correlation of Major Landscape/Hardscape Tasks by Area to Reported Measures

ACTIVITY		MEDIAN AREAS		MULTIMODAL TRANSIT STATIONS			FIRE STATIONS/ WPCP/ WELLS/ HETCH HETCHY/ DOWNTOWN	
		Landscape	Hardscape	Landscape	Hardscape	Restroom	Landscape	Hardscape
Install	Turf			by contract				
	Groundcover			by contract				
	Trees (Remove & Replace)			by contract				
	Shurbs (remove & replace)			by contract				
Maintain	Turf			by contract				
	Prune Trees	PM #12		by contract				
	Prune Shrubs	PM #13		by contract				
	Edge Groundcover	PM #14		by contract				
	Fertilize			by contract				
	Watering (Truck)			by contract				
	Control Pests			by contract				
	Repair Irrigation	PM #15		by contract				
Clean	Litter/Debris Control			by contract	by contract			
	Weed			by contract	by contract			
	Clean Restrooms							
Perform Quality Surveys								
	Free of Litter & Debris	PM #6	PM #5	PM #9				
	Free of Weeds	PM #7						
	Clean (Hardscape/Elevators)				PM #8			
	Healthy Growth Patterns						PM #11	
Citizen Satisfaction (Appearance/Staff Service)		PM #10						

Recommendation for Measures 12, 13, and Activities 216370, 216410, 216470: Add a summary report to the existing spreadsheet tracking system to analyze products by location and reporting period.

Creating a summary sheet to see products by reporting period has several benefits. First, it is an excellent management tool as products reported by location are now correlated to a specific four week period. Management can quickly see when and where service was provided and plan for future work assignments. Planning now can be based on a season or based on the date of last service. Second, it is a quick indication of problems with inventory numbers and/or tracking methods. If more products are during a period (or annually) there is a problem either with the inventory amount or how staff is accounting for their work. An example of this summary sheet can be found in the Operational Issue(s) section of this report.

Recommendation for Measures 6 and 7: Change the measure text from “Median island plant material areas” to “Areas maintained by the program” or change how the measure is calculated.

These two measures appear to report only on median island areas but use data from all locations for the reported results. Measure text should match the number reported. The program needs to change either the measure text or how the measure is calculated.

Recommendation for Measure 11: Update the measure text and SOP instructions to fit purpose of the measure.

Measure 11 reports “the health of landscaping plants” but the result drawn from the quarterly quality surveys includes data for litter, weeds, hardscape, and irrigation conditions in the calculations. The measure is currently reporting on overall conditions not just the health of the plants at the fire stations, Water Pollution Control Plant, and city water well sites. The calculation methodology should be changed if the purpose of the measure is to report on plant health. The measure text should be changed if the purpose of the measure is to report on overall conditions.

Recommendation for Measures 6, 7, 8, and 9: Correct the “additional data point description” on the SOPs to read “yards of material maintained.”

The SOPs for these measures currently describe the additional data point source as the quarterly surveys. The actual data source is the individual activities or the tracking spreadsheet that report on the number of square yards for each area.

Operational Issue(s):

To track products by area, the program identified seventy-three (73) distinct locations solely within its median and roadside service areas. These locations were further

subdivided into one hundred and eleven (111) segments.⁴ The other areas maintained by the program were also identified and subdivided into approximately 40 more locations. Overall, the program is tracking plant inventory and work efforts for over 150 locations on a spreadsheet system.

The spreadsheet tracking system is large and designed in such a way that it is difficult to find errors. Formulas that were not capturing all the data caused three measures to be reported outside the acceptable margins of error. Four locations without groundcover inventory reported edging products because the cells allowed staff to enter products at these locations. Individual worksheets track products by fiscal period which are then annualized to one number on a separate summary worksheet. It is difficult to catch reporting errors when the products for all thirteen fiscal periods are not shown on the same page.

The table below was created for the audit to summarize tree pruning products by location and fiscal period. Note the conditional formula on the right of this worksheet found two locations that reported more products than inventory. The eight extra trees pruned on Fremont Avenue are probably not an issue. Some trees grow faster than others and must be pruned more than once a year to provide visibility on the roads. However, the number of trees pruned on Homestead Road does indicate a problem with the inventory count. More trees were pruned in a single period than the inventory number. Management knew that trees were added to this location but had not realized that the inventory number had not been updated. Summarizing products by fiscal period was able to catch a possible recording error without going into the field.

LOCATION	INVENTORY TREES	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13	TOTAL	Pruned more than Inventory	Amt. Over
4. Moffett Park																	
Mathilda/Lockheed	6	-	-	-	-	-	-	-	-	-	-	-	6	-	6		-
47. FREMONT AVENUE																	
Remington/Svale Saratoga Rd	184	-	-	-	-	-	-	-	10	-	-	46	100	36	192	Yes	8
50. Redwoods																	
	10	-	-	-	1	-	-	-	5	-	-	-	-	-	6		-
73. Homestead Rd.																	
	30	-	7	-	-	-	-	-	-	34	-	-	-	-	41	Yes	11

Summarizing products in this manner is also a good management tool. All the trees on Moffett Park between Mathilda and Lockheed were pruned this year during fiscal period 12. No attention needs to be paid to this area until the designated time between each pruning elapses. Only half of the trees at location #50 were pruned. This area still needs attention. Fiscal periods 11-13 fall between April and June. This means that most of the trees were pruned during the summer months. By summarizing products by time and location, management can make informed decisions on how to employ and other program resources.⁵

⁴ For example, Caribbean Drive (location #2) is subdivided into three areas between the following features: 1) Mathilda and Borregas Avenues; 2) Borregas and Crossman Avenues; and 3) Crossman Avenue and Baylands County Park.

⁵ The spreadsheet should be designed to see the entire pruning cycle and collapsible to create annual reports. The table above was created by collapsing the rows on the program's original spreadsheet which tracks 111 locations. If the pruning cycle is five years then the spreadsheet should show five years of fiscal periods for each location (5x13=65 columns).

As mentioned above, the program is tracking plant inventory and work efforts at 150 locations on a spreadsheet system. The design makes it difficult to find errors and summary sheets can not be used to direct workflow. However, if the spreadsheet system was corrected, it could easily deteriorate again if modified. Formulas fail on these types of systems when rows, columns, or cells are added to track new information. From an accuracy standpoint, the program should convert the tracking system over to a database to alleviate errors caused by modifying the information tracked.

However, converting to a database system may not be the optimum solution operationally. Database systems require staff expertise to operate and can also produce faulty information if not queried correctly. Reliance on other program(s) to develop, maintain, and/or run reports reduces independence and the ability pull information as needed from the system. Reporting ability would be tied to another program's workload and response times unless internal staff members are trained. Training is time consuming and most staff prefer working with spreadsheets.

Recommendations:

1. Evaluate the information tracked in the product spreadsheet and how it is used. If possible, simplify how information is tracked and/or calculated. Consider decreasing the amount of information collected or the number of sites used to segregate tasks.
2. Decide if tracking system should stay as a spreadsheet or be converted to a database system.
 - ◆ If the system stays as a spreadsheet - modify the design so errors are easier to catch and add summary sheets to display information by fiscal reporting period.
 - ◆ If the system is converted over to a database – decide who should develop and maintain the system for accuracy and ease of information retrieval; and whether tasks should be handled by program staff or outside the program.

AUDIT CONCLUSION

The auditor makes eight (8) audit recommendations and two operational recommendations to address the findings and issues discussed above. The following table lists the audit findings and recommendations by measure, data point, and activity product. The Program's response to each finding and recommendation is located to the right of each recommendation. The last column indicates the City's decision to implement or not implement a recommendation.

DETAILED FINDINGS AND DEPARTMENTAL RESPONSE - OPERATIONAL ISSUES AND PROGRAM MEASURES											
OPERATIONAL ISSUES											
								Recommendation	Departmental Response	Disposition	
1	The program is tracking plant inventory and work efforts for over 150 locations on a spreadsheet system.				A	Evaluate the information tracked in the product spreadsheet and how it is used. If possible, simplify how information is tracked and/or calculated. Consider decreasing the amount of information collected or the number of sites used to segregate tasks.		We agree to evaluate the information that is tracked while reviewing the structure of the tracking system for the next recommendation.	Implement the Review		
2	The spreadsheet tracking system is large and designed in such a way that it is difficult to find errors.				B	Decide if the tracking system should stay as a spreadsheet or be converted to a database system.		We agree to consider - Resources and relative costs will be weighed to decide if changing to a database system is possible, helpful, and/or if it is better to modify the existing spreadsheets to insure accuracy and relevance.	Implement the Review		
								• If the system stays as a spreadsheet - modify the design so errors are easier to catch and add summary sheets to display information by fiscal reporting period.	- - - Implementation comments only - - -	N/A	
								• If the system is converted over to a database – decide who should develop and maintain the system for accuracy and ease of information retrieval; and whether tasks should be handled by program staff or outside the program.	- - - Implementation comments only - - -	N/A	
Meas #	Measure	Data Point	SOP Missing	Reported Result	Auditor Calculation	Accurate within 3% Y/N +/-	Findings	Recommendations	Department Response	Disposition	
5	Hardscape areas, bike lanes and pork chop islands are free of weeds and debris, providing positive visual appeal as determined by quarterly quality surveys.	Percent	NO	72.000%	72.000%	Yes ---	No findings	--- No recommendations	N/A	N/A	
6	Median island plant material areas are free of litter and debris, providing positive visual appeal as determined by quarterly quality surveys.	Percent	NO	57.000%	57.968%	Yes (1.0%)	No findings	--- No recommendations	N/A	N/A	
		Square Yards of Plant Material Maintained	---	3,249,770.00	3,208,871.83	Yes 1.3%	The SOP for this measure describes the data point as the quarterly quality surveys not the square yardage of plant material maintained. It also does not refer to activity 216460 as the data source.	1 Update the data point description on the SOP.	Agree - Update the SOP to reference activity 216460 as an additional data source. Note that the actual measure is the result of the quarterly surveys, and the data of how many square yards are maintained is for information only, as an indicator of the scope of work covered by this program and this measure.	Implement	
		---	---	---	---	---	---	2 Activity 216460 reports the square yardage for all areas maintained by the program not just median island areas.	Consider changing the text of the measure to read: "Areas maintained by the program are litter free [...]" or limit the data used to calculate the measure to median island areas only.	Agree	Implement
		---	---	---	---	---	---	Summary formulas on the Excel spreadsheet were not capturing all the data.	None. The formulas were corrected during the course of the audit.	Completed	Completed.
7	Median island plant material areas have no noticeable weeds protruding above landscaped areas as determined by quarterly quality surveys.	Percent	NO	52.000%	56.090%	No (4.1%)		--- during the course of the audit.	Completed	Completed.	
		Square Yards of Plant Material Maintained	---	2,879,940.00	2,910,924.12	Yes (1.1%)	The SOP for this measure describes the data point as the quarterly quality surveys not the square yardage of plant material maintained. It also does not refer to activity 216440 as the data source.	Dup Update the data point description on the SOP.	Agree	Implement	
		---	---	---	---	---	---	Dup Activity 216440 reports the square yardage for all areas maintained by the program not just landscaping or "plant material" area. This is acceptable as hardscape features also require weeding services.	Consider changing the text of the measure to read: "Areas maintained by the program are weed free [...]" or limit the data used to calculate the measure to median island areas only.	Agree	Implement
		---	---	---	---	---	---	The SOP for this measure describes the data point as the quarterly quality surveys not the source for the number of square yards reported.	See recommendation below. The SOP will need to be updated with the correct source for the number of square yards reported.	We agree that the calculation methodology should be documented but the main focus of the measure is quality as determined by the surveys. The method of reporting the scores was changed in FY 2008/2009 to match the actual survey scores. The amount of square yards maintained is reported to provide context for the amount of work associated with the measure.	---
8	Hardscape and elevator areas are clean at Sunnyvale's Multimodal Transit Station based on quarterly quality surveys.	Percent	NO	79.000%	78.542%	Yes 0.5%		---			
		Square Yards of Multimodal Hardscape Maintained	---	24,215.00	UTV	N/A N/A	Square yardage is an inventory figure calculated by previous management. The calculation methodology could not be located but the overall area of the three parcels is 11,355. There is a multi-story parking garage on the property. It is possible that the 24,215 square yards of inventory includes the area from each parking level.	3 Verify the inventory figure and update the SOP to include the calculation methodology.	We agree that the calculation methodology should be documented but the main focus of the measure is quality as determined by the surveys. Efforts are currently underway to verify the reported inventory figure and the calculation methodology will be documented on the SOP.	Implementation in process	
		Percent	NO	76.000%	76.458%	Yes (0.5%)	No findings	--- No Recommendations	N/A	N/A	
9	Sunnyvale Multimodal Transit Station landscape areas are clean and weed free based on quarterly quality surveys.	Percent	NO	76.000%	76.458%	Yes (0.5%)	No findings	--- No Recommendations	N/A	N/A	

Meas #	Measure	Data Point	SOP Missing	Reported Result	Auditor Calculation	Accurate within 3%		Findings	Recommendations	Department Response	Disposition
						Y/N	+/-				
		Square Yards of Multimodal Landscape Maintained	---	1,135.00	UTV	N/A	N/A	Square yardage is an inventory figure calculated by previous management. The calculation methodology could not be located but landscaping areas comprise approximately 10% of the parcel.	Dup Verify the inventory figure and update the SOP to include the calculation methodology.	We agree that the calculation methodology should be documented but the main focus of the measure is quality as determined by the surveys. Efforts are currently underway to verify the reported inventory figure and the calculation methodology will be documented on the SOP.	Implementation in process
10	Customers are satisfied with the condition, appearance and timely response of City Roadsides, Median Landscape services.	Percent	NO	93.000%	68.000%	No	25.0%	The SOP for the measure does not describe a calculation methodology. The calculation sheets indicate 68% which follows the calculation standard of reporting the percentage of "Excellent" and "Good" responses used by other programs in Public Works. The 93% reported by the program includes the number of "Fair" responses received.	--- No recommendation. This measure has been split into two measures in the FY09 budget cycle.	N/A	N/A
11	Fire station, WPCP, and City Water Well landscaping areas have healthy growth patterns indicative to specific species as determined by quarterly quality surveys.	Percent	NO	77.000%	74.000%	Yes	3.0%	Summary formulas on the spreadsheet were not capturing all the data.	--- None. The formulas were corrected during the course of the audit.	Completed	Completed
		---	---	---	---	---	---	The reported result includes quality data for litter, weeds, hardscape, & irrigation which is beyond the text of the measure to report "healthy growth patterns indicated to [a] specific species. The SOP does not indicate which data from the quality surveys should be reported.	4 Management will need to compare data on the surveys to the measure text and decide what data best fits the intention of the measure and then update the SOP instructions.	Agree	Implement
		Square Yards of Fire Station Landscape Maintained	---	16,187.00	Sample	Yes	2.9%	The inventory area for Fire Station #5 was verified by subtracting the square footage of the facility from the square yards of the parcel as indicated on the plat map. The result was approximately 100 square yards or 2.9% higher than the inventory figure.	--- No recommendations. The program is in the process of updating the inventory figures.	Agree	---
12	Median island trees are pruned each fiscal year for structural integrity and liability mitigation.	Percent of Total Inventory	NO	16.500%	16.090%	Yes	(0.4%)	The tree inventory used for the measure does not include over 1,500 trees at the other locations maintained by the program (fire stations, wells, and the Water Pollution Control Plant). The measure is not capturing all the tree pruning work done by the program.	5 Consider expanding this measure to report all trees maintained by the program.	Partially agree - This was intended to be a quality measure based on a portion of work which could be easily evaluated and then reported. It was not intended to be comprehensive. The program would have considered expanding the measure but pruning efforts for the other locations was reassigned to different programs in FY 2008/2009. At this point, the current structure of the measure makes the most sense.	Completed. Auditor agrees with the Program's assessment.
		Number of Trees Pruned	---	739.00	721.00	Yes	2.5%	Two locations pruned slightly more trees than the inventory numbers on the product tracking sheet. Trees were pruned more than once at one location because of driver visibility and safety reasons. Trees were added at the other location but the inventory number in the system was not updated. The program currently is in the process of updating the inventory numbers used for all products calculations.	6 Add summary reports to the existing product calculation spreadsheets to see reported products by fiscal period. Analyzing product counts by reporting period and comparing the counts to the inventory numbers can help management catch work and inventory issues. It also can be used as a visual tool to see where services have been performed and future effort need to be directed.	Agree	Implement
13	Median island shrubs are pruned each fiscal year.	Percent of Total Inventory	NO	55.900%	55.666%	Yes	0.2%	---	--- ---	---	---

Meas #	Measure	Data Point	SOP Missing	Reported Result	Auditor Calculation	Accurate within 3%		Findings	Recommendations	Department Response	Disposition
						Y/N	+/-				
		Number of Shrubs Pruned	---	13,808.00	13,950.00	Yes	(1.0%)	Two locations reported higher products than the inventory amounts in a single fiscal period. Shrub inventory was added at these locations. The program is currently updating all inventory products.	Dup Same recommendation as PM #12. Add summary reports to the existing product calculation spreadsheets to see reported products by fiscal period. Analyzing product counts by reporting period and comparing the counts to the inventory numbers can help management catch work and inventory issues. It also is a visual tool to see where services have been performed and future effort need to be directed.	Agree	Implement
14	Median island ground cover is edged four (4) times each fiscal year.	Percent of Total Inventory	NO	60.000%	79.055%	No	(19.1%)	The measure draws its data from activity 216470. Product corrections were made at the activity level but the numbers were not corrected to calculated results at the measure level.	7 Update the SOP to reference the activity number for product information. Consider developing automated calculation sheets.	Agree	Implement
		Square Yards of Ground Cover Edged	---	313,791.00	413,812.00	No	(24.2%)	The measure reports the square yards of inventory edged not whether the ground cover areas were edged four times a year. The only calculation instructions on the SOP are to record square yards when manually or chemically edged. In FY 2006/2007, all but three of the 87 locations with groundcover were edged (97%); thirty-eight (38) locations (44%) were edged four or more times.	8 Decide which statistic is more beneficial to report: 1) The percentage of a quadrupled inventory number that was edged; or 2) the percentage of ground cover locations that received the goal number of edging services per year. Then update the SOP with calculation instructions.	Agree -The measure was changed in FY 2008/2009 to read: "67% of the inventory of 130,861 is to be edged 4 times." Since faster growing plants may require more than four pruning per year to keep them from growing into traffic lanes, the best way to report results will need to be decided upon before it can be implemented.	Issue will be reviewed during the next operating budget cycle.
15	The cost per irrigation system repair will not exceed the planned cost.	Cost of an Irrigation Repair	NO	\$ 55.31	\$ 54.90	Yes	0.7%	No findings	--- No Recommendations	---	---
		Number of Repairs Per Year	---	938.00	945.00	Yes	(0.7%)	No findings	--- No Recommendations	---	---
16	Actual total expenditures for Roadside and Median Landscape Services will not exceed planned program expenditures.	Total Program Expenditures	NO	\$ 1,345,344.00	\$ 1,345,344.12	Yes	---	No findings	--- No Recommendations	---	---

