6 MUNICIPAL MEASURES, IMPLEMENTATION, AND MONITORING

This chapter presents the municipal greenhouse gas (GHG) emissions reduction measures that the City of Vacaville will implement. These measures were developed with community involvement, including a Community Workshop held on March 17, 2012 and a Steering Committee meeting held on March 22, 2012.

The measures are divided into the following nine GHG emission sectors:

1. Transportation and Land Use
2. Green Building
3. Renewable Energy and Low Carbon Fuels
4. Energy Conservation
5. Water and Wastewater
6. Solid Waste
7. Parks, Open Space, and Agriculture
8. Purchasing

The municipal measures will decrease GHG emissions from City operations. However, because the City's operations represent such a small percentage of the total GHG emissions in Vacaville, as discussed in Chapter 2, the overall GHG emissions reductions would be minimal, and were therefore not quantified. Although these measures would have a minimal reduction in GHG emissions in Vacaville overall, they demonstrate that the City is committed to improving the quality of life for residents and visitors of Vacaville and the surrounding area.

This chapter presents the municipal measures and their implementation information, including action items, responsible parties, and a schedule for implementation. Since projected GHG emissions reductions from individual municipal measures are not available, it is generally not practical to provide estimates of cost-effectiveness for those measures in the matrix below. Some municipal measures, however, present clear-cut cost saving opportunities for the City. It is possible to automatically classify such measures as cost-effective, irrespective of resulting GHG reductions. All municipal measures with cost savings potential and therefore moderate to high cost effectiveness are analyzed below. For all other municipal operations measures, the cost-effectiveness cannot reasonably be determined.

The implementation schedule separates measures into two main time periods for implementation: 2014 to 2015 and 2015 to 2020. Phases indicate when implementation of the measure begins. Overall maintenance of the program will extend well beyond the allotted phase. The implementation schedule prioritizes measures based on cost-effectiveness and/or

feasibility. Some reduction strategies are expected to be implemented on a later timeline due to obstacles of available data, technology, or finances.

TRANSPORTATION AND LAND USE

A summary of the implementation items for each transportation and land use reduction measure is provided in Table 6-1.

TABLE 6-1 TRANSPORTATION AND LAND USE MEASURES

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
TR-1	When repaving roadways under the City's roadway repaving schedule, consider adding new bikeways.	Unknown	2014-2015
TR-2	Install additional electric vehicle charging stations at City Hall and other appropriate municipal parking lots for public use as warranted by demand and as funding allows.	Unknown	2015-2020
TR-3	Continue to add pedestrian count-down equipment when signals are modified, and include pedestrian count-down equipment with new signal construction.	Unknown	2014-2015
TR-4	To the extent possible, develop and implement a plan to replace existing City-owned vehicles that are at the end of their utility with alternative-fuel vehicles, where warranted by the vehicle's purpose and ability to fulfill that purpose using alternative fuel, and where available funding allows for the procurement of alternative-fuel vehicles. The plan should also include additional electric vehicle charging stations in City-owned lots for City employee and/or in public-use parking lots, as warranted by demand and as funding allows.	Moderate	2014-2015
TR-5	Establish a fuel conservation program for the City's vehicle fleet and require driver training for fuel conservation for all employees who use fleet vehicles.	High	2014-2015
TR-6	Continue to use compressed natural gas buses for the City's bus fleet, so long as the cost remains competitive with other alternatives.	Unknown	2014-2015
TR-7	Develop a commute benefits program for City employees so that the City can lead by example. Such a program may contain elements such as preferential parking for vanpools and carpools, a commuter tax benefit program for those who take transit or bike to work, and a guaranteed ride home provision.	Unknown	2015-2020

TR-1 BIKEWAY REPAVING

When repaving roadways under the City's roadway repaving schedule, consider adding new bikeways.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Revise the repaving schedule to include bikeways as deemed appropriate consistent with municipal measure TR-1.

IMPLEMENTATION SCHEDULE: 2014-2015

TR-2 ELECTRIC VEHICLE CHARGING STATIONS

Install additional electric vehicle charging stations at City Hall and other appropriate municipal parking lots for public use as warranted by demand and as funding allows.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Study the demand for electric vehicle charging stations at City Hall and other municipal parking lots, and install new stations as warranted by demand and as funding allows, consistent with municipal measure TR-2.

IMPLEMENTATION SCHEDULE: 2015-2020

TR-3 COUNT-DOWN PEDESTRIAN SIGNAL EQUIPMENT

Continue to add pedestrian count-down equipment when signals are modified, and include pedestrian count-down equipment with new signal construction.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Continue to add pedestrian count-down equipment to signal modification plans and include pedestrian count-down equipment with new signal construction consistent with municipal measure TR-3.

IMPLEMENTATION SCHEDULE: 2014-2015

TR-4 ALTERNATIVE-FUELED VEHICLES

To the extent possible, develop and implement a plan to replace existing City-owned vehicles that are at the end of their utility with alternative-fuel vehicles, where warranted by the vehicle's purpose and ability to fulfill that purpose using alternative fuel, and where available funding allows for the procurement of alternative-fuel vehicles. The plan should also include additional electric vehicle charging stations in City-owned lots for City employee and/or in public-use parking lots, as warranted by demand and as funding allows.

COST EFFECTIVENESS: MODERATE
Costs to the City would stem from the staff time needed to draft, adopt, and administer modified vehicle replacement policies, as well as from the actual cost of vehicle replacement and maintenance.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- To the extent possible, develop and implement a plan to replace the City's fleet with alternative fueled-vehicles where the vehicle purpose is applicable to alternative fuel use, and consider the need for additional electric vehicle charging stations based on the addition of any electric vehicles consistent with municipal measure TR-4.

IMPLEMENTATION SCHEDULE: 2014-2015

TR-5 FUEL CONSERVATION PROGRAM

Establish a fuel conservation program for the City's vehicle fleet and require driver training for fuel conservation for all employees who use fleet vehicles.

COST EFFECTIVENESS: HIGH
Costs to the City would stem from the staff time needed to draft, adopt, and administer the program and subsequent training. City could experience potential long-term savings on fuel and vehicle maintenance, which could offset any up-front costs.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Develop a fuel conservation program consistent with municipal measure TR-5.
- Require City employees to participate in fuel conservation training.

IMPLEMENTATION SCHEDULE: 2014-2015

TR-6 Compressed Natural Gas Buses

Continue to use compressed natural gas buses for the City's bus fleet, so long as the cost remains competitive with other alternatives.

Action Items and Responsible Parties:
Public Works Department staff:

- Ensure that it continues to use compressed natural gas buses for the City's bus fleet consistent with municipal measure TR-6.

Implementation Schedule: 2014-2015

TR-7 City Employee Trip Reduction Program

Develop a commute benefits program for City employees so that the City can lead by example. Such a program may contain elements such as preferential parking for vanpools and carpools, a commuter tax benefit program for those who take transit or bike to work, and a guaranteed ride home provision.

Action Items and Responsible Parties:
Community Development and Public Works Department staff:

- Develop a commute benefits program, and implement the program components.

Implementation Schedule: 2015-2020

GREEN BUILDING

A summary of the implementation items for each green building measure is provided in Table 6-2.

TABLE 6-2 GREEN BUILDING MEASURES

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
GB-1	Encourage major new municipal buildings and facilities to meet LEED Silver, Build-It-Green, or GreenPoint standards, or achieve a comparable rating from a different rating system.	High	2014-2015
GB-2	Train all planning, plan review, and building inspection staff in green building materials, techniques, and practices.	Unknown	2014-2015

GB-1 GREEN CERTIFICATION IN MUNICIPAL BUILDINGS

Encourage major new municipal buildings and facilities to meet LEED Silver, Build-It-Green, or GreenPoint standards, or achieve a comparable rating from a different rating system.

COST EFFECTIVENESS: HIGH

Staff-time costs to potentially draft and adopt implementing language for this measure would be low to moderate depending on the degree of detail in adopted guidelines. Building to LEED standards has generally been shown to add $3 to $5 per square foot to building costs. For LEED Silver certification specifically, overall building costs are on average 2.1 percent higher than for a similar, conventional building. It has been found, however, that these costs are far outweighed by quantifiable financial benefits accrued over the lifetime of a LEED-certified building. For energy-use alone, the 20-year Net Present Value of a LEED building is $5.79 per square foot, which is greater than the increase in per-square-foot cost. Even greater cost savings would likely accumulate over the anticipated lifetime of a LEED building, which extends well beyond 20 years. In addition to the more precisely estimable savings from reductions in waste, energy needs, and water use, worker productivity and health gains add to the cost savings associated with LEED and other green buildings. Given its overall net cost savings this measure is deemed highly cost-effective.[1]

[1] Kats, Greg, 2003, *Report: The Costs and Financial Benefits of Green Buildings.*

ACTION ITEMS AND RESPONSIBLE PARTIES:
Community Development Department staff:

- Consider the feasibility of pursuing LEED, Build-It-Green, or GreenPoint standards when planning new municipal buildings and facilities, and pursue them as appropriate, consistent with municipal measure GB-1.

IMPLEMENTATION SCHEDULE: 2014-2015

GB-2 GREEN BUILDING TRAINING

Train all planning, plan review, and building inspection staff in green building materials, techniques, and practices.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Either provide training for its plan review and building inspection staff or send such staff to training programs held by outside agencies consistent with municipal measure GB-2.

IMPLEMENTATION SCHEDULE: 2014-2015

RENEWABLE ENERGY AND LOW CARBON FUELS

A summary of the implementation items for each renewable energy and low carbon fuels measure is provided in Table 6-3.

TABLE 6-3 RENEWABLE ENERGY AND LOW CARBON FUELS MEASURES

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
RE-1	Conduct a solar feasibility study and install solar panels on appropriate City facilities.	High	2015-2020
RE-2	Install solar water heating at appropriate City facilities.	High	2014-2015

RE-1 SOLAR ENERGY FOR CITY FACILITIES

Conduct a solar feasibility study and install solar panels on appropriate City facilities.

COST EFFECTIVENESS: HIGH

Staff-time costs for this measure are anticipated to be moderate and would stem from the need to either undertake or commission a solar feasibility study. Should the City opt to have such a study performed by a third party, this could represent an additional cost. However, by identifying optimal locations, a feasibility study would serve to improve the cost effectiveness of solar installations. This would ensure that those solar panels which are installed offer the greatest return on investment, thus offering long-run cost savings to the City. Therefore, this measure is deemed highly cost-effective.

ACTION ITEMS AND RESPONSIBLE PARTIES:

Public Works Department staff:

- Conduct the solar feasibility study, and based on the results of that study, install solar panels on appropriate City facilities consistent with municipal measure RE-1.

IMPLEMENTATION SCHEDULE: 2015-2020

RE-2 SOLAR WATER HEATING AT CITY FACILITIES

Install solar water heating at appropriate City facilities.

COST EFFECTIVENESS: HIGH

Staff-time costs for this measure are anticipated to be low and would stem from the need to initiate oversee the installation of solar water heating systems. Solar water heaters offer good potential for overall cost-effectiveness.[2] Costs for solar water heating systems in an institutional setting vary greatly depending upon the size of the building served and anticipated demands on the system. For reference, the National Renewable Energy Laboratory estimates that costs for domestic solar water heating systems range between approximately $2,200 and $5,850. This value depends largely upon whether the system is active or passive.[3] Despite the high initial cost, solar water heaters in institutional settings have been demonstrated to result in long-term cost savings.[4]

ACTION ITEMS AND RESPONSIBLE PARTIES:

Public Works Department staff:

- Install tankless and/or solar water heating at appropriate facilities consistent with municipal measure RE-2.

IMPLEMENTATION SCHEDULE: 2014-2015

[2] EnergyStar, *Save Money and More with ENERGY STAR Qualified Solar Water Heaters*, http://www.energystar.gov/index.cfm?c=solar_wheat.pr_savings_benefits, accessed on May 1, 2012.

[3] National Renewable Energy Laboratory, Department of Energy, 1996, *Solar Water Heating.* (Value converted to from 1996 to 2012 dollars.)

[4] Federal Energy Management Program, 2004, *Heating Water with Solar Energy Costs Less at the Phoenix Federal Correctional Institution.*

ENERGY CONSERVATION

A summary of the implementation items for each energy conservation measure is provided in Table 6-4. Since energy conservation measures EC-1 through EC-6 would all serve to reduce energy use related to municipal operations, all six of these measures have the potential to be highly cost effective. However, without precise estimates of measure costs or, more importantly, energy savings, it is not feasible to conclusively establish the cost-effectiveness of these measures. Nevertheless, given the level of cost effectiveness generally demonstrated by most energy conservation measures, it is predicted that implementation of measures EC-1 through EC-6 would be highly cost effective.

TABLE 6-4 ENERGY CONSERVATION MEASURES

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
EC-1	Continue to periodically conduct, with assistance from Pacific Gas & Electric (PG&E), thorough energy audits of all City facilities to identify cost-effective opportunities for conservation.	High	On-Going
EC-2	Encourage the installation of reflective roofing on City facilities.	High	2015-2020
EC-3	Establish energy efficiency standards for City facilities and provide employees with guidelines, instructions, and requirements for the efficient use of facilities.	High	2014-2015
EC-4	Continue to participate in peak electricity demand reduction programs and undertake peak demand measures at City facilities.	High	2014-2015
EC-5	As outdated electronic appliances and office equipment in City facilities are retired, replace them with energy-efficient models.	High	2014-2015
EC-6	Continue to retrofit City street lights to LED, induction, or other energy efficient lighting.	High	2014-2015

EC-1 Energy Audit of City Facilities

Continue to periodically conduct, with assistance from Pacific Gas & Electric (PG&E), thorough energy audits of all City facilities to identify cost-effective opportunities for conservation.

Action Items and Responsible Parties:
Public Works Department staff:

- Coordinate with PG&E to conduct energy audits of City facilities consistent with municipal measure EC-1.

Implementation Schedule: On-Going

EC-2 Reflective Roofing on City Facilities

Encourage the installation of reflective roofing on City facilities.

Action Items and Responsible Parties:
Public Works Department staff:

- Install reflective roofing on City facilities consistent with municipal measure EC-2 as needed, or as roofs are replaced.

Implementation Schedule: 2015-2020

EC-3 Energy Efficiency Standards for City Facilities

Establish energy efficiency standards for City facilities and provide employees with guidelines, instructions, and requirements for the efficient use of facilities.

Action Items and Responsible Parties:
Community Development and Public Works Department staff:

- Develop and adopt energy efficiency standards for City facilities and educate City staff on efficient use of facilities consistent with municipal measure EC-3.

Implementation Schedule: 2014-2015

EC-4 Peak Electricity Demand Reduction

Continue to participate in peak electricity demand reduction programs and undertake peak demand measures at City facilities.

Action Items and Responsible Parties:
Public Work Department staff:

- Reduce electricity demands in peak periods and participate in peak electricity demand reduction programs consistent with municipal measure EC-4.

Implementation Schedule: 2014-2015

EC-5 Energy-Efficient Appliances and Office Equipment

As outdated electronic appliances and office equipment in City facilities are retired, replace them with energy-efficient models.

Action Items and Responsible Parties:
Community Development Department staff:

- Establish a policy to replace appliances and equipment with energy-efficient models when existing equipment becomes outdated and requires replacement consistent with municipal measure EC-5.

Implementation Schedule: 2014-2015

EC-6 Street Light Retrofits

Continue to retrofit City street lights to LED, induction, or other energy efficient lighting.

Action Items and Responsible Parties:
Public Works Department staff:

- Continue to retrofit street lights consistent with municipal measure EC-6.

Implementation Schedule: 2014-2015

WATER AND WASTEWATER

A summary of the implementation items for each water and wastewater measure is provided in Table 6-5.

TABLE 6-5 WATER AND WASTEWATER MEASURES

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
WW-1	Continue to install water-conserving fixtures in all new City facilities and retrofit existing City facilities with water-conserving fixtures as funding allows.	High	On-Going
WW-2	Continue to install weather-based evapotranspiration (ET) controller irrigation systems at large landscape areas where appropriate and cost effective.	High	On-Going
WW-3	Continue to install drought-tolerant native landscaping at new City facilities and evaluate the cost effectiveness of replacing existing landscaping with drought-tolerant native landscaping, where appropriate.	High	On-Going
WW-4	Encourage the use of recycled water or other non-potable water for City landscaping, including parks and medians, where available.	Unknown	Per DWR[a]
WW-5	Continue to evaluate co-generation facilities for future use at the Easterly Wastewater Treatment Plant.	Unknown	On-Going
WW-6	Continue to improve the efficiency of lighting systems at the Easterly Wastewater Treatment Plant through the following: ➤ Install efficient lighting and lighting control systems. ➤ Install LEDs for outdoor lighting. ➤ Establish limited hours of outdoor lighting.	High	2014-2015
WW-7	Continue to enhance a landscape buffer for the Easterly Wastewater Treatment Plant, including extensive tree plantings.	Unknown	On-Going

TABLE 6-5 WATER AND WASTEWATER MEASURES

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
WW-8	Continue to implement the planned water-efficient landscaping at the Easterly Wastewater Treatment Plant, including: ➤ Efficient landscaping as prescribed by City Landscape Standards. ➤ Potential use of reclaimed water for landscape irrigation.	High	On-Going

[a] Per DWR indicates that this measure is dependent on the California Department of Water Resources, which has not yet identified an implementation schedule.

WW-1 WATER-CONSERVING FIXTURES IN CITY FACILITIES

Continue to install water-conserving fixtures in all new City facilities and retrofit existing City facilities with water-conserving fixtures as funding allows.

COST EFFECTIVENESS: HIGH

Staff-time costs for this measure are anticipated to be low and would stem from the need to initiate and manage the installation of water-efficient fixtures. In other institutional settings, water-conserving fixtures have been shown to result in substantial cost savings that can offer simple payback times of as little as 2.12 years–as in the case of the Portland, Oregon Veterans' Affairs Medical Center.[5] While overall City operations in Vacaville can generally be expected to have lower water-use than a typical medical facility, the success of the Portland conservation program nonetheless indicates a strong potential for long-term savings for the City.

ACTION ITEMS AND RESPONSIBLE PARTIES:

Public Works Department staff:

- Install water-conserving fixtures in new City facilities and retrofit existing facilities as appropriate consistent with municipal measure WW-1.

IMPLEMENTATION SCHEDULE: On-Going

[5] Federal Energy Management Program, 2009, *Case Study: Veterans Affairs Medical Center in Portland, Oregon.*

WW-2 IRRIGATION FOR CITY FACILITIES

Continue to install weather-based evapotranspiration (ET) controller irrigation systems at large landscape areas where appropriate and cost effective.

COST EFFECTIVENESS: HIGH

Since this measure is already in the process of being implemented, additional staff-time costs to the City would be very low. Costs of evapotranspiration (ET) controller systems vary by the size and type of system; however, Solano County undertook and reported on a four-city ET controller installation project in 2005, and found the total cost of the project to be $273,000. Water cost savings from the project were estimated at approximately $65,000 annually for the four cities combined. Therefore, ET control systems offer significant cost-saving opportunities and could have potential simple payback periods of as short as five years.[6] This measure is already being implemented, would carry low additional costs, and could substantially reduce water costs for the City.

ACTION ITEMS AND RESPONSIBLE PARTIES:

Utilities & Public Works Department staff:

- Continue to install weather-based ET controller irrigation systems in large landscaped areas consistent with municipal measure WW-2.

IMPLEMENTATION SCHEDULE: On-Going

WW-3 DROUGHT-TOLERANT LANDSCAPING FOR CITY FACILITIES

Continue to install drought-tolerant native landscaping at new City facilities and evaluate the cost effectiveness of replacing existing landscaping with drought-tolerant native landscaping, where appropriate.

COST EFFECTIVENESS: HIGH

The City could potentially experience significant savings from landscaping that is less water intense. Such landscaping has strong potential to result in long-term cost savings for the City.

ACTION ITEMS AND RESPONSIBLE PARTIES:

Public Works Department staff:

- Install new and replace existing landscaping as directed, consistent with municipal measure WW-3.

IMPLEMENTATION SCHEDULE: On-Going

[6] Solano County Water Agency, 2005, 2005 Annual Report, *Grant E-67020, Evapotranspiration Controller System Project*, http://www.rainmaster.com/PDF/SolanoCounty_WaterAgency_ET_Controller_Project.pdf, accessed on June 11, 2012.

WW-4 Recycled Water Irrigation for City Facilities

Encourage the use of recycled water or other non-potable water for City landscaping, including parks and medians, where available.

Action Items and Responsible Parties:
Public Works Department staff:

- Install necessary infrastructure and use recycled water or other non-potable water for City landscaping where appropriate consistent with municipal measure WW-4.

Implementation Schedule: This measure is dependent on the California Department of Water Resources, which has not yet identified an implementation schedule.

WW-5 Co-Generation Facilities at Easterly Wastewater Treatment Plant

Continue to evaluate co-generation facilities for future use at the Easterly Wastewater Treatment Plant.

Action Items and Responsible Parties:
Utilities Department staff:

- Continue to design co-generation facilities for the EWWTP consistent with municipal measure WW-5.

Implementation Schedule: On-Going

WW-6 Lighting at Easterly Wastewater Treatment Plant

Continue to improve the efficiency of lighting systems at the Easterly Wastewater Treatment Plant through the following:

- Install efficient lighting and lighting control systems.
- Install LEDs for outdoor lighting.
- Establish limited hours of outdoor lighting.

Cost Effectiveness: High
Since this measure is already being implemented, additional staff-time costs are anticipated to be minimal. Up-front costs of new lighting systems would likely be offset by long-term energy savings.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Utilities Department staff:

- Continue to improve the efficiency of lighting systems at the EWWTP by installing efficient lighting and lighting control systems, installing LEDs for outdoor lighting, and establishing limited hours of outdoor lighting consistent with municipal measure WW-6.

IMPLEMENTATION SCHEDULE: 2014-2015

WW-7 LANDSCAPE BUFFER AT EASTERLY WASTEWATER TREATMENT PLANT

Continue to enhance a landscape buffer for the Easterly Wastewater Treatment Plant, including extensive tree plantings.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Continue to enhance the landscape buffer for the EWWTP consistent with municipal measure WW-7.

IMPLEMENTATION SCHEDULE: On-Going

WW-8 WATER-EFFICIENT LANDSCAPING AT EASTERLY WASTEWATER TREATMENT PLANT

Continue to implement the planned water-efficient landscaping at the Easterly Wastewater Treatment Plant, including:

- Efficient landscaping as prescribed by City Landscape Standards.
- Potential use of reclaimed water for landscape irrigation.

COST EFFECTIVENESS: HIGH
See analysis for measure WW-3, above.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Continue to plant water-efficient landscaping at the Easterly WWTP consistent with municipal measure WW-8.

IMPLEMENTATION SCHEDULE: On-Going

SOLID WASTE

A summary of the implementation items for each solid waste measure is provided in Table 6-6.

TABLE 6-6 SOLID WASTE MEASURES

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
SW-1	Continue to promote and provide training for recycling by City staff via the City's Recycling Coordinator.	Unknown	On-Going
SW-2	Continue to require all City departments and facilities to reuse office supplies, furniture, and computers before buying new materials. Encourage City departments and facilities to purchase products that are made with high levels of post-consumer recycled content and have limited packaging.	High	2014-2015
SW-3	Continue to incorporate the use of CNG or other appropriate alternative-fuel vehicles into contracts for solid waste collection as contract negations allow.	Unknown	On-Going

SW-1 RECYCLING COORDINATORS

Continue to promote and provide training for recycling by City staff via the City's Recycling Coordinator.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Continue to use the City's Recycling Coordinator to promote recycling.

IMPLEMENTATION SCHEDULE: On-Going

SW-2 Reuse and Recycled Content Materials

Continue to require all City departments and facilities to reuse office supplies, furniture, and computers before buying new materials. Encourage City departments and facilities to purchase products that are made with high levels of post-consumer recycled content and have limited packaging.

Cost Effectiveness: High
Costs to the City would be low to moderate and would stem mainly from staff time to create and administer office materials reuse and buying guidelines. Costs for recycled-content products and products with limited packaging are not anticipated to differ substantially from those for conventional products or those with more packaging. Moreover, by emphasizing the reuse of office materials, the City stands to experience both short- and long-term cost savings.

Action Items and Responsible Parties:
Community Development and Public Works Department staff:

- Establish a purchasing policy encouraging recycled content and packaging consistent with municipal measure SW-2.

Implementation Schedule: 2014-2015

SW-3 Solid Waste Collection Fleet

Continue to incorporate the use of CNG or other appropriate alternative-fuel vehicles into contracts for solid waste collection as contract negations allow.

Action Items and Responsible Parties:
Public Works Department staff:

- Continue to prioritize negotiations for the use of CNG or other alternative fueled vehicles for solid waste collection.

Implementation Schedule: On-Going

PARKS, OPEN SPACE, AND AGRICULTURE

A summary of the implementation items for each parks, open space, and agriculture measure is provided in Table 6-7.

TABLE 6-7 PARKS, OPEN SPACE, AND AGRICULTURE MEASURES

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
OS-1	Develop a City program for maximizing carbon sequestration on municipal property through tree planting in parks, at other City facilities, and along streets.	High	2015-2020
OS-2	Develop an adopt-a-tree program, in which community members can sponsor City tree planting by offsetting upfront costs.	Unknown	2015-2020

OS-1 TREE PLANTING ON MUNICIPAL PROPERTY

Develop a City program for maximizing carbon sequestration on municipal property through tree planting in parks, at other City facilities, and along streets.

COST EFFECTIVENESS: HIGH

Staff-time costs from this measure would be low to moderate and would stem from the need to draft, adopt, and implement a tree-planting program. Other costs from this measure would arise from tree-planting material and labor expenses. Despite these costs, urban trees have been shown to generate long-term savings well in excess of their up-front and ongoing costs.

ACTION ITEMS AND RESPONSIBLE PARTIES:

Community Development Department staff:

- Develop a tree planting program consistent with municipal measure OS-1.

IMPLEMENTATION SCHEDULE: 2015-2020

OS-2 ADOPT-A-TREE PROGRAM

Develop an adopt-a-tree program, in which community members can sponsor City tree planting by offsetting upfront costs.

ACTION ITEMS AND RESPONSIBLE PARTIES:
Public Works Department staff:

- Develop an adopt-a-tree program consistent with municipal measure OS-2.

IMPLEMENTATION SCHEDULE: 2015-2020

PURCHASING

A summary of the implementation items for each purchasing measure is provided in Table 6-8.

TABLE 6-8 **PURCHASING MEASURES**

Measure Number	Measure Text	Cost Effectiveness	Implementation Schedule
P-1	Continue to encourage the City to hire locally for its services where feasible.	Unknown	On-Going
P-2	When requesting proposals or applications for contracts, professional service agreements, or grants, request that proposals or applications include information about the sustainability practices of the organization, and use such information as a partial basis for proposal evaluations.	Unknown	2015-2020
P-3	Incorporate a "life-cycle costing" approach into City purchasing considerations, such as by evaluating whether energy-efficient products would result in long-term savings which outweigh potentially higher initial costs.	Unknown	2015-2020

P-1 LOCAL HIRING

Continue to encourage the City to hire locally for its services where feasible.

ACTION ITEMS AND RESPONSIBLE PARTIES:
City Manager's Office staff:

- Continue to implement a local hiring program for services consistent with municipal measure P-1.

IMPLEMENTATION SCHEDULE: On-Going

P-2 Sustainability Criteria in Proposal Selection Process

When requesting proposals or applications for contracts, professional service agreements, or grants, request that proposals or applications include information about the sustainability practices of the organization, and use such information as a partial basis for proposal evaluations.

Action Items and Responsible Parties:
City Manager's Office staff:

- Develop a proposal and application sustainability requirement consistent with municipal measure P-2.

Implementation Schedule: 2015-2020

P-3 Life-Cycle Costing Approach in Purchasing

Incorporate a "life-cycle costing" approach into City purchasing considerations, such as by evaluating whether energy-efficient products would result in long-term savings which outweigh potentially higher initial costs.

Action Items and Responsible Parties:
City Manager's Office staff:

- Incorporate a life-cycle costing approach into purchasing policies consistent with municipal measure P-3.

Implementation Schedule: 2015-2020