ITEM 10.C.

MOORPARK CITY COUNCIL
AGENDA REPORT

TO: **Honorable City Council**

FROM: **Jessica Sandifer, Management Analyst**

DATE: **March 19, 2014 (CC Meeting of April 2, 2014)**

SUBJECT: **Consider Annual Sustainability Report**

DISCUSSION

Preparation of an annual report on the City's sustainability programs and activities was an adopted City Council objective for Fiscal Year 2011/12. The attached report is presented in continuing fulfillment of that objective. It is provided in legislative format to show the changes from the 2012 Annual Report. After the City Council's review of the report, the legislative formatting will be removed and the report will be made available to the public on the City's website.

The third annual report generally covers the period of January 2013 to December 2013, however there is some reporting on previous years' activities and numbers as a way of providing historical reference to the current report. The report is split into the following ten categories:

- Air Quality
- Transportation
- Climate Change
- Green Building and Construction Techniques
- Solid Waste and Recycling
- Energy Conservation/Clean Energy
- Water Conservation
- Water Quality
- Open Space
- Public Information, Promotion, and Sustainable Purchasing

Each category is split into various subtopics as appropriate. For fiscal year 2013/14 there are 14 adopted City Council objectives that pertain to sustainability. The 14 objectives are outlined in the introduction of the report. Each of these objectives is discussed within the appropriate main category and sub category. Where an adopted

objective item is discussed within the report, the associated objective reference is denoted next to the item.

Notable accomplishments for 2013 are the lease of a Plug-in Hybrid Electric Vehicle. A Chevrolet Volt was leased as a test vehicle to determine if these types of vehicles would work well in the City fleet. The vehicle has been assigned to the Code Compliance Division in order to closely monitor the vehicles use. In December 2013, a project was begun at Campus Park, Poindexter Park and the Police Services Center to retrofit the lighting to energy efficient LED lighting. Once fully completed, the projects will save 121,000 kwh of electricity and $19,000 in direct electrical and maintenance costs annually. The project will also assist with the City attaining the Silver Level Tier in the Energy Leadership Partnership with Southern California Edison and the Gas Company, as well as contributing kwh savings towards the Gold Level tier. We were also able to do an analysis on the installation of the WeatherTrak Irrigation controllers and found that the installation of the controllers resulted in an average 14.5% reduction in water use over a two year period.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

Receive and file report.

Attachment 1: Sustainability Annual Report (in legislative format)

ATTACHMENT 1

City of Moorpark

Annual Sustainability Report

March 2014

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INTRODUCTION

The annual sustainability report for 2013~~2~~ is completed. The annual report provides updates on the City's sustainability programs and objectives for the calendar year January 2012~~3~~ to December 2012~~3~~. Objective I.A.2 and VI.C.2 were objectives from last FY, and are noted below to show they are completed, the rest of the listed objectives are adopted FY 20~~12~~13/~~13~~14 City Council objectives that relate to sustainability and are discussed within the report:

~~I.A.2 Place sustainability information on City's website, government channel, and in City publications, including information on actions taken by the City to conserve water. (CD, AS & PRCS). Completed in 2011, removed from 2012/13 objectives.~~

III.A.3 Prepare Trails Master Plan as part of OSCAR Element of the General Plan. (CD, PRCS & CE/PW)

VI.A.10 Develop and implement a comprehensive water conservation program for City facilities, parks and landscape maintenance districts including the two phase installation of a centralized irrigation system by June 30, 2013. (PRCS) Completed in 2013, revised objective for 2013/14 (see item VI.A.6)

~~VI.A.15 Prepare list of energy savings projects including potential solar power for City parks and facilities and a funding and phasing plan by September 30, 2013. (PRCS)~~

VI.A. 11~~9~~ ~~By December 31, 2013, d~~Develop a plan to reduce the amount of turf in City parks by ten percent (10%) by March 31, 2014. (PRCS)

VI.A.15 Prepare list of energy savings projects including potential solar power for City parks and facilities and a funding and phasing plan by September 30, 2013. (PRCS) Removed from objectives for 2013/14.

VI.A.19~~30~~ Evaluate a policy and standards for use of more energy efficient street lights on public and private streets in new developments. (CE/PW & CD)

VI.A.28 Evaluate potential requirement for use of pervious pavement on new private and public projects. (PRCS, CD & CE/PW)

VI.A.29 Evaluate options for Joint Powers Agreement (JPA) with other public agencies for purchase and management of open space properties. (PRCS, CD & CM)

VI.A.30 Construct sidewalks on one side of certain streets in industrial zoned areas to provide a safet path for pedestrians and to encourage walking. (CE/PW, PRCS & CD)

VI.B.4~~3~~ Determine feasibility of ~~converting~~ purchasing existing City street lights ~~to a more~~and converting them to a more energy efficient lighting source. (CE/PW & F)

~~VI.C.2 Evaluate use of artificial turf for playing fields at City parks including maintenance and replacement costs. (PRCS) Completed in 2011, removed from 2012/13 objectives.~~

VII.A.3 Develop options to enhance open space and greenbelt areas to include at a minimum: (1) strengthening the Tierra Rejada greenbelt agreement;

and (2) consideration of adding new formal greenbelt(s) and agreement(s) for the areas north and south of the Ronald Reagan Freeway (SR 118) near the east end of the City of Moorpark and the west end of the City of Simi Valley plus contiguous unincorporated Ventura County and west of the City limits (Las Posas) for consideration by the City Council. (CD & CM)

VII.A.11 Develop a Tree Master Plan including tree inventory and mapping by June 30, 2014~~3~~. (PRCS)

VII.A.12 Develop options to enhance commercial and multifamily residential recycling as part of new refuse franchise agreements. (CE/PW) Removed from 2013/14 objectives. To be addressed in franchise negotiations.

VII.A.14~~6~~ Update City's 1995 Master Drainage Plan and incorporate needed improvements into Capital Improvement Program ~~by June 30, 2013~~. (CE/PW & CD)

VII.A.23~~27~~ Prepare a demonstration project with community involvement for replacement of turf with native landscaping by June 30, 2013. (PRCS & CD)

VII.A.26. Develop conceptual design plan and cost estimates for widening the access road within Arroyo Vista Community Park (AVCP) to accommodate bike lanes/paths and sidewalks. (PRCS & CE/PW)

VII.A.29 Evaluate feasibility and funding options to install one or more public charging facilities for electric vehicles. (CD & CE/PW) Completed, removed from 2013/14 objectives.

VII.B.5 Develop design plan to refurbish median landscaping and hardscape on Tierra Rejada Road from Spring Road to Los Angeles Avenue and Campus Park Drive from Princeton Avenue to Collins Drive including cost estimates, financing, phasing and water conservation measures. (PRCS & CE/PW)

VII.B.6. Evaluate feasibility of establishing a community garden program including identification of a preferred location. (PRCS)

These adopted objectives along with the various sustainability projects and programs that the City is actively involved in or considering are categorized under ten main areas of discussion. These main categories have been split into sub-categories to further delineate the topics where appropriate.

AIR QUALITY

1.1. Traffic System Management Fund

Description: The Traffic System Management (TSM) Fund is the City's designated Transportation Demand Management (TDM) program fund. The TSM fund collects fees from projects that exceed Federal, State, and local air quality regulations. The funds are then used for City-wide offset mitigation programs that improve air quality.

Status: In 2004, the City Council approved a TSM fund program that outlined six categories that TSM funds could be used to improve air quality: bicycle facilities, trails, transit, alternative fuel vehicles (AFV), building technology, and administrative. To date, the TSM fund has been used as local match for grant funds, to purchase hybrid fleet vehicles, assist in funding of the Moorpark Transit system and CNG fuel, install bus turnouts and shelters, and fund consultant and staff costs for trail studies, and bikeway plans. In consideration of new technology and programs, staff is in the process of preparing an update of the 2004 TSM Fund program to explore expanding eligible expenditure categories for further city-wide air quality improvement programs. The update will be presented to the City Council in the near future.

1.2. Alternative Fuel Vehicles (AFV)

Description: Outlining City AFV purchases and purchasing policy.

Status: The City purchased three Compressed Natural Gas (CNG) fueled buses for Moorpark Transit. The Moorpark Transit buses travel approximately 96,000 miles per year. The use of CNG instead of diesel fuel, saved the use of 15,958 gallons of diesel fuel, reducing the City's release of NOx by 42% and producing 40% less CO2. Since 2005, first through use of particulate matter traps on diesel buses and, second through replacing the diesel buses with CNG buses, the City has reduced its particulate matter emissions from Moorpark Transit operations by 93%. In addition to the CNG buses, the City also owns three hybrid vehicles and one truck with a CNG tank as an option for future use of CNG fuel. It is also an internal city practice to replace City vehicles where feasible with alternative fuel or hybrid vehicles. In 2013, the City leased a Chevrolet Volt as a test vehicle to determine if plug-in electric hybrid vehicles are a feasible choice for City use and it was put into service in March 2014.

1.3. Local Alternative Fuel Infrastructure

Description: Outlining Local Alternative Fuel Infrastructure

Status: Currently, no alternative fuel infrastructure exists within the City. The City has cooperative fueling agreements with the City of Simi Valley to fuel the CNG buses at their Transit Maintenance Facility.

Staff attended a seminar in October 2011 regarding Plug-In Electric Vehicles (PEV), which discussed what is needed to make PEV's viable options for transportation. Since PEV's spend 50% of their time at home and 50% at a workplace, the seminar placed importance on workplaces incorporating charging stations into parking areas. A tier system was

recommended for building charging station infrastructure: Tier 1 – Charging at Home, Tier 2 – Charging at Work, and Tier 3 – Charging in Public.

1.3.1 Electric Vehicle Charging Stations ~~*(Objective VII.A.29)*~~

Description: Evaluate feasibility and funding options to install one or more public charging facilities for Electric Vehicles.

Status: **Complete.** Although estimates vary, most analysts agree that electric vehicles (EVs) will account for approximately 2% to 5% of all vehicles on the road in the United States by the year 2020. 5% of vehicles sales in the U.S. will account for an estimated 1,000,000 electric vehicles by 2020. It is difficult to predict the overall impact that the electric vehicle will have on California, but according to the California Center for Sustainable Energy (CCSE), there are currently more than 12,000 EVs driven in California today, which is equivalent to approximately 35% of all the EVs sold across the United States. As the proportion of the total EV car sales spread throughout the U.S., California car owners will most likely continue to dominate the majority of the market and may account for approximately 4.5% to 8% of all EVs by 2020.

The technology behind the electric vehicle has been encouraged by both the state of California in its efforts towards emissions reduction, and by the Federal Government, with investments in this technology exceeding $140 billion to date. In 2010, the state of California unveiled its clean energy plan that laid out its goals and milestones towards reducing both energy consumption and its contribution to global greenhouse gases, as mandated by the Global Warming Solutions Act (AB32). AB32 was enacted in 2006 and set strict limits on the overall emissions of carbon dioxide and other greenhouse gases. The technology behind the electric vehicle directly compliments AB32, as EVs emit zero emissions, and supports efforts to introduce low carbon fuels and reduce fossil-fuel production.

In January, 2013, the City installed four Electric Vehicle (EV) charging stations at various locations within the downtown area. Two were located at the Metrolink Station, one at the post office public parking lot on High Street, and one at the Civic Center Parking lot. The total cost for this work was approximately $9,300 for the required infrastructure, such as electrical installation and conduit. However, the units were provided free of charge by Ecotality North America (Blink) and Coulomb Technologies, Inc. (Chargepoint) and were obtained through various Federal grant and marketing programs and one unit was provided by a local Moorpark business, AG Machining. In addition, each manufacturer has provided the City a one-year free subscription to their respective internet monitoring

software. After the first year of service, the City will be required to pay subscription fees for each system ($360/year, per charger, for the Blink service plan and $230/year, per charger, for the ChargePoint service plan), but will receive revenue from use of the stations to offset these costs. The cost to subscribers for use of the charging stations will be initially set at $1.00/hour. Staff does not anticipate that the revenue generated by the charging stations will cover the service plan fees within the first several years of use, but is hopeful that the costs to utilize the equipment will equal the plan fees as the number of electric vehicles increases over time. This will be evaluated annually.

Staff ~~is in the process of investigating the feasibility of purchasing or leasing an electric vehicle pool car.~~leased a Chevrolet Volt, but installed a separate charging system

1.4. Southern California Association of Governments (SCAG) – Clean Cities Program

Description: SCAG's Clean Cities Program was set up by the U.S. Department of Energy (DOE) to expand the use of alternative fuel vehicles and technologies to reduce consumption of petroleum.

Status: No change since 2011 report. By continuing to purchase hybrid or alternative fuel fleet vehicles, the City of Moorpark is contributing to the Clean Cities program goal of increasing AFV use and reducing petroleum consumption.

2. TRANSPORTATION

2.1. Congestion Management Program

Description: The Ventura County Transportation Commission (VCTC) prepares a county-wide Congestion Management Program (CMP).

Status: The City of Moorpark participates in the CMP primarily through capital improvement program projects that work towards relieving congestion within the City. To this end, in 2008 the City completed installation of two Traffic Signal Synchronization systems on two of the City's main thoroughfares, Los Angeles Avenue and Tierra Rejada Road. The primary objectives of the system are to improve the flow of traffic by increasing average speed and decreasing stop delays and to provide updated control and communication to the traffic signals. Ten signals on Los Angeles Avenue and eleven signals on Tierra Rejada Road were included in the project. The effect of the installation of the system was a 38% increase in average speed on Los Angeles Avenue and a 78% decrease in the number of stops. On Tierra Rejada Road the effect of the

installation of the system was a 22% increase in average speed and a 77% decrease in number of stops. VCTC is currently working on an update to the 2009 CMP.

2.2. Bike Lanes and Trails

2.2.1. Trails Master Plan *(Objective III.A.3)*

Description: Preparation of a Trails Master Plan as part of OSCAR Element of the General Plan

Status: Staff has completed the rough draft OSCAR Element, including discussion of trails and a map to serve as the Trails Master Plan. Prior to the commencement of public hearings on the OSCAR Element, the City Council has directed that the OSCAR Element be reviewed by the Council's Community and Economic Development Committee. Staff is waiting to take this element to the Community and Economic Development Committee as it is linked to the updates to the Land Use and Circulation Elements, currently being prepared by staff.

2.2.2. Bike Lanes and Trails Funding

Description: Staff efforts to secure funding for planned bike lanes and trails.

Status: In addition to planning for various bike routes and trails throughout the City, staff is also in the process of securing the various funding sources to implement the projects. So far the City has secured $206,323 in Bicycle Transportation Account (BTA) funds and $66,000 in TDA Article 3 funds for provision of bicycle lanes on Princeton Avenue and the Arroyo Vista Recreation Center sidewalk/bike path from the pedestrian bridge to the park entrance. In 2012, staff secured $100,000 in TDA Article 3 funds for sidewalk/accessibility improvements at the Civic Center. In 2013, staff secured $30,000 in TDA Article 3 funds for consultant services for design options to connect a bike lane/pedestrian sidewalk from Collins Drive to the Simi Valley city limit line.

2.2.3 Bike Lanes and Trails Projects

Description: Discussion of the various city or developer provided bike lanes and/or trails, as well as future potential projects.

Status: The following is a list of bike lanes or trails that have been provided by the City or through a development agreement, as well as, future potential projects:

Developer Constructed trails

1) Meridian Hills multi-use trail – partially completed in 2007
2) Spring Road multi-use trail – completed in 2007
3) Ridgecrest Drive multi-use trail – completed in 2007
4) Grimes Canyon Road and Championship Drive multi-use trail – completed in 2005
5) Serenata multi-use trails – completed in 2006
6) Moorpark Highlands multi-use trails – partially completed in 2012

City Constructed Trails or Studies

1) Lassen Avenue Bikeway/Walkway – completed in 2009
2) Illuminated crosswalk at Moorpark Avenue and Second Street – completed in 2008
3) Downtown Trail Study – completed in 2007
4) Constructed curb ramps at "T" Intersections City-wide – completed in 2003
5) Completed ~~F~~feasibility study to construct a trail on top of the Arroyo Simi levee road from the westerly City limit to Simi Valley.

Future Projects

1) Design and construct a trail on top of the Arroyo Simi levee road from the westerly City limit to Simi Valley. Need to fully fund project to complete
2) Design and construct a trail along Ventura County's Drain No. 2 (east of Collins Drive) Need to fully fund project to complete
3) Design and construct a sidewalk and bike lane to connect existing AVRC bike/pedestrian facilities to the pedestrian bridge. Some funding identified, need to identify all sources to complete *(Objective VII.A.26)*
4) Construct a sidewalk from Championship Drive to southern boundary of County Club Estates (Tract 4928). Some funding identified
5) Construct a bus stop and sidewalk at City Hall. ~~Funding sources identified, awaiting grant monies~~ Grant monies obtained. Project is in development.
6) Design and construct a trail between the Meridian Hills Development and adjacent property owner driveway.
7) Class II bike lane on Campus Park Drive between Princeton Avenue and Beragan Street. *(Objective III.A.11.)*
8) Construct sidewalks on streets in the industrial zones. *(Objective VI.A.30.)*

9) Feasibility study of a sidewalk on Arroyo Drive from Collins Drive to the eastern City limits. This study will also evaluate a pedestrian and bike connection between Collins Drive and Madera Road in conjunction with the City of Simi Valley and County of Ventura. Staff received a TDA Article 3 grant for $30,000 to fund the feasibility study. *(Objective III.A.9.)*
10) Feasibility study to construct a pedestrian bridge over Los Angeles Avenue near Moorpark Avenue.*(Objective III.C.3)*

Future Potential Projects ***(moved the items that have been assigned an objective number to Future Projects)***
1) Feasibility study to construct a pedestrian bridge over Poindexter Avenue and Union Pacific Railroad.
~~2) Class I bike lane on Campus Park Drive removing travel lane.~~
~~3) Construct sidewalks on streets in the industrial zones.~~
~~4) Feasibility study of a sidewalk on Arroyo Drive from Collins Drive to the eastern City limits. This study will also evaluate a pedestrian and bike connection between Collins Drive and Madera Road in conjunction with the City of Simi Valley and County of Ventura. Staff received a TDA Article 3 grant for $30,000 to fund the feasibility study.~~
~~5) Feasibility study to construct a pedestrian bridge over Los Angeles Avenue near Moorpark Avenue.~~

2.3. Transit

2.3.1. Fixed-route Bus Service

Description: Moorpark Transit ridership

Status: The City's fixed route bus service ridership was:

2011	67,449
2012	63,074
2013	66,745

~~The decrease in~~ Moorpark Transit ridership increased 5.82% between 2013 and 2012. Part of the increase is due to a new transit demonstration service that began August 10, 2013. The City established Saturday service (8:00 am to 5:00 pm) and extended Monday – Friday service from 6:00 am to 6:00 pm to 5:00 am to 8:00 pm. Of the 3,671 new passengers in 2013, 1,588 are from the demonstration service hours. The demonstration service is funded with a $602,000 Congestion Mitigation and Air Quality (CMAQ) grant over a three-year period.~~between 2012 and 2011 is believed to be a result of the schedule change made in August 2012 that was in response to Moorpark High School (MHS) adjusting its start and end times. Although MHS students are a majority of passengers~~

~~on Moorpark City Transit, other passengers may have become disenfranchised by the new schedule adjustment. The adjustment did impact potential transfers between VISTA and Metrolink trains (though it also established new transfer potentials with other VISTA and Metrolink schedules). The new schedule may have also impacted some passengers traveling to and from Moorpark College.~~

2.3.2. Paratransit Services

Description: Intra-city and Inter City Paratransit services

Status: Both services together provide service to senior and disabled passengers. The number of passengers served was:

2011	2,289
2012	2,456
2013	3,116

2013 ridership increased 26.87% from 2012 numbers. Part of the increase is due to a new transit demonstration service that began August 10, 2013. The City established weekend service (8:00 am to 5:00 pm) and extended Monday – Friday service from 6:00 am to 6:00 pm to 5:00 am to 8:00 pm. Of the 660 new trips in 2013, 91 are from the demonstration service hours. The demonstration service is funded with a $602,000 CMAQ grant over a three-year period. Also, beginning December 9, 2013, the City began providing direct ADA Inter-City service into Simi Valley instead of using a transfer point.

3. CLIMATE CHANGE

3.1. SB 375 Sustainable Communities and Climate Protection Act

Description: SB 375 enhances California's ability to reach its AB 32 goals by promoting good planning with the goal of more sustainable communities. Sustainable Communities requires California's Air Resources Board (ARB) to develop regional greenhouse gas emission reduction targets for passenger vehicles. ARB is required to establish targets for 2020 and 2035 for each region covered by one of the State's 18 metropolitan planning organizations (MPOs). Each of California's MPOs then prepare a "sustainable communities strategy (SCS)" that demonstrates how the region will meet its greenhouse gas reduction target through integrated land use, housing and transportation planning. Once adopted by the MPO, the SCS will be incorporated into that region's federally enforceable regional transportation plan (RTP).

Status: The Southern California Association of Governments (SCAG) ~~recently~~ released its 2012-2035 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) in compliance with SB 375 in April 2012. The addition of the sustainable communities strategy to the RTP means that the RTP now integrates not only transportation and land-use planning, but also housing and environmental planning with the goal of reducing regional greenhouse gas emissions. ~~The comment period ended in February and SCAG adopted the RTP/SCS on April 4, 2012~~. The City can use the RTP/SCS when doing its own transportation, land use, and environmental planning to assist in efforts to reduce regional greenhouse gas emissions. Consistency with the RTP/SCS may also become a requirement for certain sources of grant funding.

In June 2013, SCAG approved amendment #1 to the 2012-2035 RTP/SCS. The Draft Amendment was developed as a response to changes to projects in the 2012-2035 RTP/SCS. A total of 43 projects were modified or added in the Amendment, with a majority of the changes being minor in nature, including changes to completion years, as well as minor modifications to project scopes, costs, and funding. No Ventura County projects were added/modified in the RTP amendment.

3.2. AB 32 Global Warming Solutions Act

Description: In 2006, the State Legislature passed AB 32, the Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. It directed the ARB to begin developing discrete early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit.

Status: In 2011, a Greenhouse Gas Inventory report was completed for the City of Moorpark. This marks the completion of the first step towards the creation of a Climate Action Plan (CAP) for the City. The next step is to set greenhouse gas reduction targets and move into the climate action planning process. Staff is researching grant funds that can be used to prepare the CAP.

3.3. Renewable Energy

Description: Renewable energy is energy that comes from resources such as sunlight, wind, rain, tides, and geothermal heat which are naturally renewed.

Status: From June 2012 to December 2012, there have been 30 additional solar permits issued in the City of Moorpark. This is added to the total of 212 solar permits previously reported which includes the solar system array installed at the Kohl's department store, for a total of 242 solar

permits issued in the City. The majority of the permits were issued between 2009 and 2012 with 139 permits issued. Sixty-six of these permits were issued from January 2011 to December 2011, which indicates an increasing trend of solar panel installation within the City. Part of the annual report will be a yearly tally of solar system installations to monitor the increase in use of this renewable energy source. Due to work assignments, staff has been unable to work with Building and Safety to devise a system to tally the kwh generation potential of each of the systems. It is anticipated that a system can be put in place in 2013.

4. GREEN BUILDING AND CONSTRUCTION TECHNIQUES

4.1. Green Building

4.1.1. Green Building Development Standards

Description: Green building refers to the process of constructing and siting a building to be environmentally responsible and resource efficient throughout the structures life cycle.

Status: In furtherance of promoting Green Building Standards, in January 2011, the 2010 California Green Building Standards code (CALGreen) was implemented~~.~~ , and it was extended in the 2013 California Green Building Standards Code, which took effect on January 1, 2014. CALGreen is California's first green building standards code and the first state mandated green building code in the nation. The purpose of CALGreen is to improve public health, safety, and general welfare through enhancement of design and construction of buildings using building concepts that reduce negative impacts or have positive environmental impacts and encourage sustainable construction practices. CALGreen applies to all newly constructed buildings or structures.

4.2. Sustainable Construction Techniques and Practices

4.2.1. City Building Construction

Description: Review of recent City building construction and practices as they relate to sustainability.

Status: The City completed construction on the Ruben Castro Human Services Center in September 2012. The following green elements were incorporated into the project:

- ✓ Reflective roofing materials to reduce heat absorption
- ✓ Steel studs manufactured from recycled material

- ✓ Skylights utilized in open space and warehouse areas, and strategic locations to maximize natural lighting sources
- ✓ Southern California Edison and Gas Company analysis conducted to maximize energy efficiencies
- ✓ Low-E glass windows throughout
- ✓ Drought tolerant landscaping materials and drip system irrigation to reduce water consumption

The Architect's agreement for the New City Hall project includes a provision to obtain LEED Certification. The City's practice will be to continue to seek LEED certification for all future facility construction projects.

4.2.2. Public Works Construction Practices

Description: City Council Policies Resolution 2012-3091, Policy 7.8 requires use of rubberized asphalt in all new street construction projects.

Status: ~~Since the last report two (2) lane miles of rubberized asphalt diverting approximately 4,000 scrap tires and three (3) lane miles of Asphalt Rubber Aggregate Membrane (ARAM) diverting approximately 1,000 scrap tires have been placed. In total, s~~Since 2007, the City has placed 26 lane miles of rubberized asphalt resulting in diversion of approximately 50,000 scrap tires from landfills. The City also uses Asphalt Rubber Aggregate Membrane (ARAM) which is a rubberized asphalt sealing treatment using recycled tires which is used under a slurry seal or asphalt top coat. Since 2007, the City has placed 17 lane miles of ARAM, diverting ~~6~~10,~~0~~500 tires from the landfill. No rubberized asphalt or ARAM projects were completed in 2013.

4.2.3. Use of Recycled Materials in Public Works Projects

Description: Types of recycled materials used in Public Works streets and roads projects.

Status: Recycled asphalt and concrete are used in road base and new asphalt pavement. Recycled scrap tires are also used in asphalt pavement. Faded street name signs are "re-faced" with new sign decals, allowing for the re-use of the metal sign stock.

4.2.4. Public Works Streets and Roads Design Practices

Description: Project design by the Public Works Department as it relates to sustainability.

Status: The total area of new or rehabilitated asphalt is considered in the design of road improvement projects to minimize the amount of asphalt streets where possible. An example is the raised median area that was added to the Mountain Trail street pavement rehab project in which a significant portion of existing asphalt street was replaced with a low maintenance and water use landscaped median.

4.3. Green Construction Materials

4.3.1. Artificial Turf for Playing Fields at City Parks. (*Objective VI.C.2.)*

Description: Evaluate use of artificial turf for playing fields at City parks including maintenance and replacement costs.

Status: **Objective completed.** Staff has determined that at the present time the costs associated with artificial turf in a typical park setting or on a typical playing field, does not equal the cost savings due to reductions in irrigation water use and typical sports field maintenance activities. Staff has determined that the water use and maintenance costs associated with one (1) acre of sports field turf is approximately $8,500/year. At Arroyo Vista Community Park, the maintenance costs are considerably lower, approximately $3,000/year for one (1) acre, due to the fact well water is used at this park with minimal direct cost implications. The cost associated with one (1) acre of artificial turf is approximately $13,500/year, over the 10-year life of the product.

Staff has determined that the use of artificial turf is more cost effective when used in high profile sport fields, such as sports complexes or high profile arenas, where water use and turf maintenance are typically excessive. In these facilities the high cost for artificial turf use can be justified through cost savings. Currently, the City does not manage these types of facilities.

In addition, staff is concerned with the sustainability of this product, due to the fact that artificial turf typically has a 10-year life span before it needs to be removed (discarded) and replaced. Staff has discussed this issue with several manufacturers and has learned that the industry is making progress in this area. New sustainable and environmental friendly products are currently being developed. Staff will continue to monitor this option.

4.3.2 Pervious Pavement *(Objective VI.A.28.)*

Description: Evaluate potential requirement for use of pervious pavement on new private and public projects.

Status: The recreational trail improvements at Arroyo Vista Community Park have been designed to incorporate pervious concrete in the parking lot and pervious asphalt for the bike trail. The project will serve as a test to see how these types of pavements perform over time. It will be one step in evaluating requiring these materials in new private and public projects.

5. SOLID WASTE AND RECYCLING

5.1. Recycling/Reuse/Diversion/Green Waste and Composting

5.1.1. Commercial and multifamily residential recycling ~~(*Objective VII.A.12*)~~

Description: Develop options to enhance commercial and multifamily residential recycling as part of new refuse franchise agreements.

Status: Ongoing negotiations with both of the City's franchised waste haulers include development and implementation plans to increase commercial and multifamily residential recycling in compliance with AB 341 (which amends AB 939). The particulars of these development and implementation plans, and the timetables for the plans, will be available upon execution of the 2013 Franchise Waste Hauler Agreements. One of the two franchised waste haulers has accomplished 100% compliance of commercial customers designated for mandatory recycling. The second franchised waste hauler has accomplished 95% compliance.

5.1.2. Construction and Demolition Materials Management Plan

Description: In October 2010, the City implemented a new Construction and Demolition Materials Management Plan (C&D Plan) Program to require contractors for certain construction and all demolition projects to file a C&D Plan Deposit with the City. Documentation filed with the C&D Plan Deposit is submitted by the contractor to identify any construction debris that is expected to be recycled. Upon completion of the project, contractors file for a C&D Plan Deposit refund. The objective to this C&D Plan is to provide the City with a measureable and comprehensive evaluation of diverted construction debris. Prior to the implementation of the C&D Plan, the City did not keep records of diverted construction debris (though reports of accepted and diverted material from a local landfill were available to the City, no comprehensive report of all acceptable recycling facilities was available to the City). The City can now state, with confidence and documentation (gate tickets or weight receipts identifying diverted material and the weight of the diverted material) the minimum construction material diverted from landfills.

Status: From the first C&D Plan Deposit refund issued from August 2011 through January 2014~~3~~, the total weight of measureable diverted construction debris in the City exceeds 1,887~~282~~ tons.

5.1.3. Recyclable Material Diversion

Description: Amount of recyclable material diverted from the landfill. Previous reports included information from a fiscal year perspective. Beginning with this report, the information will be provided on a calendar year. This specific report includes July – December 2012 and all of 2013.

Status: Between July 1, 2012 – December 31, 2012, 6,204 tons of recyclable material were diverted from the landfill through collection services, collection events, and collection centers. During the same time, 12 home composting bins were delivered to City residents. During ~~fiscal year 2011/12~~2013, ~~21,326~~13,254 tons of recyclable material was diverted from the landfill through collection services, collection events, and collection centers. Of the ~~21,326~~13,254 tons diverted from the landfill, ~~10,143~~6,028 tons were composed of green waste. During the same time, ~~16~~32 home composting bins were delivered to City residents.

5.1.4. Beverage Container Recycling Grant

Description: The City receives grant funds from Calrecycle which are used to purchase beverage recycling containers for City facilities and parks and other capital items that may be needed to service the containers.

Status: In 2013 the City purchased 14 combination trash/recycling receptacles for the High Street downtown area. The receptacles will be placed in 2014. In total, the City has placed 88 beverage recycling containers at City facilities and Parks between July 2011 and February 2013 (not including the 14 High Street containers). All container purchases were made using Calrecycle Beverage Container Recycling Grant funds. The City also purchased a utility vehicle for collecting recyclable materials from the AVCP containers, using the same Calrecycle grant funds. ~~Between July 2012 and February 2013, the City placed 18 beverage recycling containers in strategic locations throughout Arroyo Vista Community Park, Mountain Meadows Park, Tierra Rejada Park, Mammoth Highlands Park, Country Trail Park, Peach Hill Park, Monte Vista Park, College View Park, Campus Canyon Park, the Community Center Park, and Campus Park using Calrecycle Beverage Container Recycling Grant funds. The City, using the same funding source, also purchased a utility cart for collecting recyclable materials from the containers at AVCP.~~ The City intends to continue adding beverage recycling containers ~~in parks~~at City bus shelters using using Calrecycle

funds as the grants are awarded. ~~In total, the City has placed 40 beverage recycling containers at City facilities and Parks between July 2011 and February 2013. Diversion rates from this activity will be available for the 2013 report.~~

5.2. HHW, Electronic Waste, and Universal Waste

5.2.1. Household Hazardous Waste (HHW), Electronic Waste, Universal Waste, and Paper Shredding Collection Events

Description: Events held during the year that provide a location for residents to take their hazardous, electronic and universal waste. Hazardous materials were collected at two locations outside of the City and statistics provided pertain to Moorpark residents only. The electronic waste and universal waste (batteries and fluorescent lights) collected, and the paper shredded, reflect City sponsored events only. Previous reports included information from a fiscal year perspective. Beginning with this report, the information will be provided on a calendar year. This specific report includes July – December 2012 and all of 2013.

Status: Between July 1, 2012 – December 31, 2012, 199 loads of HHW were collected at 15 events, 5.41 tons of electronic waste including 280 televisions and computer monitors, 150 pounds of batteries, plus 222 fluorescent lights/CFLs (universal waste) were also collected at one event (September 15, 2012). 5.34 tons of paper was shredded and c ollected at 1 electronic waste and paper shredding event. During 2013~~FY 2011/12~~, ~~287~~339 loads of HHW were collected at ~~18~~30 events, ~~24.12~~30.14 tons of electronic waste including 604~~522~~ televisions and computer monitors, ~~2,150~~5,601 pounds of batteries, plus ~~1,835~~2,673 fluorescent tube lights/CFLs (universal waste) were also collected at 3 electronic waste and paper shredding events. Between July 1, 2012 – December 31, 2012, 1,200 pounds of batteries and 274 CFLs were collected from static collection locations around the City. During 2013, 1,090 pounds of batteries and 360 CFLs were collected at static collection locations around the City. 21.20 tons of paper was shredded and collected at 3 electronic waste and paper shredding events.~~8,152 pounds of batteries plus 2,530 fluorescent tube lights/CFLs were collected from static collection locations around the City and at the 3 electronic waste and paper shredding events. 10.75~~21.20 tons of paper was shredded and collected at 3 electronic waste and paper shredding events.

6. ENERGY CONSERVATION/CLEAN ENERGY

6.1. Energy Conservation/Clean Energy in City Buildings

6.1.1. Energy Saving Projects for City Parks and Facilities ~~(*Objective VI.A.15.*)~~

Description: Energy savings projects completed by the City during the year.~~Prepare a list of energy savings projects including potential solar power for City parks and facilities and a funding and phasing plan by September 30, 2012.~~

Status: In December 2013, lighting retrofits were begun at Campus Park, the Police Services Center and Poindexter Park. The retrofits consist of replacing all park and parking lot lighting with energy efficient LED luminaires. Replacing the existing lights with LED lights will result in the following annual kWh and electricity savings per location:

LOCATION	ESTIMATED PROJECT COST	SCE REBATE	* PLANNED MAINT. & PROJECT COSTS	**ADJUSTED PROJECT COST**	KWH SAVINGS	ANNUAL ELECTRICAL & MAINT. SAVINGS	**ROI (YEARS)**
CAMPUS PARK	$ 31,000	$ 338	$ 31,000	**$ (338)**	8,653	$ 1,384	**0**
POINDEXTER PARK	$ 192,000	$1,905	$ 57,000	**$ 133,095**	67,533	$ 10,805	**12**
POLICE SERVICES	$ 61,000	$2,961	$ 15,000	**$ 43,039**	44,869	$ 7,178	**6**
TOTAL	$ 284,000	$5,204	$ 103,000	**$ 175,796**	121,055	$ 19,367	**9**

* The Adjusted Project Costs and overall ROI takes into consideration necessary in-kind replacement costs, planned maintenance costs as compared to new LED lighting, or planned new project costs, such as the addition of security lights at Poindexter Park.

Based on these estimates and the total adjusted project costs, the City can expect a total Return on Investment (ROI) of approximately nine (9) years for all three projects, when compared to standard metal halide or high pressure sodium lights. The ROI for Poindexter Park is higher than the other projects, simply due to the fact that the ratio of overall energy savings, when compared to the total number of fixtures proposed for replacement and overall project costs, is lower than the other projects.

This project has been approved through SCE's Business Incentive Program and will qualify the City for the Silver Level Tier in Southern California Edison's (SCE) Energy Leader Partnership and contribute kWh

savings towards attainment of the Gold Level Tier. Attainment level of the Silver Level Tier will qualify the City for direct cost rebates from Southern California Edison (SCE) for this project.

~~In August, 2012, staff completed the lighting retrofit project at the Community Center, Active Adult Center, Administration, and Development Services buildings, and the Civic Center and Library parking lots for a total cost of approximately $71,000 that was provided through the Energy Efficiency and Conservation Block Grant (EECBG). The City obtained an EECBG grant as part of the American Recovery and Reinvestment Act (AARA) in 2009 in the amount of $148,600. $76,746 was utilized in 2009 to replace several aging HVAC units at the Community Center. A major part of the lighting retrofit project included the change from traditional fluorescent T12 bulbs to low wattage fluorescent T8 bulbs. T12's use 40 watts of energy per bulb, as compared to 32 watts for each T8, ultimately reducing carbon emissions as the overall energy requirement at each facility will be reduced. Staff also replaced the existing Metal Halide and High Pressure Sodium parking lot lights and exterior building lights with Light Emitting Diode (LED) lighting. LED lighting has a lifespan of approximately 50,000 hours with an estimated energy savings between 50% and 75% compared to traditional high wattage bulbs, such as Metal Halide and High Pressure Sodium. Staff has prepared an initial energy savings summary based on the first twelve (12) full months of electrical service (January, 2012 through December, 2012) as compared to the previous year, and has determined that the City has saved approximately $7,411, or approximately 11%, in direct costs:~~

	2011	2012	Direct Savings
Community Center	$ 20,642	$ 17,317	$ 3,325
City Hall Administration	$ 23,246	$ 20,765	$ 2,481
City Hall Annex	$ 15,944	$ 15,069	$ 875
Library	$ 12,213	$ 11,483	$ 730
Total	**$ 72,045**	**$ 64,634**	**$ 7,411**

~~This cost savings equates to approximately 49,410 kWh in direct energy reduction.~~

6.1.2. Energy Leader Partnerships Program

~~6.1.2.~~

Description: The City is participating in Southern California Edison's (SCE) Energy Leader Partnerships program. This program assists with identifying and addressing energy efficiency opportunities in municipal facilities and pays increased incentives for City energy efficiency projects.

Status: The City has completed the exterior lighting retrofit and is continuing to work towards the Silver Partner Tier in the Partnership. So far, through the various completed projects, the City has saved 12.5 metric

tons of greenhouse gas emissions, or the equivalent of removing 2.5 cars off the roads. Edison also estimates that reductions by residents and businesses in the community equates to saving 14,064 metric tons of greenhouse gas emissions or the equivalent of removing 2,758 cars off the roads. Once the LED lighting projects at Poindexter Park, Campus Park and the Police Services Center are completed, the City will be able to attain the Silver Partner tier.

6.1.3. Future Energy Conservation Efforts

Description: Future energy conservation efforts at City facilities.

Status: Staff is in the process of evaluating several additional energy conservation techniques, as funding permits, such as utilizing solar equipment to supplement direct energy use in City facilities; additional interior and exterior lighting retrofits that utilize new energy saving equipment such as ballasts, florescent and LED lighting technology; and the implementation of new energy conserving construction trends such as centralized HVAC systems, advancements in window, door and insulation manufacturing and title 24 roofing systems.

6.1.4 Energy Efficient Street Lighting

6.1.4.1 New Street Lights (*Objective VII.A.19~~30~~.*)

Description: Evaluate a policy and standards for use of more energy efficient street lights on public and private streets in new developments.

Status: No work has been started on this objective. In October, 2013 AB 719 was recently passed. AB 719 requires the Investor Owned Utilities (IOU) to submit a new tariff to the Public Utilities Commission (PUC) by July 1, 2015, that would allow local governments to fund energy efficiency improvements in streetlight poles owned by the utility. The IOU's must structure the tariff such that the costs of the energy efficiency improvements are not shifted to non-participating ratepayers. The bill requires that the local governments that elect to use the tariff to fund the energy efficiency improvements, be allowed to participate in any available rebates or incentives for the specified improvement.

6.1.4.2 Existing Street Lights (*Objective VII.B.34.*)

Description: Determine feasibility of ~~converting~~ purchasing existing City street lights and converting them to a more ~~to a more~~ energy efficient lighting source.

Status: ~~No work has been started on this objective.~~ Staff has been in discussions with a consultant regarding the feasibility of purchasing the SCE owned streetlights so that they could be converted to a more energy efficient lighting source. Due to the passage of AB 719 (discussed above) staff is waiting to see what the tariff is that SCE proposes and the PUC approves before making any final recommendations about the purchase of the streetlight system.

6.2. Property Assessed Clean Energy (PACE) Programs

6.2.1. California First (AB 811)

Description: AB 811 was passed in 2008 and created an alternative financing mechanism for property owners to make energy efficiency improvements to their home or business. Essentially, property owners are allowed to take out loans and pay the loan back through an assessment on their property taxes. The loan is unique because it will automatically transfer to the next homeowner/business property owner who will continue to pay the loan through a special assessment on their property taxes.

Status: Unfortunately due to the real estate downturn and the atmosphere of bad lending practices that precipitated it, the Federal Housing Finance Agency (FHFA) stopped all PACE loans for residential properties in 2010 until such time as the FHFA could structure the program. The FHFA is concerned about the fact that these AB 811 loans are senior to the first mortgage. The United States District Court for the Northern District of California, has issued an injunction requiring FHFA to notice a proposed rulemaking in the federal register requiring FHFA to structure the guidance relative to PACE programs. FHFA is appealing, but while the case is under appeal they are required to move forward with the rulemaking. The comment period for the proposed rule-making ended on March 26, 2012. However, because the FHFA disputes the Courts right to force a rule-making on this issue, if they win on appeal, they do not have to issue the rulemaking, so until the appeal decision is made, they are in a holding pattern on the final rulemaking. As the situation stands, until FHFA creates rules relative to the PACE program, it will be unable to be utilized because properties with PACE loans on them will not be able to obtain financing since the loans will be unsellable to a large portion of the secondary mortgage market. If the FHFA wins the appeal case and is not required to issue a ruling, absent legislation, the PACE program for residential homes would end. Staff is monitoring the situation.

The California FIRST program is still in effect for commercial and multi-family property owners in participating jurisdictions. Moorpark is a participating jurisdiction. The program was launched in September 2012

for commercial properties. The County of Ventura is working with emPowerSBC to bring a residential energy upgrade loan program to the county. emPower SBC is in the process of securing additional funding sources to expand its program into Ventura County. Once the funding sources are identified, the County will enter into a deal with emPowerSBC to provide the program locally.

7. WATER CONSERVATION

7.1. Water Conservation Efforts by City

7.1.1. City Water Conservation Program ~~(*Objective VI.A.10.*)~~ *(Objective VI.A.6.)*

Description: ~~Develop and implement a comprehensive water conservation program for City facilities, parks and landscape maintenance districts including the two phase installation of a centralized irrigation system by June 30, 2013.~~Install the second phase of a centralized irrigation system for City facilities, parks and landscape maintenance districts by June 30, 2014.

Status: On May 18, 2011, the City Council approved an Agreement with HydroPoint Data Systems, Inc. (HydroPoint) for the replacement of 44 existing irrigation controllers with WeatherTRAK ET Pro2 irrigation controllers. WeatherTRAK controllers receive real time weather and evapotranspiration (ETo) data via HydroPoint's system software and adjust irrigation schedules on a daily basis to reduce overall irrigation water consumption. In FY 2009/2010, prior to the installation of the WeatherTRAK controllers, the City reduced water consumption by approximately 16.5%, as compared to the prior fiscal year.

Phase I of the WeatherTRAK project included replacing 44 irrigation controllers in Landscape Maintenance Assessment District (LMD) Zones 2, 5, 10, 12, 15, and 22, as well as Mammoth Park and Peach Hill Park. This work was completed in August, 2011.

Staff has tracked the City's water use since FY 10/11 and has determined that overall the City saved approximately 18% in irrigation water use in FY 11/12 and 11% in FY 12/13, an average of approximately 14.5%. A summary of each LMD Zone and Park follows:

HydroPoint Data System Water Use Summary						
FY 11/12 & 12/13 Analysis						
	FY 10/11	FY 11/12		FY 12/13		
	HCF (Baseline)	HCF	(%) saving	HCF	(%) saving	Average
Mammoth Park	11,063	7,522	32.0%	7,769	29.8%	30.9%
Peach Hill Park	8,642	8,764	-1.4%	9,164	-6.0%	-3.7%
LMD Zone 2	3,344	2,582	22.8%	2,390	28.5%	25.7%
LMD Zone 5	2,913	2,434	16.4%	2,602	10.7%	13.6%
LMD Zone 10	10,416	7,863	24.5%	7,024	32.6%	28.5%
LMD Zone 12	10,325	8,843	14.4%	11,253	-9.0%	2.7%
LMD Zone 15	6,112	6,591	-7.8%	8,251	-35.0%	-21.4%
*LMD Zone 22	32,677	25,535	21.9%	27,677	15.3%	18.6%
Total LMD/Parks	**85,492**	**70,134**	**18.0%**	**76,130**	**11.0%**	**14.5%**
* Eight month baseline & comparison from November through June						

The resulting savings is proportionate to the general weather conditions over the last several years. The water savings from installing the WeatherTRAK controllers has declined from approximately 18% in FY 10/11, to 11% in FY 12/13, comparable to the drop in precipitation. This would be expected, as the controllers are generally programmed to supplement available precipitation when needed. However, given the severe drought conditions during the latter part of 2012/2013, the controllers have exceeded staff's expectations and have shown substantial overall savings.

In terms of cost savings, an 18% reduction in water use is equivalent to 15,358 HCF or 11,487,748 gallons of water. In FY 10/11, the City spent $311,228 in water in the LMD Zones and parks where the WeatherTRAK controllers were installed, including the eight month monitoring period for LMD Zone 22. In FY 11/12, the City spent $288,468, resulting in a direct cost saving of $22,760. Even though the City reduced irrigation water use by approximately 18% due to the installation of the WeatherTRAK controllers, the City only saved approximately 7.3% in direct water costs due to relatively proportionate water rate increases. In May, 2011 the Ventura County Water District (VCWD) Board approved a 12% rate increase and tier allocation adjustment, in March, 2012 an 8% increase, and a 4.5% rate increase was approved for 2013.

Phase II of the project includes installing a total of fifteen (15) controllers at the following City parks: Glenwood Park, Tierra Rejada Park, Campus Park, Poindexter Park, Mountain Meadows Park, Miller Park, Campus Canyon Park, and College View Park.

~~In July, 2010, staff initiated a 120-day pilot program with three major irrigation system manufacturers: Calsense, the Rain Bird Corporation (Maxicom) and HydroPoint Data Systems, Inc. (WeatherTRAK). The purpose of the pilot program was to determine which irrigation water management system would manage the City's water the most efficiently. Staff determined that the HydroPoint Data Systems, Inc. water management system and WeatherTRAK field controllers performed the best during the pilot program. With City Council approval, staff replaced forty-four (44) existing irrigation controllers at the following City parks and Landscape Maintenance Districts: two (2) controllers at Mammoth Highlands Park, two (2) controllers at Peach Hill Park, four (4) controllers at LMD Zone 2 (Steeple Hill, Tract 2865), two (2) controllers at LMD Zone 5 (Pheasant Run, Tract Nos 3019 & 3525), six (6) controllers at LMD Zone 10 (Mountain Meadows, PC-3), six (6) controllers at LMD Zone 12 (Carlsberg Specific Plan), seven (7) controllers at LMD Zone 15 (Toll Brothers, Tract 4928), and fifteen (15) controllers at LMD Zone 22 (Pardee Homes, Tract 5045). This work was completed in November, 2011, at a total cost of $362,584. Staff anticipates that the City will recover this initial investment in approximately eight (8) years based on a 15% reduction in irrigation water use at current water rates. However, as water rates increase, it is likely that the City will not recover its initial investment and any direct cost savings resulting from a reduction in water use will most likely be negated.~~

~~In FY 2010/11, the City used approximately 91,022 hundred cubic feet (HCF) of water, for irrigation use in the LMD zones and parks referenced previously. In FY 2011/12, the City used approximately 79,407 HCF, which was a reduction of approximately 11,615 HCF, equivalent to 8,804,170 gallons of water. However, this reduction is only equivalent to approximately $13,256 in direct cost savings due to recent water rate increases. In May, 2011 the Ventura County Water District (VCWD) Board approved a 12% rate increase and tier allocation adjustment, in March, 2012 an 8% increase was approved by the Board, and a 4.5% rate increase has been approved for 2013. Even though the City reduced irrigation water use by approximately 14.6% due to the installation of the WeatherTRAK controllers, the City only saved approximately 4% in direct water costs due to relatively proportionate water rate increases.~~

~~Phase II of the project is proposed for 2013 and includes installing a total of fifteen (15) controllers at the following City parks: Glenwood Park, Tierra Rejada Park, Campus Park, Poindexter Park, Mountain Meadows Park, Miller Park, Campus Canyon Park, and College View Park.~~

7.1.2. Bi-Annual Bark Mulching Program

Description: In July, 2011, staff initiated a bi-annual bark mulching program for both the City parks and Landscape Maintenance Districts. Bark mulch provides many important benefits to shrub and tree planting areas and the cost savings associated with the installation of bark mulch are comparatively equal to the direct costs incurred by the City. A summary of these benefits are:

- ✓ Water Savings: Bark mulch reduces loss of water from the soil by evaporation. It reduces the soil temperature and increases water retention. Bark mulch also minimizes soil compaction, improves water absorption and reduces irrigation runoff.
- ✓ Maintenance: Bark mulch prevents the germination of seeds and weeds and reduces the need for cultivation, fertilization and the use of chemical herbicides. Mulch improves the structure of the soil by adding vital nutrients and beneficial mycorrhizal fungus back into the soil as the mulch decomposes, reducing the need for chemical fertilization and improving plant health.

Status: ~~Staff~~ Bark mulch has been applied to ~~has identified approximately~~all fifteen (15) acres of planting areas identified by staff. ~~that will benefit by the application of bark mulch. To date, approximately ten (10) acres have been installed, with completion of all fifteen acres scheduled by the end of FY 11/12.~~ Staff anticipates a 2.5% reduction in irrigation water use, which is equivalent to approximately 826,608 gallons/year and a direct annual cost savings of approximately $5,100. Staff also anticipates a 12% cost savings, or approximately $2,800/year, due to a reduction in maintenance activities, such as weeding, fertilization, and a reduction in chemical herbicides. The total cost of this program is approximately $11,200 for the initial installation and approximately $8,400 each consecutive year. This results in a direct annual cost of approximately $500 based on the anticipated cost savings from a reduction in irrigation water use and maintenance activities.

7.1.3. Landscaped Median Refurbishment (*Objective VII.B.5.*)

Description: Develop design plan to refurbish median landscaping and hardscape on Tierra Rejada Road from Spring Road to Los Angeles Avenue and Campus Park Drive from Princeton Avenue to Collins Drive including cost estimates, financing, phasing and water conservation measures.

Status: In 2013, staff had an opportunity to coordinate a demonstration project consisting of native landscaping on Tierra Rejada Road, within the property owned by Southern California Edison (SCE), east of Walnut Creek. The result is a meadow of native grasses and shrubs specifically chosen to compliment the meadow appearance of the streetscape on Tierra Rejada Road. Since the plant material was installed, staff has had an opportunity to monitor the plant types and has found that they have established well, with minimal water and maintenance. Due to the success of the project, on February 19, 2014, the City Council approved a 12,000 s.f. project along the north side of Tierra Rejada Road, from the SCE property to Walnut Creek. The proposed project will include the

same plant types installed within the SCE property, which primarily consists of *Carex pansa (Meadow Sedge)*, a low growing bunch grass native to central California, and *Rhamnus Californica (Coffee Berry)*, a mid-height shrub native to the California foothill regions. The project includes retrofitting the existing irrigation system with low precipitation spray nozzles and installing bubblers at each of the remaining healthy Sequoia trees to supplement their water needs. Staff estimates a 50% reduction in water use based on the type of California native plant material and the installation of the low volume irrigation system. This would equal approximately $1,790 annually in direct cost savings and a cost recovery of approximately 12 years.

On a larger scale, staff has initiated a plan to renovate all the landscaping on Tierra Rejada Road, including the slopes, parkways, and median islands, with drought tolerant plant material, or other low water use options. The majority of the Tierra Rejada Streetscape lies within LMD Zone 2 (Steeple Hill Area Tract 2865), LMD Zone 5 (Pheasant Run Tracts 3019 & 3525) and LMD Zone 10 (Mountain Meadows Planned Community). LMD Zone 2 is fully funded and there is funding available for normal maintenance procedures, and improvements can generally be made with funding from the LMD reserve account. Funding for general maintenance procedures in LMD zones 5 and 10, which includes the cost of irrigation water, has historically been supplemented by the General Fund. These two zones were accepted by the City prior to the passing of Proposition 218 (*The Right to Vote on Taxes Act*) in 1996. In FY 12/13, LMD Zone 10 had a negative fund balance of $90,712 and LMD Zone 5 had a negative fund balance of $43,221, resulting in substantial funding from the general fund to supplement normal maintenance procedures. The actual cost of water for these two zones in FY 12/13 was $66,972, which is equivalent to approximately 50% of the negative fund balance.

In addition, staff has started to look into water conservation measures for the parkways and median islands on Princeton and Campus Park Drive. Although water use is proportionately low within these LMD Zones, due to the maturity of the existing landscape material, staff is confident that additional water conservation measures can be implemented to reduce the overall water budget.

Once staff has had an opportunity to prepare a study on the LMD areas that currently exhibit negative fund balances, staff will prepare an analysis on the fully funded zones. The larger zones include LMD Zone 12 (Carlsberg Specific Plan), LMD Zone 15 (Toll Brothers Tract 4928), LMD Zone 16 (Cabrillo Tract 5161), LMD Zone 22 (Pardee Tract 5045) and LMD Zone 18 (Colmer Tract 5307). The majority of these zones have also been installed with high to moderate water use plant types and staff feels

that there are opportunities to reduce water consumption within these LMD's.~~No work has been started on this objective.~~

7.1.4. Turf Reduction In City Parks (*Objective VI.A.19*)

Description: Develop a plan to reduce the amount of turf in City parks by ten (10) percent by ~~December 31~~March 31, 201~~2~~4.

Status: Staff has initiated a citywide plan to reduce the turf in all the City parks by a minimum of 10%. Staff intends to provide options for park amenities such as walking paths, native landscape area, and sand volley ball courts, and has already initiated several projects, such as the turf reduction project at Mammoth Highlands Park. Phase I of this project was completed by the Helping Hands volunteers in 2013. In April, 2014, the Helping Hands organization will continue with Phase II and start a similar project at Glenwood Park. Staff intends to remove the turf adjacent to Tierra Rejada Road and install a landscape buffer consisting of native landscape material. Staff estimates that the Mammoth Highlands Park project will cost approximately $21,400 in staff time and direct costs and will reduce the total turf area by approximately 26%. The return on investment is approximately 3.2 years based on the reduction in water use.
~~Staff is currently working on the plan and is still reviewing each of the City parks to determine where the turf reduction can be made.~~

7.1.5. Community Native Landscaping Demonstration Project (*Objective VII.A.27.*)

Description: Prepare a demonstration project with community involvement for replacement of turf with native landscaping by June 30, 2013.

Status: Staff is in the process of scheduling two programs funded by the California Department of Fish and Wildlife through the Summer Camp program at the Arroyo Vista Recreation Center. The programs are not only intended to demonstrate the importance of urban waterways, such as the Arroyo Simi to school aged children, but will also include a native landscaping component where the children will learn about the different types of native landscape plants and learn hands-on how to plant and manage these types of landscapes.

In addition, staff plans to prepare a master plan for Monte Vista Nature Park to include drought tolerant demonstration gardens, walkways and seating areas. Staff intends to remove all the non-native landscape material within the park over the next three years and prepare a comprehensive plan of the entire parks site so that volunteer organizations, such as the Boy Scouts of America, can install portions of

the park in phases. Staff is hopeful that this park will eventually showcase a wide range of native plant types with identification and interpretative signage.
~~Staff is in the process of preparing this project.~~

7.1.6. Future Water Conservation Efforts

Description: Future and pending water conservation efforts in City maintained areas.

Status: Staff is in the process of evaluating several additional water conservation techniques, as funding permits, such as removing turf in the Landscape Maintenance Districts and parks and replacing turf and high water use plant material with California native and drought tolerant plant material; refurbishing existing median islands and parkways with native and drought tolerant plant material; improving current irrigation systems by installing water saving irrigation equipment, such as spray heads with low precipitation rates, master valves, flow meters and rain shut off devices; utilizing water retention facilities and pervious paving to capture storm water runoff and recharge groundwater supplies.

7.2. Water Conservation Requirements of New Development

7.2.1. California Model Water Efficient Landscape

Description: The Model Water Efficient Landscape ordinance requires new and rehabilitated landscape areas to meet certain water efficiency standards as outlined in the ordinance.

Status: The City of Moorpark adopted the State of California's Model Water Efficient Landscape ordinance and implements the ordinance through Resolution 2011-2996 - Landscape Design Standards and Guidelines.

7.3. Use of Recycled Water within the City

~~7.3.~~

7.3.1. Recycled Water Infrastructure

Description: Recycled water use within the City is governed by the Ventura County Waterworks District No. 1.

Status: Currently, the Moorpark Country Club utilizes recycled water for irrigation of the golf course and the landscaping area along Grimes Canyon Road. There is extensive "purple pipe" infrastructure throughout the other landscape areas in the Country Club Estates development, which can be converted to reclaimed water at such time when the reclaimed water allotment increases. The Ventura County Waterworks

District has indicated that there is additional reclaimed water allocation and is making plans to lay additional reclaimed water infrastructure through the Moorpark Country Club LMD areas all the way to the Rustic Canyon Golf Course. This would utilize the entire allotment of reclaimed water. As additional reclaimed water is generated, more infrastructure could be laid to different landscape areas.

The City's standard development condition requires that, when available, use of reclaimed water is required for landscape areas subject to the approval of the Community Development Director, the City Engineer/Public Works Director and Ventura County Waterworks District No. 1. At this point in time, all available reclaimed water is spoken for, however, the Moorpark Wastewater Treatment Plant is expanding and additional reclaimed water infrastructure is being constructed.

8. WATER QUALITY

8.1. National Pollutant Discharge Elimination System (NPDES)

Description: The City operates under the requirements of the new NPDES stormwater permit. Under the permit, new land development and redevelopment have to comply with new water retention requirements for stormwater runoff and development that meets certain criteria are required to reduce effective impervious area to less than or equal to 5%.

Status: In 2013~~2~~, no projects were completed that were required to comply with this permit.

8.2. City Application of Fertilizers, Pesticides, and Herbicides

Description: Monitoring of application of fertilizers, pesticides, and herbicides and City efforts to reduce use of chemical products.

Status: The City is required to reduce its annual application of pesticides. In FY 2012-13, applications were as follows:

Herbicides:	Public Works	26.0 pounds
	LMD	35.0 gallons
	Parks	230.5 galons
Fertilizers:	Public Works	0
	LMD	50,000 pounds
	Parks	78,200 pounds
Pesticides:	Public Works	0

LMD	33 pounds
Parks	3.09 pounds
Vector	79.99 pounds

~~The City is required to reduce its annual application of pesticides, but has not yet completed its first year-to-year pesticide reduction calculation.~~ As discussed above, the Parks department is embarking on a bi-annual bark mulch program in City parks and Landscape Maintenance Districts. Two of the benefits, a reduction in the use of chemical herbicides and the fact that bark mulch is a natural fertilizer thereby reducing the need for application of chemical fertilizers, contribute to water quality through reduced runoff of chemicals. In areas where it is still necessary to use liquid pesticides and herbicides, staff is researching other natural herbicides that can be used to control weed growth. On November 6, 2013, ~~T~~the City Council adopted Resolution No. 2013-3240, opposing the sale, purchase or use of anticoagulant rodenticides by City residents and businesses. This supplements ~~also has an~~the adopted policy prohibiting the use of anti-coagulant rodenticides for pest control ~~at~~by City contractors and expands it to all-City properties.

8.3. Coastal Clean-Up Day

Description: The City participates in California Coastal Clean-up Day, which is ~~traditionally~~ held on the third Saturday of September. In 2012~~3~~, Coastal Clean-up Day was held on September ~~15~~21.

Status: The City's clean-up site was held at Villa Campesina Park. Fifty-six (56) volunteers participated in a cleanup of the Arroyo Simi, where 250 pounds of trash and 180 pounds of recyclables were recovered. About twenty (20) volunteers showed up with at least one reusable cleanup item, such as: a bucket, gloves, bags, or pick-up tools. Next year Coastal Cleanup Day will be Saturday, September 20, 2014.
~~Approximately 40 volunteers helped to remove an estimated 300 pounds of trash from about six (6) miles of the Arroyo Simi.~~

8.4. Calleguas Creek Integrated Watershed Protection Plan

Description: The Ventura County Watershed Protection District (WPD) is studying potential modifications to this flood control channel.

Status: The WPD has undertaken a process to study different modifications and needs to the Calleguas Creek Watershed flood channels to deal with sedimentation issues and the large costs associated with dredging the sediment. The WPD is also viewing this process as a way to accommodate or address other multi-use benefits, such as ground

water recharge, water quality improvements, recreational enhancement, or habitat restoration. Staff is monitoring this process.

8.5. Master Drainage Plan Update (*Objective VII.A.~~16~~14.*)

Description: Update City's 1995 Master Drainage Plan and incorporate needed improvements into Capital Improvement Program by June 30, 2013.

Status: A Request for Proposals for the Master Drainage Plan update is being prepared.

9. OPEN SPACE

9.1. Urban Forest

~~9.1.~~

9.1.1. Tree Inventory

Description: The City maintains a tree inventory of all trees owned by the City.

Status: At the end of 2013, the City's tree inventory was updated to include Zones 15 and 22 and tree additions to parks, LMDs, and Citywide parkways for a total of 19,153 trees. During the course of the year 234 additional trees were added throughout the City. The City also diverted 350 tons of green waste from tree maintenance services to the landfill by recycling woodchips for use in City planters. During the Arbor Day celebration, the City provided 100 Afghan Pine trees to Moorpark residents. In addition, the City was awarded Tree City USA status for the seventh year in a row. The National Arbor Day Foundation also presented the City with the tree growth award in recognition of the City's commitment to the environment and urban forest work.~~At the beginning of 2012, the City had a tree inventory of 8,327 trees. During the course of the year 295 additional trees were added throughout the City . During the Arbor Day celebration, the City provided 100 Arbutus x. Marina tree , to Moorpark residents. In addition, the City was awarded Tree City USA status for the sixth year in a row. The National Arbor Day Foundation also presented the City with the tree growth award in recognition of the City's commitment to the environment and urban forest work.~~

9.1.2. Tree Master Plan (*Objective VII.A.11.*)

Description: Develop a Tree Master Plan including tree inventory and mapping by June 30, 2014~~3~~.

Status: Staff completed the Urban Forest Management Plan for all City trees. The plan provides a Vision and Mission Statement, current status of our urban forest and information on the overall management of our current tree population. ~~Staff is currently in the process of preparing an Urban Forest Management Plan for all City trees. Staff anticipates completion bylate 2013. The plan will provide a Vision and Mission Statement, current status of our urban forest and information on the overall management of our current tree population.~~

9.2. Open Space

9.2.1. Public Ownership

Description: Open space owned by the City of Moorpark and efforts to increase the amount of open space land in City ownership.

Status: . The City currently owns open space parcels totaling approximately 404 acres:

- Country Club Equestrian Staging Area (6 acres)
- Meridian Hills Open Space (259 acres)
- Serenata (20 acres)
- Crawford Canyon (4 acres)
- Virginia Colony Open Space – SDI Parcels (21 acres)
- Moorpark Highlands Parcel, Northeast of Future SR 23 Bypass (14 acres)
- Tierra Rejada Green Belt (80 acres)

9.2.2. Private Ownership

Description: Open space in private ownership throughout the City.

Status: To date, ~~17~~ several new developments were required to preserve open space, in perpetuity, within their ~~development tracts~~projects totaling approximately 1,124 acres. The developments are:

- Moorpark Country Club Estates, Tract 4928 (500 acres, including golf course)
- Deauville, Tract 4340 (38 acres)
- Buttercreek Estates, Tract 4142 (24 acres)
- Verona, Tract 4342 (9 acres)
- Belmont, Tract 4341 (36 acres)
- ~~Quailridge I, Tract 4141~~ (no open space, designated OS area is Tierra Rejada Park site)
- Marlborough ,Tract 3096 (3 acres)
- Peach Hill Countryside, Tract 2406 (3 acres)

- Park View Estates, Tract 2451 (5 acres)
- Peach Hill, Tract 2194 (6 acres)
- Fox Shadow, Tracts 3019 & 3525 (7 acres)
- Serenata, Tracts 4973, 4974, 4975, 4977, 4980 (131 acres)
- Moorpark Highlands, Tract 5045 (169 acres)
- Meridian Hills, Tract 5187-1 & 2 (75 acres)
- Varsity Park Patio Homes, Tracts 3070, 4170 (40 acres)
- Campus Hills, Tract 3963 (123 acres)
- College Heights, Tract 3049 (30 acres)
- Carlsberg Business Park, Tract 4973 (25 acres)

As more development occurs in the City, additional open space areas will be preserved consistent with the polices and goals of the City's General Plan. ~~Staff is planning to utilize an intern over the summer to gather the statistics regarding acreage of these open space areas~~.

9.2.3. Enhance Open Space (*Objective VII.A.3*)

Description: Develop options to enhance open space and greenbelt areas to include at a minimum: (1) strengthening the Tierra Rejada greenbelt agreement; and (2) consideration of adding new formal greenbelt(s) and agreement(s) for the areas north and south of the Ronald Reagan Freeway (SR 118) near the east end of the City of Moorpark and the west end of the City of Simi Valley plus contiguous unincorporated Ventura County and west of the City limits (Las Posas) for consideration by the City Council.

Status: The County of Ventura ~~recently~~ amended the zoning for permitted land uses in the open space zone to reduce the possibility for incompatible assembly uses in the Tierra Rejada Greenbelt. Further City work on this objective will follow work on the OSCAR Element.

9.2.4. Open Space Joint Powers Agreement (Objective VI.A.29)

Description: Evaluate options for Joint Powers Agreement (JPA) with other public agencies for purchase and management of open space properties.

Status: The City is currently in discussions with the Santa Monica Mountains Conservancy.

10. PUBLIC INFORMATION, PROMOTION, AND SUSTAINABLE PURCHASING

10.1. Public Promotion

10.1.1. Sustainability Outreach

Description: Place sustainability information on the City's website, government channel, and in City publications, including information on actions taken by the City to conserve water.

Status: The sustainability section of the website is updated with new information relevant to the City of Moorpark as it is received. The City departments that have implemented conservation measures are encouraged to submit articles for the City newsletter to keep residents informed of actions the City is taking to conserve natural resources and save money.

10.2. Purchasing

10.2.1. Sustainable Purchasing

Description: City Council policies Resolution 2012-3091 contains Policy 7.7, Waste Reduction and Recycled Content Product Procurement Practices which directs that the City purchase reuseable, recyclable, and recycled products whenever possible. It calls for all departments to review their purchasing requirements and maximize use of products that are durable, recyclable, and reusable. The policy also asks that all City employees practice waste reduction procedures and minimize use of disposables.

Status: Staff is making sure that all departments are aware of Council Policy 7.7 to ensure that it is implemented. Staff is researching green purchasing policies and ordinances to determine if one can be implemented here.

10.3. Organizational Efforts

10.3.1. Compact for a Sustainable Ventura County

Description: The Compact for a Sustainable Ventura County is a voluntary effort among the cities and county to create a more sustainable Ventura County. Beginning in 2005 the Compact outlined a three phase approach to reach their final goal.

Status: The Compact is still in Phase 2.5 continuing with its community outreach and gathering comments about the basic compact principles. Phase 3 will be the approval and implementation of these principles by all the local governments in Ventura County. Staff monitors and follows progress on the Compact as they move through the various phases.

10.4. Sustainable Practices

10.4.1. Employee Sustainability

Description: Encouraging sustainability at the employee level.

Status: Notification is being distributed to all employees regarding Council Policy 7.7, Waste Reduction and Recycled Content Product Procurement Practices which among other city wide sustainability practices, requires the purchase of recycled or recyclable products where feasible and encourages departments and individual employees to adopt sustainability practices at their workplaces such as reducing energy usage, and practicing waste reduction techniques. For more than ten years, City employees have been recycling paper waste at their desk.