

# College of San Mateo



## College of San Mateo Sustainability Plan

Produced by the  
College of Mateo  
Sustainability Committee

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## SECTION 1. EXECUTIVE SUMMARY

As with many public sector agencies, the College of San Mateo (CSM) recognizes the environmental, economic, and social benefits of resource efficiency and sustainability. The passage of the California Global Warming Solutions Act (AB-32) and the establishment of a Sustainability Policy by the CCC Board of Governors have made it imperative for California Community Colleges (CCCs) to develop an organized, comprehensive approach that incorporates the elements of sustainability, satisfies state regulations, takes advantage of available resources and complimentary programs, and adopts the Best Practices of others who are further along this path.

To meet these challenges, the College of San Mateo has developed this campus-specific Sustainability Plan. Sustainability is defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” The purpose of this Sustainability Plan is to prepare the College of San Mateo for the anticipated environmental and regulatory challenges of the 21st century, to guide the campus towards becoming a more sustainable institution, and to prepare students for the green economy.

The following Sustainability Plan articulates the vision, goals, and objectives established by the campus for sustainability, as well as the strategies to meet these goals. This Plan has been developed by the CSM Sustainability Committee, which includes college students, faculty, and staff. The Committee has developed this Sustainability Plan in coordination with the many different campus stakeholders to ensure that the plan meets the different needs of the College.

### Sustainability Vision Statement

*CSM will be a model for sustainability, inspiring and empowering our community to implement sustainable economic and environmental practices and promote social equity in all aspects of the college’s mission and operations.*

*By adopting this Sustainability plan CSM commits to address the impacts of climate change and develop green curriculum to educate students for the challenges of the 21st century.*

**SECTION 2.****BACKGROUND****2.1 HISTORY OF SUSTAINABILITY EFFORTS TO DATE**

Sustainability continues to guide the College of San Mateo as it celebrates its 90th year as a college and its 50th year at the College Heights campus. Although sustainability was not yet codified as a concept, elements of sustainability have been part of CSM's history since relocating to the current campus site in 1963. During World War II, CSM answered the call for "Victory Gardens" to grow produce for troops and to combat food shortages. By 1943, CSM established 450 garden plots on the Delaware campus and taught gardening courses for citizens, inspiring a county-wide movement. As a result, San Mateo County became one of the top agriculture producing regions in the state. So much produce was grown that the federal government funded the establishment of a canning center on the Baldwin campus in 1944. In addition, the College Heights Campus architecture and landscaping was considered innovative for its time and received the American Nurseryman's Award in 1966. As advancements in the field of sustainability have progressed over the past nine decades, CSM has and will continue its tradition of innovation and adaptability.

In 2002, the San Mateo County Community College District (SMCCCD) conducted a comprehensive energy audit and has since implemented over \$20 million of energy efficiency measures, including the installation of energy efficient lighting, classroom lighting control systems, heating, ventilation and air conditioning (HVAC) and lighting energy management systems, and two cogeneration units that meet 57% of peak electricity needs on-site more efficiently and cleanly than utility company generation. Further, the feasibility of roof-mounted solar photovoltaic systems, roof-mounted pool solar thermal systems, fuel cells and micro-turbines has been evaluated. SMCCCD has designed all new buildings to a U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver rating, and is a leader in the California Community College and Investor-owned Utility (CCC/IOU) Energy Efficiency Partnership incentive program. The College of San Mateo continues to identify new sustainable technologies for the built environment and promotes sustainable practices with students, faculty and staff.

While the primary focus of campus efforts has been in energy conservation, there are many other areas of sustainability where programs are being actively implemented. The District has implemented water conservation strategies including the conversion of eight out of ten SMCCCD athletic fields to artificial turf, saving 5.8 million gallons of water and approximately \$370,000 per year in water costs. The College of San Mateo has an effective waste management and recycling program and is on track to exceed the statewide landfill diversion goal of 75% by 2020. Finally, the College of San Mateo has been offering courses centered on sustainability since the college's establishment in 1963. Numerous courses and degree programs focus on and integrate sustainable content to help prepare and inspire students to become leaders of sustainable change.

For a complete listing and description of existing CSM sustainability efforts see the Implementation Programs and Plans Checklist, which is in Appendix H.



## 2.2 CREATION OF THE SUSTAINABILITY PLAN

To create this Sustainability Plan, the College of San Mateo followed the process and utilized the tools provided in the California Community Colleges Sustainability Template. The process is illustrated in the flow chart on the right. The implementation of the sustainability planning process and the resulting Sustainability Plan are described in the following chapters.



## 2.3 CAMPUS SUSTAINABILITY COMMITTEE

In order to manage the process and to develop this Sustainability Plan, the campus established a Sustainability Committee, consisting of faculty, staff, and students to provide representation from the different campus stakeholders. The committee will be responsible for developing and implementing the sustainability programs and projects described in this plan to achieve the sustainability goals.

The Sustainability Committee Chair is Kathleen Ross, Dean, Business/Technology Division. Kathleen can be reached at [rossk@smccd.edu](mailto:rossk@smccd.edu).

## 2.4 THE POLICY CONTEXT OF SUSTAINABILITY PLANNING

Sustainability can provide environmental, economic, and social benefits to campuses. However, there are other motivations for the College of San Mateo to pursue these practices. The State of California has been on the forefront of efforts in establishing aggressive policies and standards for environmental protection and reducing greenhouse gas (GHG) emissions that contribute to global warming. In 1970, the State adopted the California Environmental Quality Act (CEQA) with the goal to inform governments and the public about potential environmental impacts of projects. From 2005 onward, legislation has been passed to directly regulate GHG emissions by utilizing incentive mechanisms, cap-and-trade programs, and mandatory reporting while encouraging voluntary activities such as purchasing emissions offsets and offering renewable energy certificates (RECs). Compliance with state policies and regulations regarding these issues is an important factor for consideration by the College of San Mateo.

The following outlines the numerous policy and regulatory drivers that contributed to the creation of this Plan.

### 2.4.1 CCC BOARD OF GOVERNORS ENERGY AND SUSTAINABILITY POLICY

To guide the CCCs to a more sustainable future, the CCC Board of Governors approved the Energy and Sustainability Policy in January 2008, which puts forth goals for each campus to reduce their energy

consumption from its 2001-02 baseline by 15% by 2011-12. It also sets goals for minimum efficiency standards of new construction and renovation projects and provides an incentive of 2% of construction cost for new construction projects and 3% of construction cost for modernization projects. The policy also sets goals for energy independence through the purchase and generation of renewable power and energy conservation through the pursuit of energy efficiency projects, sustainable building practices, and physical plant management.

The CCC Board of Governors Energy and Sustainability Policy can be found here:

[http://www.cccco.edu/Portals/4/Executive/Board/2008\\_agendas/january/3-1\\_Attachment\\_CCC%20Energy%20and%20Sustainability%20Policy%2011-9-07%20FINAL.pdf](http://www.cccco.edu/Portals/4/Executive/Board/2008_agendas/january/3-1_Attachment_CCC%20Energy%20and%20Sustainability%20Policy%2011-9-07%20FINAL.pdf)

## 2.4.2 CALIFORNIA STATE CLIMATE REGULATIONS

### 2.4.2.1 *State of California Executive Order S-3-05*

Executive Order S-3-05 was signed by the Governor of California in 2005, thereby identifying the California Environmental Protection Agency (Cal/EPA) as the primary state agency responsible for establishing climate change emission reduction targets throughout the state. The Climate Action Team, a multi-agency group comprised of various state agencies, was formed to implement the Executive Order S-3-05. Shortly thereafter in 2006, the team introduced GHG emission reduction strategies and practices to reduce global warming. These measures are aimed at meeting the Executive Order's long term goal of reducing GHG emission to 80% below 1990 levels by 2050.

### 2.4.2.2 *Global Warming Solutions Act of 2006 (AB-32)*

The Global Warming Solutions Act, or Assembly Bill 32 (AB-32), was adopted in 2006 by the California legislature, establishing two key requirements in regard to climate change reduction measures. The first requires that California GHG emissions be capped at 1990 levels by 2020, and the second establishes an enforcement mechanism for the GHG emissions reduction program with monitoring and reporting implemented by the California Air Resources Board (CARB).

In 2008, the Assembly Bill 32 Scoping Plan was released by CARB which describes measures to implement the requirements set by AB-32. In addition to partnering with local governments to encourage the establishment of regional emission reduction goals and community regulations, the Scoping Plan uses various mechanisms to reduce emissions state-wide, including incentives, direct regulation, and compliance mechanisms.

### 2.4.2.3 *Assembly Bill 1493 (The Pavley Bill)*

Assembly Bill 1493, widely known as "The Pavley Bill", was passed in 2002 and authorizes CARB to establish regulations to reduce the GHG emissions from passenger cars and light trucks by 18% by 2020 and 27% by 2030 from 2002 levels. This aggressive bill was temporarily blocked by the US EPA in March 2008 and later received a waiver of approval for implementation throughout California in June 2009.

#### ***2.4.2.4 Low Carbon Fuel Standard (LCFS)***

The Low Carbon Fuel Standard (LCFS) was established in January 2007 by Executive Order S-01-07 and requires California fuel providers to decrease lifecycle fuel carbon intensity of transportation fuels by 10% from 2007 levels by 2020.

#### ***2.4.2.5 California Renewables Portfolio Standard***

The California Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill 1078 and mandated that electrical corporations increase the total procurement of eligible renewable resources by at least 1% a year to reach a goal of 20% electricity generation from renewable resources. These goals were accelerated in 2006 under Senate Bill 107, which mandated that at least 20% of the total electricity sold be generated from renewable resources by the end of 2010. The RPS was further extended in 2008 by Executive Order S-14-08, which required that 33% of total electricity sales be generated from renewable resources by 2020. In April of 2011, this RPS standard of 33% renewable by 2020 was enacted into law through final passage of Senate Bill X 1-2 (Simitian) and extended to apply to both public and investor owned utilities.

#### ***2.4.2.6 Senate Bill 97***

Senate Bill 97, passed in 2007, required the Governor's Office of Planning and Research (OPR) to develop and recommend amendments to CEQA Guidelines for addressing GHG emissions related to land use planning. The amendments to CEQA were approved and became effective in March 2010, thereafter requiring all CEQA documentation to include and comply with the new amendments established for addressing greenhouse gas emissions.

#### ***2.4.2.7 Senate Bill 375***

Senate Bill 375 was passed in 2008 to reduce GHG emissions caused indirectly by urban sprawl throughout California. The bill offers incentives for local governments to execute planned growth and development patterns around public transportation in addition to revitalizing existing communities. Metropolitan Planning Organizations (MPOs) work with CARB to reduce vehicle miles (VMTs) traveled by creating sustainable urban plans with a comprehensive focus on housing, transportation, and land use. Urban projects consistent with the MPO's Sustainable Community Strategy (SCS) can bypass the CEQA's GHG emission environmental review. This provides developers with an incentive to comply with local planning strategies which support the State's greater effort for overall emission reduction in the land use and transportation sector.

#### ***2.4.2.8 Assembly Bill 341***

Starting July 1, 2012, businesses and public entities, including schools and school districts that generate four cubic yards or more of waste per week and multifamily units of five or more will be required to recycle, if they are not already doing so. AB 341 also establishes a statewide goal of 75% diversion of solid waste to landfills. The purpose of this new law is to reduce greenhouse gas emissions by diverting commercial solid waste to recycling efforts and expand opportunities for additional recycling services and recycling manufacturing facilities in California.

#### *2.4.2.9 Regional Air Pollution Control Districts (APCD) and Air Quality Management Districts (AQMD)*

In 1947, the California Air Pollution Control Act was passed and authorized the creation of Air Pollution Control Districts (APCDs) and Air Quality Management Districts (AQMDs) in every county. APCDs and AQMDs are tasked with meeting federal and state air pollution requirements set by the Clean Air Act and can develop regulations to achieve the necessary public health standards, though these regulations need approval from CARB and the US EPA. APCDs and AQMDs have jurisdiction over businesses and stationary sources of emissions and can offer varying levels of outreach, grants, and CEQA review and technical assistance to interested public and private parties. The APCDs and AQMDs do not have the authority to regulate mobile air pollution sources, which is the responsibility of CARB, and must defer to state or federal regulations provided by the CARB and the US EPA.

### SECTION 3. VISION STATEMENT, GOALS, AND PRIORITIES

The College of San Mateo Sustainability Committee has developed the following Vision Statement to guide the college in its Sustainability Planning efforts.

*CSM will be a model for sustainability, inspiring and empowering our community to implement sustainable economic and environmental practices and promote social equity in all aspects of the college’s mission and operations.*

*By adopting this Sustainability plan CSM commits to address the impacts of climate change and develop green curriculum to educate students for the challenges of the 21st century.*

To realize this Vision Statement, the Sustainability Committee has defined the following sustainability goals and priorities. The goals and priorities for the Sustainability Plan reflect campus needs, interests, and available resources. The Goals listed are not necessarily ranked by priority. Priorities for all goals and implementation programs are contained in the Implementation Programs and Plans Checklist contained in Appendix H.

#### Sustainability Plan Goals and Criteria

Goal Number	Area of Sustainability	Established Goal
1	<b>Campus and Community Awareness</b>	Facilitate participation in campus sustainability efforts and awareness of sustainability issues through effective educational and engagement methods. Positively influence the behaviors of all campus community members so they may embrace and champion sustainability at CSM, in the community, and in their personal lives. Establish CSM as a cultural center for sustainability and social justice in our community.
2	<b>Curriculum Development</b>	CSM will positively support the integration of sustainability into current and future curriculum.

Goal Number	Area of Sustainability	Established Goal
3	The "Human Component"	Behaviors of the entire college community are crucial to the success of sustainability initiatives; for example, levels of awareness, participation, and engagement, and the commitment of individuals to collaboration are critical to the success of this necessarily collective effort.
4	The Built Environment	<p>Collaborate with SMCCCD Facilities to develop the next generation of Master Planning Sustainability Goals for the Built Environment. Existing goals include:</p> <ul style="list-style-type: none"> <li>• Reduce Operating Costs through Renewable and Energy Efficient Capital Projects</li> <li>• All new projects to be LEED Silver and modernization projects designed to be LEED Certified</li> <li>• Every new project to exceed Title 24 requirements by 15%</li> <li>• Mandatory PG&amp;E Energy Efficiency/Savings by Design Application</li> <li>• Mandatory Life Cycle Cost Analysis on Major Equipment</li> </ul>
5	Energy Efficiency	Perform a campus Facilities Measurement, Verification, and Benchmarking Study using Association of Physical Plant Administrators (APPA) FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by end of 2013. Based on the results, establish annual energy use reduction goals (minimum 15% below average) and plan appropriate energy efficiency measures to meet reduction goals by mid-2015. Evaluate goals every five years.
6	Water Conservation	Perform a campus Facilities Measurement, Verification, and Benchmarking Study using APPA FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by end of 2013. Based on the results, establish annual water use reduction goals and implement appropriate water efficiency measures to meet reduction goals. Evaluate goals every five years.

Goal Number	Area of Sustainability	Established Goal
7	Solid Waste Management	Continue to implement the landfill diversion program, expand it to include all sectors of recycling and waste reduction to landfills, including electronic waste, green waste and food waste composting, comply with recycling program requirements of AB-341, and strive to meet the statewide landfill recycling goal of 75% by 2020.
8	Transportation	Review and/or update existing transportation studies to establish a Vehicle Miles Traveled (VMT) baseline for the campus by Spring 2014. Create systems and infrastructure to reduce the reliance of students, faculty and staff on single occupancy gasoline vehicle commutes by 10% within the next 5 years. Encourage use of electric vehicle charging stations, carpooling, bicycling, and public transportation. Work with SMCCCD and Public Transit Agencies to improve College of San Mateo access to efficient and affordable public bus and rail transportation.
9	Sustainable Procurement	Partner with Auxiliary Services to increase college efforts to source campus food, materials, supplies, information technology equipment, and resources from organizations that are committed to social responsibility and environmental sustainability. Procurement standards will be established by Fall 2013, reviewed bi-annually, and updated as necessary.

The goals and criteria established for the Sustainability Plan will be monitored during Plan implementation as described in Section 5, “Measure and Report Performance”.

**SECTION 4.****PROGRAMS AND PROJECTS FOR IMPLEMENTATION**

Based on the goals and priorities described above, the CSM Sustainability Committee has selected the following programs and projects to improve campus sustainability. These programs and projects are also reflected in the Implementation Programs and Plans Checklist, located in Appendix H, which outlines the details of each action item, its priorities, and responsibility for implementation, as well as schedules and estimated costs for each program or project. The Checklist will be used by the Committee to manage the implementation process.

These key actions were selected from a menu of suggested programs and projects from Section 7 of the California Community College Sustainability Template.

**4.1 STUDENT AND CURRICULUM DEVELOPMENT**

One of the goals of the College of San Mateo is to deliver high quality instruction to students both within and beyond traditional geographical boundaries and to provide an open and welcoming culture that supports student success. With the economics of environmental sustainability becoming increasingly important in all facets of society, the College has a responsibility to play a role in moving current and future generations toward a sustainable future.

The College of San Mateo has taken a holistic approach to educating students about sustainability by creatively integrating sustainability content throughout campus curriculum. Through this approach, the College demonstrates and champions a crucial lesson about sustainability – that regardless of which course of study, profession, or lifestyle a student chooses to pursue, sustainability can and must be inherently incorporated. College of San Mateo will strive to create learning opportunities for student involvement and encourage active sharing of current and evolving content. Through the Sustainability Plan initiatives, faculty, staff, administrators, and students will have opportunities to collaborate, participate and serve as effective agents for positive change. The following Implementation Plans and Projects demonstrate the current sustainability efforts that College of San Mateo has made in student and curriculum development.

**4.1.2 PROVIDE PROFESSIONAL DEVELOPMENT AND CREATE A FACULTY FORUM**

Since faculty drive change in curriculum, professional development and recognition are key drivers of sustainability curriculum development. The College of San Mateo will strategize ways to ensure that all faculty, both full-time and adjunct, have access to the resources and educational tools necessary to assist them with incorporating sustainability within curriculum.

**4.1.3 UTILIZE DIFFERENT PATHWAYS TO INTEGRATE SUSTAINABILITY IN THE CURRICULUM**

The College of San Mateo has integrated sustainability into the campus curriculum by offering the following coursework and degree and certificate programs.



#### 4.1.3.1 INTEGRATED COURSEWORK

The College of San Mateo has offered courses centered on sustainability since the college's establishment and continues to expand offerings, even in the midst of budget cuts. Many courses utilize creative learning tactics, such as field trips or hands-on learning. The following are courses that integrate themes of sustainability into curriculum:

- **Introduction to the Life Sciences 100.** This course examines the fundamental principles of life. The awareness of plant and animal interrelations and inter-dependencies. The course includes key content that examines the human role in the world of living things in relation to contemporary problems such as human populations, climate change, invasive species, and loss of biodiversity. Field trips include study of natural systems and human impacts.
- **Environmental Conservation 102.** Study of the relationship of humans to the immediate and global environments. Topics include the conservation of renewable and non-renewable resources, dynamics of ecosystems, interaction of plant and animal populations, alternative energy sources, and current problems caused by human interactions with the environment. Sustainability content is prominently featured in this course as a solution to many of these current problems. Field trips include the study of protected species, green building, human impacts on natural systems, and visits to field sites representing solutions to environmental problems.
- **General Principles of Biology 110.** This course examines the principles of the biological sciences. Includes origin and evolution of life, cellular nature of living things, genetics, ecology, life cycles, and natural history. The course includes key content that examines the human role in the world of living things in relation to contemporary problems such as human populations, climate change, invasive species, and loss of biodiversity. Field trips include study of natural systems and human impacts. Field trips also include service learning lab exercises where students volunteer at local parks or participate in beach clean-ups.
- **Human Biology 130.** Introductory study of human anatomy and physiology. Includes development, genetics, evolution and ecology. The course includes key content that examines the human role in the world of living things in relation to contemporary problems such as human populations, and human ecology.
- **Plants, People, and Environment 145.** Introduction to plants and their functions as they apply to people. Principles of living organisms, their structure-functions, evolution, and ecology. Emphasizes the role of plants in the development of human civilization and considers their impact as a primary food source for human population. Field trips examine natural phenomena.
- **Wildlife Biology 184.** Study of wildlife species of North America, with emphasis on common mammals of the Pacific states. Additional selected and appropriate vertebrate species: identification, characteristics, life histories, abundance, and distribution. Basic biological and ecological principles directly applicable to wildlife issues of species and habitat conservation. Field trips examine natural phenomena.

- **Biology Field Laboratory 195.** Emphasis on field trips to selected sites with laboratory preparation. Covers a wide range of topics including animals, both domestic and wild, natural and human-made ecosystems, forests, habitat disruption, and museums and parks.
- **General Zoology 210.** Introduction to the principles of animal biology. Includes molecular basis of life, structure, function, and behavior as seen in invertebrates and selected chordates, ecology, zoogeography, and animal evolution. Field trips examine natural phenomena.
- **General Botany 220.** Principles of biology as illustrated by plants with emphasis on structure, physiology, evolution, diversity, and reproduction in green plants. Field trips examine natural phenomena.
- **Anatomy 250.** Structure of the human body. Key course content includes examination of sustainability issues in human biology.
- **Physiology 260.** Functions of the organs and systems of the human body. One of the aspects of physiology examined is the overharvesting of biological resources (sharks, for example) for human supplements.
- **Nutrition 310.** Comprehensive introduction to the scientific principles of nutrition and the interrelationships of metabolism. Examines nutrient functions, food sources, and functions in the body, as well as health consequences of nutrient excesses, deficiencies and diet related chronic conditions. Emphasizes the physiological processes, including digestion and metabolism of nutrients. Students conduct a personal nutrition assessment. Students also examine global nutrition and human nutrition issues in the context of social equity and the quality of the human condition.
- **Organic Chemistry I 231.** Introduction to basic concepts of structure and reactivity of organic compounds, reactions of major functional groups, reaction mechanisms, and synthesis. Practical lab work teaches lab skills and some lab work is centered around the examination of resource consumption and how to reduce use of chemicals and toxic waste.
- **Organic Chemistry II 232.** A rigorous treatment of mechanisms, reactions, and synthesis. The course examines structure determination using classical and spectroscopic techniques taught in CHEM 231 including identification of unknown compounds and mixtures. Practical lab work teaches lab skills and some lab work examines resource consumption and how to reduce use of chemicals and toxic waste.
- **Survey of Geology 100.** Examination of earthquakes, volcanoes, drifting continents, and plate tectonics, earth materials and processes that shape the land. The course reviews responsible and sustainable building practices with respect to natural and man-made hazards, as well as the impacts of population growth on groundwater and energy resources, global warming and ocean acidification.
- **General Health Science 100.** Survey of today's most prevalent health issues, including nutrition, obesity, heart disease, cancer, sexually transmitted diseases, birth control, drug abuse, and emotional, mental, and environmental health. Emphasizes detection, treatment, prevention, and maintenance of personal and social health as well as the promotion of physical, emotional, mental, and holistic health. The

course includes key content in environmental health, and sustainability and green practices that promote human and environmental health.

- **Oceanography 100.** Introduction to marine geology, chemistry, and biology. Includes the hydrologic cycle and properties of sea water and marine organisms, currents, waves, tides, coastal processes, and ecology of the ocean, continental drift, and sea-floor spreading. The course examines the complex interactions between the geosphere, atmosphere, hydrosphere and biosphere, as well as the impact of humans on the marine environment, including global warming, ocean acidification, sustainable fisheries, marine pollution, coastal development problems, wave and tidal energy.
- **General Paleontology 110.** Examines the evolution of life through the past 3.8 billion years of earth history. Includes the study of fossils as evidence of the history of life; animals and plants related to modern and ancient environments, methods of interpreting the fossil record, and the impact of drifting continents on speciation and mass extinction. Emphasizes the complexity and diversity of life with an environmental and ecological approach. The course examines the complex interactions between the geosphere, atmosphere, hydrosphere and biosphere, as well as natural and man-made climate change, and global warming as a cause of mass extinction.
- **Paleontology Laboratory/Field Studies 111.** Laboratory exercises in dating methods, fossil preservation, rock, fossil and ecosystem identification and interpretation, stratigraphic correlation, natural selection and extinction processes, fossil collection and preparation. Field trips to depositional/ecological environments and fossil sites required.

#### 4.1.3.2 CREATE A NEW CERTIFICATE OR DEGREE PROGRAM

Presently, the College of San Mateo offers three Associate in Science Degrees (AS), a Certificate of Achievement (CA), and a Certificate of Specialization (CS) in disciplines that incorporate sustainability.

- **Associate in Science Degree—Architecture.** Students are required to take nine architecture courses, two of which incorporate sustainability and are described below:
  - **Survey of Contemporary Architecture 100.** Emphasizes the basic values and concepts in contemporary architecture as a synthesis of art and science. Students study the significant design work, principles, and visions of influential architects, planners, and designers from the end of the 19th century into the 21st century. Explores the critical relationships between architecture and environmental design and human experience, societal needs, building technique and community.
  - **Design I—Introduction to Architecture, Environmental Design, and the Design Process 210.** Introduces students to architecture and environmental design with sustainable principles embedded throughout the course.
- **Associate in Science Degree/Certificate of Achievement—Building Inspection.** Students are required to take a variety of core Building Inspection courses, many of which incorporate sustainability and are detailed below:

- **Introduction to the Building Code 700.** Provides an overview of the California Building Code which was re-written in 2011 to incorporate Green Building principles and how they are integrated into the safe construction of residential and commercial structures.
- **Electrical Inspection I.** Students learn the aspects of electrical service as applied to building inspection of single family dwellings, multi-family dwellings, commercial locations, and specialized and hazardous locations. Energy efficient methods of construction are incorporated into the course material.
- **Electrical Inspection II 725.** Provides an in-depth advanced study of specific sections of the National Electrical Code. Included in this coursework are specific areas that address energy efficient methods of construction and how to address measurements required by special city codes.
- **Plumbing Inspection 730.** Course material covers building regulations governing drainage, ventilation, and water systems, building sewers and gas piping. Integrated into the material are the new codes that regulate catch-water, grey water and other environmentally sensitive options used in the construction of residential structures.
- **Mechanical Code 740.** Course material covers the regulations and inspection methods governing mechanical construction including heating and cooling units, venting/ductwork, refrigeration, etc. A survey of energy efficient options within this area of construction is incorporated in the course material.
- **Energy Regulations 760.** Students study energy regulations. A significant part of the course material covers energy impacts and measurements, proper installation and calibration of alternative energy resources, climate control, weather stripping compliance and regulation compliance.
- **Introduction of Residential Dwelling Inspection 775.** Students are exposed to building surveys and mechanical and electrical sections of the building code, including all alternative and sustainability-oriented systems that could be incorporated into the construction process. This course is targeted to facility managers, contractors, architects, and engineers as well as building inspectors.
- **Associate in Science Degree/Certificate of Specialization—Electronics Technology.** Students are required to complete a variety of Electronics Technology courses, two of which incorporate sustainability and are explained below.
  - **Electronics Fundamentals 111.** Students are introduced to DC and AC electricity, read schematic diagrams and construct elementary electrical/electronic circuits. The course explores electricity generation, transmission and distribution with an emphasis on industrial-standard laboratory experiments and techniques. Sustainability topics include how solar energy and other alternative sources are used to generate electricity.
  - **Solar Energy Fundamentals 144:** Course material covers the fundamentals of solar energy production, including both thermal and photovoltaic technologies. An overview of applicable

electrical principles, load analysis, evaluation of the solar resource, and system sizing principles. Students are given hands-on experience in building and testing solar based systems. Students also learn about California's rebate process and installer certification requirements for residential-based solar energy systems.

In addition to these courses and degree and certificate programs, the College of San Mateo would like to explore creating a Green Honors Program for interested students with science majors.

#### **4.1.5 TRAINING OPPORTUNITIES FOR STUDENTS**

The College of San Mateo will employ the following strategies to enhance student learning outside of the classroom and provide opportunities for practical, hands-on project experience.

##### **4.1.5.1 ASSIST IN GREEN INTERNSHIP AND JOB PLACEMENT**

Despite the national and global economic recession and unemployment rates, the market for green jobs has continued to grow in California. The College of San Mateo thoroughly prepares students to take advantage of the green job growth rate in the state through the rigorous courses and Associate of Science degrees listed above.

##### **4.1.5.2 FACILITATE HANDS-ON CAMPUS PROJECTS**

The Sustainability Committee will develop a series of campus-wide workshops and presentations that will engage students as sustainability initiatives take place on campus.

##### **4.1.5.3 INVITE NOTABLE SPEAKERS**

The College of San Mateo has plans to continue including guest speakers who specialize in sustainability, environmental and social justice, and green careers within the President's Speaker Series. Past speakers have included Michael Pollen and Paul Erlich.

##### **4.1.5.4 SUPPORT STUDENT COMMITTEES AND CLUBS**

The College of San Mateo supports efforts of student clubs who focus on the intersection of sustainability and other important academic and campus issues. Currently, an Environmental and Social Justice Club is being organized where students will meet weekly to discuss or watch documentaries about subject material that include human rights injustice, poverty, pollution, and climate change. The Club will also organize opportunities for students to volunteer at local food banks, beach clean-ups, or with other social justice organizations such as Habitat for Humanity. The Sustainability Committee will mentor and support the Environmental and Social Justice Club and assist in creating a liaison between the Club and the Student Government.

## 4.2 CAMPUS AND COMMUNITY OUTREACH & AWARENESS

The sustainability of a campus is highly dependent on the actions of individual students, faculty, and staff. While energy efficient equipment, low-flow water devices, and separate bins for source separation of waste can make the College of San Mateo more sustainable, behavioral changes have a large impact on the effectiveness of these projects. Sustainability forums, fairs, events, campaigns and competitions are effective ways to educate and encourage the campus community to help realize the sustainability goals of this plan. The Sustainability Committee believes that students have the greatest capacity to successfully spearhead and sustain these initiatives. As such, the faculty and staff members of the Committee will act as mentors to those students who would like to organize sustainability campus and community outreach and awareness events.

### 4.2.3 SUSTAINABILITY EVENTS

The College of San Mateo would like to explore the idea of partnering with Sustainable San Mateo County (SSMC), a non-profit public benefit corporation dedicated to educating the community about sustainability. Currently, SSMC hosts sustainability-related events both on the CSM campus and throughout the community, providing environmentally-oriented educational opportunities for community members, students, faculty, and staff. College of San Mateo would like to enhance its current relationship with SSMC by exploring alternative ways to leverage their extensive sustainability knowledge and resources. Additionally, CSM would like to investigate the possibility of establishing a “Sustainability Scholarship” whereby interested students could apply and receive funding to attend sustainability conferences, events, and forums in California.

#### 4.2.3.1 COORDINATE SUSTAINABILITY EVENTS

The College of San Mateo has held the following events to encourage sustainable behavior and educate campus members about the importance of environmental action:

- **Associated Students of College of San Mateo (ASCSM) Earth Day:** In April 2012, ASCSM distributed free plants to campus community members and provided information about environmental awareness.
- **Food Bank Drive and Discussion:** Second Harvest Food Bank Board Members gave an educational talk about hunger in the community - how it has increased and what individuals can do to help. Food collection bins were placed throughout the campus from October-December 2009.
- **Healthy Communities Forum—Building Healthy Cities for a Healthy Future:** CSM hosted the Healthy Communities Forum in Spring 2011 where Don Weden, a retired city-planner of Santa Clara County, provided an overview of the forces that shape the economic, social and environmental health of cities. Forum attendees discussed the solutions and strategies that should be taken to assure that cities are prepared for the major challenges and changes that lie in the future.
- **Master Gardeners Spring Plant Sale:** In Spring 2010 & 2011, CSM hosted and co-sponsored a tomato and pepper plant sale by Master Gardeners of San Mateo and San Francisco Counties. The Master Gardeners provide free garden and pest information to home gardeners, promoting sustainable gardening and a healthy environment. The memorandum of understanding is still in place with the University of California and the Master Gardeners, and can be explored for future projects.

- **CSM Floristry Holiday Sale:** The CSM Horticulture and Floristry Department sold locally grown poinsettias and holiday wreaths at the Floristry Holiday Sale from 1999 to 2010. Arrangements were made by Floristry students using campus trimmings.
- **PARK(ing) Day:** In fall 2009 and 2010, CSM Architecture students participated in PARK(ing) Day, an annual open-source global event where citizens, artists and activists collaborate to temporarily transform metered parking spaces into “PARK(ing)” spaces: Temporary public spaces. PARK(ing) spaces designed by students were installed in downtown San Mateo.

In addition, the College would like to explore holding the following events and campaigns in the near-future:

- **“Take the Stairs” Campaign:** A campaign where signage can be placed on and near elevators and stairwells to inform the campus community about the energy savings and health benefits from using the stairs instead of elevators.
- **“Mind the Drain Day”:** An informational day on campus where students, faculty and staff are made aware of CSM’s commitment to California waterway preservation and the environmental importance of this pledge.
- **“Lights Out” Campaign:** A campus-wide campaign calling upon all campus members to actively reduce the GHG emissions that result from unnecessary lighting on campus. Eye-catching stickers can be placed below light switches to encourage the campus community to turn-off lighting when exiting a room. Competitions or demonstrations throughout the campaign can be organized.
- **Recycling Week:** A week-long event where events and initiatives can be held that focus on increasing the percentage of waste CSM diverts from the landfill. Over-sized instructional and informative signs can be placed above recycling receptacles.
- **Biodiversity Fundraiser:** An annual fundraising event held on campus where proceeds will be given to land preservation and biodiversity protection organizations or initiatives.

#### 4.2.3.2 PARTICIPATE IN SUSTAINABILITY CHALLENGES AND COMPETITIONS

Students in the CSM Architecture Department have participated in Design Village, an architectural competition hosted by Cal Poly San Luis Obispo. Student teams from colleges throughout California and beyond design habitable structures according to a yearly rotating theme. A past theme was sustainable design, which encouraged students to explore and critically examine the importance of sustainability within the architectural field.

#### 4.2.4 CAMPUS SPECIFIC OUTREACH & AWARENESS

By employing the following strategies, the College of San Mateo will encourage cooperation and spread awareness about sustainability on campus.

#### 4.2.4.1 POST BEHAVIORAL REMINDERS

The College of San Mateo will use the sustainability initiatives on campus as opportunities to educate the campus community about the impact and environmental importance of sustainable behavior. Such initiatives include: “Hydration Stations,” the many recycling bins on campus, “Meatless Mondays” at the campus cafeteria, a planned sustainability book section in the library, and discounts on beverages at the campus café when providing your own reusable mug. To improve recycling awareness and demonstrate proper recycling techniques on campus, the College plans to install larger signs above receptacles with clear visuals and recycling facts. Similar signage can be used in the campus cafeteria for the reusable cup discount program. These signs will simultaneously advertise the program and educate the campus about the environmental and economic benefits of participating.

#### 4.2.4.2 NEW STUDENT ORIENTATION

The College of San Mateo will use the New Student Orientation to introduce students to the College’s sustainability plans, goals, and commitments. New students will be informed about sustainability events, clubs, and curriculum on campus so that they are encouraged to become active members of the college and community during their time as a student and beyond.

#### 4.2.4.3 ENCOURAGE CAMPUS MEMBER FEEDBACK AND SUGGESTIONS

The College of San Mateo will create a means for campus members to communicate their ideas, suggestions, and feedback about sustainability initiatives on campus to the Sustainability Committee and the President’s Office. CSM will explore creating either an online “green” suggestion box available on the College webpage or a physical suggestion box in a convenient location on campus.

#### 4.2.5 COMMUNITY SPECIFIC OUTREACH & AWARENESS

The College of San Mateo has connected with local neighborhoods to encourage cooperation and spread awareness about sustainability in the local community by hosting a weekly, year-round farmer’s market on campus. The San Mateo Farmer’s Market takes place each Saturday at CSM and has earned a reputation as one of the best farmers’ markets on the San Francisco Peninsula. The farmers’ market specializes in organic, local produce, locally sourced flowers, baked goods, and a selection of hot-food vendors—providing the local community access to healthy foods, an opportunity to support the local economy, and a chance to regularly interact with the college campus.

#### 4.2.5.1 ENCOURAGE VOLUNTEER WORK AND COMMUNITY SERVICE

The College of San Mateo holds an annual Volunteer Fair on campus where students and faculty are able to connect with community organizations that offer volunteer opportunities within a variety of fields, including environmental sustainability. Students attending the fair can find volunteer experiences as well as internships, allowing them to serve the community and gain work experience. In addition, faculty can develop contacts with organizations to assist with the incorporation of Service Learning into their courses and programs. Biology courses frequently include a service learning lab or graded assignment to participate in volunteer work. Specific examples include Beach and Junipero Sierra County Park Clean-up Days. Several environmental-related



organizations present at the Volunteer Fair include the following: Golden Gate National Parks Conservancy, Half Moon Bay Dune & Bluff Restoration Project, Marine Science Institute, San Mateo County Parks & Recreation, Save Our Shores and Wildlife Rescue. A complete list is available on CSM Connects, the College's volunteer webpage (<http://www.collegeofsanmateo.edu/csmconnects/organizations.html#voldirect>),

Additionally, the campus has organized several volunteer initiatives in a variety of departments, student organizations, and courses. For example, a park clean-up day was held in spring 2011 where CSM football players spent a day collecting trash at a local San Mateo city park.

The College of San Mateo would like to explore the possibility of awarding students, faculty and staff for their exceptional volunteer efforts in areas of sustainability and social service. Through recognition, CSM hopes to encourage participation and highlight the importance of giving back to the greater community.

### 4.3 GREEN PURCHASING

The College of San Mateo believes that SMCCCD should establish purchasing policies to meet the goals of environmental, economic, and social equity sustainability and use its market power to influence suppliers to be more sustainable.

#### 4.3.1 SUSTAINABLE FOOD PURCHASING

Food sustainability and quality are a priority at the College of San Mateo. Pacific Dining, SMCCCD's food service provider, is committed to urging suppliers to purchase local and organic produce when feasible and is fully supportive of "Meatless Mondays," a weekly initiative at the campus cafeteria to reduce meat consumption. Sysco, Pacific Dining's main supplier, is committed to sustainability throughout its business and operations. In addition, all baked goods sold through the campus coffee shop are sourced through local bakeries.

#### 4.3.2 GREEN PURCHASING PRACTICES

With assistance from the US Environmental Protection Agency's (EPA) Comprehensive Procurement Guidelines, College of San Mateo will create a Green Purchasing Policy in 2013 aimed at campus-wide, sustainable procurement. The College will explore the possibility of bulk purchasing all office supplies through the campus bookstore, which will reduce the amount of deliveries made to campus, the amount of waste associated with packaging, and will enable the College to ensure purchasing guidelines are followed. Currently, CSM campus departments purchase paper with recycled content and uses compostable flatware in the campus dining areas. CSM uses sustainable cleaning products (Green Seal or EcoLogo certified which meet LEED-NC standards), EPA compliant disposable janitorial paper products and trash can liners, and cleaning equipment with low environmental impact. Information Technology Services at SMCCCD has and will continue to prioritize replacing energy intensive electronic equipment with more efficient devices. As mentioned under section 4.11.3.2, "Minimize Unnecessary Waste," the College of San Mateo Athletic club uses biodegradable wipes to sanitize gym equipment and eco-detergent to wash gym towels. The campus bookstore offers a variety of products that are environmentally friendly including makeup, biodegradable supplies, and "green" office supplies made of recycled content.

### 4.3.3 SOCIALLY RESPONSIBLE PURCHASING

In addition to organic and local food requirements, the College of San Mateo will explore opportunities to purchase products and provide food from producers that adhere to fair trade and fair labor practices, pay living wages, and are otherwise socially responsible. Currently, fair trade, sustainable coffee is available for purchase at the campus café, and the campus bookstore belongs to buying groups that pledge to socially and ethically responsible practices. It is an SMCCCD mandate that all items sold through the bookstore must not be produced using unjust labor practices.

## 4.4 MANAGEMENT AND ORGANIZATIONAL STRUCTURE

In order to implement an effective Sustainability Plan, it will be important for CSM to have a policy mandate for sustainability, the institutional structure required to manage the process, and the financial and programmatic expertise to accomplish Plan goals. The College will implement the following programs to meet this requirement.

### 4.4.1 ADOPT A SUSTAINABILITY POLICY

The College of San Mateo Sustainability Vision Statement and the following 2013-2014 Board of Trustees Sustainability Goals will be presented to the San Mateo County Board of Trustees for adoption in spring 2013.

#### **2013-2014 Board of Trustees Sustainability Goals**

San Mateo County Community College District will:

- Continue its historic commitment to sustainability through LEED certification of new construction and renovation projects, promotion of energy efficiency initiatives and green management practices
- Demonstrate commitment and increase awareness of accomplishments and opportunities through support of active and vital campus and District-wide sustainability committees
- Continue to explore opportunities to further incorporate sustainable practices and materials into procurement and operational processes

#### **College of San Mateo Vision Statement**

CSM will be a model for sustainability, inspiring and empowering our community to implement sustainable economic and environmental practices and promote social equity in all aspects of the college's mission and operations.

By adopting this Sustainability plan CSM commits to address the impacts of climate change and develop green curriculum to educate students for the challenges of the 21st century.

### 4.4.2 ADVOCATE FOR A CSM SUSTAINABILITY COORDINATOR

Successful implementation of this Sustainability Plan will require time, effort, continuity, and leadership. It is

important to establish the management and support infrastructure to meet these needs. As such, The College of San Mateo will advocate for the acquisition of a sustainability coordinator through the exploration of multiple funding sources by fall 2013. The Coordinator will work with staff, faculty, students, and community organizations to identify, implement, and monitor the sustainability efforts at College of San Mateo and the District. SMCCCD is in the process of hiring a full-time Energy Management Coordinator (EMC) who will be responsible for energy management and sustainability programs, and who will coordinate all facility-level sustainability, utility, energy efficiency and renewable initiatives across the district. Recognizing that CSM has a vital culture of its own, the College will require a campus-specific sustainability coordinator to support the district-wide EMC.

#### **4.4.3 APPOINT A CAMPUS SUSTAINABILITY COMMITTEE**

The College of San Mateo Sustainability Committee, consisting of students, faculty, and staff, was established in December 2012 to develop the Sustainability Plan and to manage and track its implementation. The Committee will meet bi-monthly for the foreseeable future to implement the Plan and to report progress to the college community.

#### **4.4.4 FUNDING AND RESOURCES TO SUPPORT SUSTAINABILITY ACTIVITIES**

The College of San Mateo will explore internal and external funding sources to support the College's non-facility related sustainability activities and initiatives.

Currently, the SMCCCD utilizes three funds to finance energy efficiency and facility-related sustainability projects. The primary fund consists of leveraged rebate dollars received through previous energy efficiency projects at SMCCCD. This "Energy Efficiency Fund" amounts to approximately \$1 million as of 2012 and is used solely for future facilities sustainability measures. Facilities projects financed through the remaining two funds, the Emergency Building Repair Fund (EBRF) and the Small Projects Fund, are prioritized according to Board of Trustees goals. As such, projects with sustainability components are given precedence.

#### **4.4.5 ENGAGE SUSTAINABILITY PROFESSIONALS AS APPROPRIATE**

The San Mateo County Community College District hires architectural firms, consultants, and energy engineers experienced in all phases of the sustainable building design process to assist in constructing energy and resource efficient buildings.

The College of San Mateo Sustainability Committee will work to emphasize the value that green-expertise brings to the College and District operations.

#### **4.4.7 INTEGRATE SUSTAINABILITY PLANNING INTO CAMPUS MASTER PLANS**

The College of San Mateo has both Facilities and Educational Master Plans. The integration and prioritization of the sustainability goals in both plans is important for their success. SMCCCD has integrated and emphasized sustainability in the 2006 and 2011 Facilities Master Plans, which reinforce the District's intention to:

- Incorporate energy efficient practices, materials, and technologies

- Raise public awareness about the importance of sustainability for the future
- Develop campuses as learning environments that model sustainable practices

The College of San Mateo is specifically committed to the following Facilities Planning Priorities:

- Integrate sustainable design practices in future new construction and renovation projects to increase energy efficiency, reduce water usage, and improve the teaching and learning environment
- Enhance the District's maintenance and recycling capabilities
- Incorporate renewable energy technologies to:
  - Reduce operational costs and allow redirection of funds to instructional programs
  - Provide leadership in the education of students
  - Raise awareness in the community about the potential of renewable energy

In addition to the Facilities Master Plan, the college has incorporated sustainability into its curriculum, as detailed in Section 4.1.

The Sustainability Committee will investigate a goal of the 2008-2012 Educational Master Plans which pledges to conduct an environmental scan of external trends pertinent to CSM. The results from this effort will guide future efforts to integrate sustainability planning into the Educational Master Plan.

## 4.5 ENERGY EFFICIENCY

Energy efficiency is one of the most cost effective ways to reduce campus energy use and its carbon footprint. When implemented properly, efficiency measures can decrease energy use without compromising comfort and can improve indoor air quality and enhance student, faculty, and staff performance. Energy efficiency will be a higher priority than renewable or other on-site energy generation due to more favorable economics and to avoid over-sizing renewable energy systems.

The following energy efficiency programs and projects either have already or will be implemented at the College of San Mateo.

### 4.5.1 SET ENERGY EFFICIENCY GOALS

The College of San Mateo will perform a campus facilities Measurement, Verification and Benchmarking Study using APPA FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by the end of 2013. Based on the results, the College will establish annual energy use reduction goals at a minimum of 15% below average and plan appropriate energy efficiency measures to meet reduction goals by mid-2015. The College will evaluate these goals every five years to ensure continued progress.

### 4.5.4 CONDUCT COMPREHENSIVE FACILITY ENERGY AUDITS

The San Mateo County Community College District had a comprehensive energy analysis performed by Chevron Energy Solutions in 2002. As a result of the study, SMCCCD identified and implemented over \$20 million of

energy conservation measures by 2006 including lighting retrofits, mechanical system repairs and replacements, a digital building management control system, underground piping repair, boiler tune-ups, and the conversion to variable speed pumping and fan systems. A detailed description of the energy conservation measures undertaken at College of San Mateo is listed in Appendix A, “Energy Audit Measures Implemented.” A second comprehensive energy analysis was performed by PG&E in 2011. The District will continue conducting comprehensive facility energy audits as needed and prioritize the implementation of audit recommendations.

#### **4.5.5 IMPLEMENT NEW AND EXISTING AUDIT RECOMMENDATIONS**

The San Mateo County College District aggressively pursued a variety of the audit recommendations presented by Chevron Energy Solutions since 2002 and is in the process of identifying and implementing recommendations made by the 2011 PG&E audit. These efforts have and will continue to save the District in excess of \$1 million per year in utility and maintenance costs and drastically reduce their annual GHG emissions.

#### **4.5.6 IMPLEMENT ONGOING ENERGY MONITORING**

Identification of high energy usage facilities on campus and overall energy usage patterns is an essential component of reaching campus energy efficiency goals. As a result of the Chevron Energy audit, SMCCCD installed a UtilityVision energy information system and seventeen meters at key facilities, allowing the District to track and monitor energy consumption. SMCCCD will expand this program by installing individual meters on all occupied campus buildings with significant energy consumption. Individual metering will allow the District to continuously monitor energy usage, facilitate future MBCx projects, perform energy saving measures in a timely, cost-saving manner, and evaluate the short and long-term impact of these efficiency projects.

#### **4.5.7 PARTICIPATE IN DEMAND RESPONSE (DR) PROGRAMS**

In 2011, SMCCCD received the PG&E Automated Demand Response Leadership Award for successful participation in the Intermittent Renewable Pilot Program, which included PG&E’s installation of a DR program at CSM. The demand response program allows PG&E to connect to the CSM Building Management System (BMS), enabling CSM to contribute to energy load reduction during times of peak energy demand.

#### **4.5.8 IDENTIFY AND TAKE ADVANTAGE OF GRANT AND INCENTIVE PROGRAMS**

The College continues to be an active participant in the CCC/IOU Energy Efficiency Partnership incentive and PG&E Savings by Design programs, and actively explores and takes advantage of grants where appropriate. A list of projects undertaken at CSM and their respective rebate amounts are listed in Appendix B, “Grant and Incentive Programs Measures Implemented.”

#### **4.5.10 EFFICIENT LIGHTING AND LIGHTING CONTROLS**

The College of San Mateo has performed a variety of energy efficient lighting retrofit projects in recent years. High energy efficiency lighting systems have been installed district-wide and lighting controls have been prioritized on campus through the installation of occupancy sensors and multi-switching circuits. Additionally, all vending machines on campus are required to meet federal guidelines for energy efficiency.

#### 4.5.11 INSTALL ENERGY EFFICIENT HVAC SYSTEMS

HVAC retrofit and replacement projects can potentially result in significant energy and monetary savings for the College and the District. Therefore, HVAC monitoring and replacement or repair will continue to be a priority for the College of San Mateo. Several projects undertaken at the College of San Mateo are listed with their respective rebate amounts in Appendix C, “HVAC Measures Implemented.”

### 4.6 FACILITIES OPERATION

The College of San Mateo strives to operate high-performing facilities, buildings, and energy infrastructure systems that are optimized for inhabitant comfort, productivity, and energy and resource efficiency. Current and planned activities in this area are described below.

#### 4.6.1 ENCOURAGE AND SUPPORT ENERGY EFFICIENCY TRAINING OF STAFF

The San Mateo County Community College District encourages campus staff to become trained in energy efficiency through a variety of mandatory programs including an annual building performance training program through Allana Buick & Bers (ABB) and an energy efficiency training course through PG&E and the Association of Physical Plant Administrators (APPA). Facility and Project Managers, all engineering staff, and Custodial Supervisors are required to attend courses for the Building Operator Certification (BOC), a “nationally recognized, competency-based training and certification program that offers facilities personnel the improved job skills and knowledge to transform workplaces to be more comfortable, energy-efficient and environmentally friendly.” In addition, SMCCCD regularly holds in-house training sessions for District Engineers that focus on energy efficiency.

#### 4.6.2 INSTALL ENERGY MANAGEMENT SYSTEMS

The San Mateo County Community College District has installed a Building Management System (BMS), which provides centralized reporting and control of campus energy-related activities as well as the campus security system. The College of San Mateo strives to achieve optimum efficiency in the use of natural gas, electricity, and other energy resources to meet the heating, cooling, and lighting needs of campus facilities.

#### 4.6.3 ADJUST TEMPERATURE SET POINTS AND SCHEDULE OPERATING TIMES

The temperature set point range at CSM is 68°F – 72°F and has been programmed through the campus BMS. Faculty and staff are able to adjust the temperature range two degrees in either direction but the system will revert to the default range after two hours, ensuring that excessive heating or cooling does not take place.

#### 4.6.5 OPTIMIZE HVAC EQUIPMENT SCHEDULING

HVAC systems at the College of San Mateo are programmed according to building occupancy and operation hours. The systems are either activated through the BMS or manually on a building-by-building basis. SMCCCD has implemented an alert system to notify Facility Managers and Chief Engineers of HVAC systems disruptions requiring immediate attention.

#### 4.6.6 ACTIVATE ENERGY-SAVING FEATURES FOR APPLIANCES AND COMPUTERS

Energy-saving features have been activated on all individual and lab computers as well as most printers at CSM. Computers are programmed to “time-out” at fifteen minutes of inactivity and all devices in campus computer labs are completely powered down at the end of the day. Desktop virtualization has been installed across the campus which reduces computer energy use and prolongs the life of the equipment. SMCCCD has undertaken a district-wide effort to eliminate as many desktops printers as possible and has shifted printing to centralized, more efficient print stations. In 2013, the SMCCCD will make efforts to expand server and desktop virtualization and to power down digital signage monitors when campus is not in use.

#### 4.6.7 PURSUE MONITORING-BASED COMMISSIONING (MBCX)/RETRO-COMMISSIONING (RCX)

Monitoring-Based Commissioning (MBCx) is a process that optimizes building performance for comfort and energy use through the use of permanent whole-building metering and energy monitoring. MBCx projects are currently underway at the College of San Mateo.

#### 4.6.8 IMPLEMENT A GREEN CLEANING PROGRAM

The San Mateo County Community College District is committed to providing healthy, clean and well-maintained buildings that follow green cleaning practices and procedures as required by USGBC LEED-NC and Global Eco-Labeling standards. As such, the SMCCCD has established a comprehensive “Green Cleaning Program” that outlines these proper cleaning practices and procedures in order to maintain good indoor air quality, increase occupant health and comfort, assure a clean building, and provide a healthy environment for the custodial crew. In addition, SMCCCD is committed to minimizing the impact on the local environment by using environmentally safe, low-impact, cleaning chemicals in all campus buildings. A full description of the Program can be found in Appendix G, “SMCCCD Green Cleaning Practices and Procedures.”

### 4.7 SUSTAINABLE BUILDING PRACTICES

Construction and renovation of new and existing facilities provides a significant opportunity to reduce the environmental impacts of the built environment through sustainable building practices. The College of San Mateo incorporates energy and resource efficient “Green Building” practices in the design and construction of all new and renovated facilities.

For its efforts, the District’s construction practices have earned it several recent awards including:

- The 2005 Flex Your Power Award for continuing commitment to saving energy, money and protecting the natural environment. The District, by implementing a variety of energy efficiency projects, has reduced energy consumption by 56%, saving more than \$1 million in energy costs annually
- The 2005 San Mateo County Grand Jury Commendation for construction management practices. The Grand Jury report recommended that schools in the County base their construction policies and procedures on those employed by the San Mateo County Community College District.
- A commendation in the Environment California newsletter
- The 2010 Green California Community College Summit, Leadership Award Pioneer



- The 2008 Energy Efficiency Partnership Program Best Practices Award, HVAC Design, UC/CSU/CCC Sustainability Conference
- The 2011 Sustainability Champion Award, California Higher Education Sustainability Conference
- The 2012 CCC Board of Governor's Energy & Sustainability Honorable Mention Award
- The 2011 PG&E Automated Demand Response Leadership Award for successful participation in the Intermittent Renewable Pilot Program

#### 4.7.1 ESTABLISH A GREEN BUILDING STANDARD

The College of San Mateo has established the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver rating as their building standard. All architect and engineering contracts incorporate this design standard requirement. The LEED rating system is an industry "Best Practice" and is commonly used in higher education and commercial building construction. Additionally, each new project at College of San Mateo must exceed California Title 24 Building Standards by at least 15%. For example, the CSM Science Building was constructed with efficient HVAC systems, occupancy and daylight sensors for lighting control, high efficiency windows and a cool roof— all resulting in a building that is 42% more energy efficient than required by California code. SMCCCD has committed to the following standards in the 2011 Facilities Master Plan:

- All buildings will be designed and built with energy efficient materials, practices, and technologies, thus assuring that the operational savings that accrue are available to enhance the District's ability to fulfill its core educational mission

In addition to LEED certification, the District requires designers to incorporate as many sustainable features into the structural system of new or renovated buildings as reasonably possible. Some of the criteria include:

- Recovery of waste heat
- Renewable energy sources
- Specify a high volume fly ash foundation concrete mix design to reduce cement production and negate the need for a flooring finish, which reduces cost and improves indoor air quality
- Recycle at least 95% of steel, including steel shapes, reinforcing bars and metal decking
- Utilize recycled aggregates for slab sub-base
- When possible, specify regional materials (within a 500 mile radius), locally harvested products, and locally manufactured products to support local economies and reduce transportation waste

These features will help the SMCCCD achieve the following facilities related goals:

- Decrease carbon emissions to meet the AIA "2030 Challenge"—a position statement that calls for the immediate energy reduction of all new and renovated buildings to half the national average for that building type, with increased reductions of 10% every five years so that all buildings designed by the year 2030 will be carbon-neutral (meaning that they will use no fossil fuel energy)
- Achieve double digit savings over October 2005 Title 24 energy requirements



For more information please see Appendix D, “Design Standard Structural Design Guidelines,” and Appendix E, “Design Standard Sustainability.”

#### 4.7.2 IMPLEMENT SUSTAINABLE DESIGN PRACTICES

All campus new construction, renovation, maintenance, and repair projects are designed with consideration of College sustainability goals and all applicable energy codes and regulations. Energy efficiency and sustainable design is addressed early in the project planning and design phases to maximize cost effectiveness. The College of San Mateo takes full advantage of the PG&E Savings by Design program, which provides technical expertise and incentives to incorporate sustainable design practices in all new construction and building renovation projects. CSM requires that the following elements of SMCCCD’s Sustainable Design Standard are taken into account when designing capital projects:

- Recycled materials
- Indoor environmental quality
- Energy and water conservation
- Natural lighting
- Local manufacturing
- Landscaping with native and drought resistant plants
- Preserve/establish diverse green spaces for biodiversity, habitat and student relaxation
- Public transportation usage
- Embedded energy
- Other sustainable fundamentals

The Sustainable Design standard contains the following measures that should be considered for incorporation into each capital project:

- Solar Income: Building integrated PV’s, Building Integrated Solar water heating, outside air preheating
- Wind Income: wind turbines, natural ventilation
- Ground water: geothermal slab cooling, geothermal heat pumps
- Rain: rain water harvesting
- Architectural: use of day lighting, double facades, high levels of insulation, efficient visible glass, orientation, programming (relaxed temperatures), thermal mass, green roof and indoor environmental quality
- Engineering: double facades, day lighting, high levels of insulation on walls and roofs; efficient visible glass, orientation, programming (relaxed temperatures), thermal mass, green roof, central utility plant for chilled water production, heating only energy recovery with run-around coils, variable volume diffusers, microturbine, displacement ventilation, thermal storage systems, fan wall systems, heat and mass exchange, low flow fixtures, energy efficient lighting and lighting controls throughout all facilities, indoor environmental quality

The following measures have recently been implemented on construction projects at the college:

### Green Construction Materials

- Installed new window treatments (solar shading, glare reduction, thermal insulation)
- Installed eco-carpeting (produced without HCFC's or CFC's to prevent toxic off gassing)
- Installed Tarkett linoleum flooring (cost of water, detergents, and energy reduced by 50%; overall lower lifecycle cost)
- Installed acoustical ceiling panels that reflect available light (whether daylight or mechanical), lessening the need for more energy-consuming mechanical lighting. The manufacturer of these panels is committed to environmentally sound production processes.
- Furniture is purchased from vendors who are committed to environmental sustainability
- Purchased products from companies that are members of the Sustainable Forestry Initiative program and use primary adhesives that are water-based and contain less than 0.4% volatile organic compounds

### New Building Construction

- Included in SMCCCD's design standards is the requirement that buildings and spaces are created to accommodate recycling receptacles in order to facilitate sustainable behavior.
- Prior to occupancy SMCCCD performs indoor air quality tests to ensure that buildings are properly ventilated and non-toxic.
- Within one year of the construction of a new building SMCCCD schedules three meetings—one with the building's general contractor, the architect, and the commissioning agent—and performs a thorough review of the building to ensure the building is functioning as it was designed. A complete list of these buildings is listed in Appendix B, "Grant and Incentive Programs Measures Implemented."

#### 4.7.3 USE AN INTEGRATED SYSTEMS APPROACH IN BUILDING DESIGN

Sustainable building goals are evaluated in a cost effective manner by identifying economic and environmental performance criteria, evaluating lifecycle savings, and adopting an integrated systems approach. Such an approach treats the entire building as one system and recognizes that individual building features, such as lighting, windows, heating and cooling systems, should be evaluated and designed as interactive systems. This integrated approach to sustainable design is a feature of the PG&E Savings by Design "Whole Building" process employed at the College.

#### 4.7.4 HIRE SUSTAINABLE BUILDING DESIGN PROFESSIONALS

The San Mateo County Community College District utilizes architectural firms, consultants, and energy engineers experienced in all phases of the sustainable building design process to assist in constructing energy and resource efficient buildings.

#### 4.7.5 COMMISSION NEW BUILDINGS

The College of San Mateo commissions all new buildings on campus throughout the entire construction process, from the design phase through building occupancy. Individual systems are also commissioned to ensure that they run as efficiently as possible.

## 4.8 ON-SITE GENERATION AND RENEWABLE ENERGY

The College will explore renewable energy technologies to reduce operational costs, provide educational opportunities, and raise awareness in the community about the potential and benefits of renewable energy.

### 4.8.1 EVALUATE CLEAN COGENERATION AND RENEWABLE ENERGY GENERATION

In 2011, SMCCCD hired Allana Buick & Bers, Inc. (ABB) to evaluate the feasibility of renewable energy generation at CSM. The findings of the report indicate the College of San Mateo has multiple options for the installation of renewable and alternative energy systems on campus. Eleven buildings on campus are feasible for solar PV installation, with a potential of up to 848kW DC, along with a new microturbine or fuel cell plant producing 250kW to 400kW of power, offsetting up to 65% of the annual campus electrical consumption. CSM will utilize this feasibility study in the future when resources are available to pursue solar PV energy generation. A full text of the report can be found in Appendix F, "College of San Mateo Renewable Energy Feasibility Study."

In addition, the District installed two cogeneration units, a 375 kilowatt unit at Skyline College and a 560 kilowatt unit at the College of San Mateo. These units are capable of generating 56.5% of peak electricity needs more efficiently and cleanly than utility company generation. The waste heat created by the cogeneration units is captured and used in central heating systems. Overall, cogeneration at SMCCCD reduces annual electric use by over 6.7 million kilowatt-hours.

### 4.8.5 IDENTIFY AND TAKE ADVANTAGE OF GRANT AND INCENTIVE PROGRAMS

The San Mateo County Community College District applied for and received utility incentives for the cogeneration unit at CSM.

## 4.9 TRANSPORTATION, COMMUTING, AND CAMPUS FLEET & TRAVEL

The College of San Mateo will strive to reduce VMTs for students, faculty, and staff commuting to the campus in an effort to reduce GHG emissions and minimize the infrastructure costs related to parking.

### 4.9.1 UNDERSTAND COMMUTE AND TRAVEL PATTERNS

An understanding of how students, faculty, and staff commute to the campus is a first step towards improving travel patterns at the College of San Mateo. The District began this process in 2006 by contracting with Traffic Data Service and Hexagon Transportation Consultants, Inc. to perform a traffic analysis of the vehicle entries to CSM. The College will conduct additional surveys to determine single occupancy trips to campus. Data collected will be utilized to help the College create strategies to decrease the GHG emissions of the campus community by modifying transportation trends and modes.

### 4.9.2 ENCOURAGE AND ENHANCE PUBLIC TRANSPORTATION AND RIDESHARING OPTIONS

College of San Mateo has and will continue to employ the following strategies to encourage and enhance public transportation and ridesharing options.

#### **4.9.2.1 FACILITATE PUBLIC TRANSIT USE**

Public transportation is an important strategy to reduce VMTs and resulting greenhouse gases. The San Mateo County Transit District (SAMTRANS) serves CSM with two bus lines which provide service to the San Carlos CalTrain Station. However, current public transit options at the College of San Mateo are not sufficiently meeting campus needs. The College will evaluate programs offered by SAMTRANS and meet with the agency to seek additional services.

#### **4.9.2.2 INCENTIVIZE PUBLIC TRANSPORTATION AND RIDESHARING OPTIONS**

The College will explore a ridesharing networking resource to better assist campus members in finding compatible carpoolers and vanpoolers.

#### **4.9.2.3 ENCOURAGE FUEL EFFICIENT VEHICLES FOR COMMUTERS**

The San Mateo County Community College District received a grant in fall 2012 for the installation of 19 electric vehicle charging stations, six apiece at Cañada College and the College of San Mateo and seven at Skyline College. These charging stations will be strategically placed in premium locations on campus to facilitate and encourage the use of electric vehicles. As an additional incentive, the College will provide charging at no cost to the electric vehicle drivers. Installation of the stations will be completed by summer 2013.

#### **4.9.3 ENCOURAGE AND ENHANCE BICYCLING OPTIONS**

The College of San Mateo has installed additional bike racks in key locations on campus to encourage the use of bikes and public transportation.

#### **4.9.4 IMPROVE CAMPUS FLEET & TRAVEL**

The San Mateo County Community College District currently operates seven electric vehicles, as well as electric carts and scooters which are used by district support services, general services, and Campus Safety. Overall, SMCCCD prioritizes efficient vehicles during purchasing decisions and aims to replace diesel vehicles with electric or high average mile-per-gallon fuel efficiency vehicles over time.

#### **4.9.5 ENHANCE STUDENT DISTANCE LEARNING & UTILIZE VIRTUAL MEETING PLATFORMS**

The San Mateo County Community College District will expand the number of hybrid or full online courses offered. Currently, approximately 10% of courses at SMCCCD have online components. SMCCCD has also installed the infrastructure necessary to host virtual meetings. Online courses and virtual meetings have a variety of environmental benefits including reducing the GHG emissions of commuting to and from campus as well as reducing the energy, and maintenance costs associated with operating campus facilities.

## 4.10 WATER, WASTEWATER, AND SUSTAINABLE LANDSCAPING

Water conservation is an important component of sustainability and is aggressively pursued by the College of San Mateo. The College strives to reduce potable water use as well as waste water discharges to both the sewer and storm water systems. In addition, the College reduces waste water pollution by minimizing chemical fertilizers and pesticide used in association with landscaping practices.

Programs and future plans for water conservation at CSM are described below.

### 4.10.2 IMPLEMENT WATER CONSERVATION STRATEGIES

The College of San Mateo has made water conservation a priority for both environmental purposes and cost savings. The College has installed artificial turf on football, softball, and baseball fields. The synthetic turf installed District-wide saves approximately 5.8 million gallons of water and \$370,000 per year in water costs. In addition to eliminating the need for irrigation, College of San Mateo has been able to reduce the use of air polluting lawn mowers, chemical pesticides and fertilizers, and maintenance labor as a result.

### 4.10.3 REDUCE STORM WATER, SEWER DISCHARGES, AND WATER POLLUTION

Storm water and sewer discharges are a prime source of pollutants entering the environment and place the campus at risk for fines or other regulatory penalties. As such, College of San Mateo plans to employ the following strategies to reduce these discharges.

#### 4.10.3.1 REDUCE STORM WATER RUNOFF

The College of San Mateo works closely with the local jurisdiction to achieve a “net-zero” runoff rate for new projects. SMCCCD has installed “No Dumping, Flows to Bay” medallions near all campus drains, encouraging the campus community to respect and preserve California’s waterways.

#### 4.10.3.2 REDUCE CHEMICAL USAGE

The College of San Mateo works actively with vendors, suppliers, and maintenance staff to effectively manage, reduce, and responsibly use chemicals throughout the campus. As detailed in Section 4.6.7, “Implement a Green Cleaning Program,” CSM goes to great lengths to ensure that cleaning chemicals are as environmentally friendly as possible and are used responsibly. In accordance with LEED requirements, the College uses a proportioning system to mix concentrated cleaning solutions. Maintenance personnel are trained to properly use the proportioning system, safely handle and dispose of cleaning materials, and how to recycle chemical packaging. The SMCCCD Green Cleaning Program emphasizes using no more than the necessary amount of chemicals during all cleaning procedures.

### 4.10.4 ADOPT SUSTAINABLE LANDSCAPING PRACTICES

Sustainable landscaping practices not only conserve water, but can contribute to achieving many other goals for sustainability. Where feasible, the College of San Mateo has exchanged traditional grass for low-maintenance

ground-covering plants that require less water. Water conserving and drought tolerant plants are prioritized on campus for all new and replanted landscaping.

The District installed a web-based irrigation system at CSM which adjusts sprinkler settings according to real-time weather. This allows CSM to conserve water by irrigating landscaping only when necessary.

## 4.11 SOLID WASTE REDUCTION AND MANAGEMENT

The College of San Mateo has prioritized waste reduction and recycling on campus through a variety of initiatives. For example, efforts have been taken to shift communications from printed to digital media, including the reduction of printed schedules and the installation of several digital advertising boards located throughout the campus. The College recognizes that the success of a recycling and waste reduction program is ultimately dependent upon the behaviors of individuals. Looking forward, CSM will focus on this crucial “human component” and continue to aggressively pursue waste reduction and recycling efforts in all aspects of campus operation.

### 4.11.1 CREATE WASTE REDUCTION GOALS

The College of San Mateo supports the District’s efforts that are underway to better understand the College’s waste stream (see Section 4.11.2, below). Once accurate waste baselines are established, the College will increase the percentage of its waste stream diverted from landfill by employing additional waste reduction strategies, including education and awareness tactics.

The Sustainability Committee has adopted the following diversion goals:

- Continue to implement the landfill diversion program and expand it to include all sectors of recycling and waste reduction to landfills, including electronic waste, green waste and food waste composting
- Comply with recycling program requirements of AB-341, and strive to meet the statewide landfill recycling goal of 75% by 2020. This will require the College to regularly measure the amount and type of waste being land filled, recycled and composted

### 4.11.2 MAXIMIZE PROGRAMS OFFERED BY CONTRACTED WASTE HAULER

The College of San Mateo is currently in the process of maximizing programs offered by its contracted waste hauler, Recology. These include recycling, green waste (such as yard trimmings), and food waste composting programs. In addition, the College also performs construction and demolition (C&D) recycling. The District will hold a Waste Summit in spring 2013 where it will collaborate with local jurisdictions, waste haulers, and public agencies to evaluate and pursue “best in class” waste management options across the District. It may be necessary for CSM to employ multiple waste haulers in order to receive all of the services necessary for the College to meet campus sustainability goals.

### 4.11.3 REDUCE THE WASTE STREAM TO THE LANDFILL

The College of San Mateo will take the following additional steps to reduce its waste stream.

#### 4.11.3.1 RAISE AWARENESS OF WASTE REDUCTION

The College would like to help educate the campus and local community about the benefits of waste reduction and proper disposal of materials, such as hazardous and electronic waste. This will be accomplished through clear, effective recycling and composting signage on campus.

#### 4.11.3.2 MINIMIZE UNNECESSARY WASTE

The College of San Mateo has made a great effort to reduce waste produced on campus. These efforts span all areas of the campus and include projects such as the installation of plants on campus that reduce trimming waste, a book buy-back program through the campus bookstore that allows for textbook reuse (3.63 tons of books reused at SMCCCD in 2011), and numerous paper reduction measures listed below under Section 4.11.6, "Reduce Paper Use". "Hydration Stations," or water dispensers designed specifically for refilling water bottles, have been installed to promote the use of reusable bottles on campus and limit plastic waste.

San Mateo County College District's textbook rental program, which was created in 2002, continues to grow at an exponential rate and has saved students across the District over \$5 million dollars on textbook costs since its inception. Looking forward, the District would like to continue to expand the used and rented textbook program and increase the use of electronic textbooks district-wide.

The College, in cooperation with SMCCCD's food service provider Pacific Dining, will consider eliminating the sale of bottled water on campus to decrease the amount of plastic waste. To incentivize sustainable behavior, discounts are given to those who provide their own beverage container at campus dining locations. Plastic "to-go" bags are no longer available in the dining area and "to-go" box usage has been limited. In addition, all disposable supplies used at the campus café contain recycled content.

The College of San Mateo Athletic Club has prioritized sustainability throughout its operations for the past several years. The Athletic Club was the first location to install "Hydration Stations" and has since saved over 80,000 plastic bottles from entering the waste stream. Equipment sanitation wipes are biodegradable and environmentally-friendly laundry detergent is used to wash gym towels.

#### 4.11.3.3 REDUCE PAPER USE

The College of San Mateo has specifically focused on reducing the use of paper on campus through a number of initiatives including the extensive application of electronic versus printed media (e-mail, downloadable forms, document scanning, web-based information sites, computer kiosks, electronic bulletin boards, and on-line request submissions) and the installation of copiers that print double-sided copies. The College uses web-based collaboration tools and platforms such as SharePoint, WebAccess, WebSMART, DegreeWorks and iClickers, which greatly reduce the need for printed materials in the classroom and throughout campus operations. Over 150 District-wide committees, departments, and organizations currently use SharePoint for meeting agendas, minutes, surveys, forms, picture libraries, and more. SMCCCD uses PeopleAdmin, an online tool that eliminates the need to print resumes or other materials during the employee hiring process. The document imaging system at the College also reduces paper use by allowing faculty and staff to scan reports and distribute documents electronically. In addition, SMCCCD offers vendors and employees the option of payment through direct deposit, significantly reducing the amount of written and printed checks distributed across SMCCCD.

Lastly, approximately 80% of classrooms at SMCCCD are “smart classrooms” where installed projectors eliminate the need for printed materials within the classroom.

#### 4.11.4 IMPROVE EXISTING RECYCLING PROGRAMS

In April 2007, College of San Mateo implemented “single-stream” recycling on campus in coordination with Recology. This adjustment has increased recycling efforts by making it easier for end users to dispose of recyclable materials. The College has deployed over 30 new, aesthetically pleasing recycling containers across campus that have also greatly contributed to the college’s recycling efforts. “Big-Belly” solar-powered trash compactors have been installed on campus which reduce the number of times trash must be collected, therefore reducing the greenhouse gases associated with waste hauling.

In addition, CSM has ink cartridge, battery, and e-waste recycling programs. Ink cartridges from printers on campus are collected and recycled several times per month. A battery recycling container is located at the Campus Bookstore and encourages all campus members to properly dispose of used batteries. When an electronic device is replaced at SMCCCD, Information Technology Services (ITS) either reallocates the device in a position with lower usage requirements or recycles the device if it is no longer needed or functioning properly. ITS at SMCCCD will revise and update the e-waste recycling program in 2013 to streamline electronic recycling and ensure all devices are properly disposed.

The current recycling programs will be improved by implementing education and awareness programs identified in this plan.

#### 4.11.5 COLLECT AND SELL OR DONATE ALL RECYCLABLE MATERIAL

The San Mateo County Community College District has a well-defined method for disposing of unwanted furniture and equipment. SMCCCD has hired Dovetail Decision Consultants to inventory all furniture and equipment, a service that provides a methodical process to identify items that can either be donated or reused on campus. If an item is no longer needed at SMCCCD, a local survey is taken to identify possible locations or schools that could utilize the equipment or furniture. A past example includes the donation of desks to a charter school in Oakland, California. If it is determined that the item is not needed internally or locally, the item is sold through an online service, InterSchola, which specializes in liquidating school furniture. SMCCCD then receives a percentage of profits made. In addition, CSM currently recycles all metal waste created on campus.

#### 4.11.6 GREEN WASTE AND FOOD WASTE COMPOSITING

The College of San Mateo is exploring off-site composting of food and green waste created on campus. As of October 2012, a pilot composting project has been underway at the Skyline College campus cafeteria in collaboration with Recology and Pacific Dining. A similar pilot project will be undertaken at CSM in spring 2013. These pilots will be used by Recology to demonstrate its composting services to the City of San Bruno and, if successful, could lead to future city-wide composting efforts. The College and Pacific Dining will explore expanding composting to campus bathrooms and catered events. Food waste composting will be discussed during SMCCCD’s 2013 Waste Summit with a goal of expanding these efforts.



#### 4.11.7 ADOPT CONSTRUCTION AND DEMOLITION (C&D) RECYCLING

For building renovations or the demolition of old buildings, SMCCCD requires construction and demolition recycling in building construction contracts to ensure the recycling of materials. The College seeks to meet or exceed the LEED Standard diversion rate (50%) of construction and demolition waste.

#### 4.12 CREATE A CLIMATE ACTION PLAN

In order to meet the CSM Sustainability Vision Statement, which highlights addressing climate change, the Sustainability Committee will develop a Climate Change Action Plan as one of its key initiatives and explore how to use this plan to improve on or establish a green curriculum to educate students for the challenges of the 21st Century.

Some existing green spaces and facilities on campus could be preserved and re-purposed to function as a nexus for developing creative and comprehensive places for action. The current gardens show biodiversity, habitat, and provide a relaxing and social gathering space and has potential for enhancing a green curriculum, showcasing environmental practices, and other sustainability goals.

**SECTION 5.****MEASURE AND REPORT PERFORMANCE**

As with any successful program, the ongoing progress and performance of sustainability plan activities should be *monitored and compared to goals and criteria*. This will require continuous participation of the Campus Committee, college staff, and other participants in the process. To communicate results and ensure transparency and accountability, the *results of the Sustainability Plan activities should be communicated to the larger campus community on a regular basis*.

The following section describes the planned process for measuring and reporting sustainability activities and achievements.

**5.1 MEASURING PERFORMANCE**

In order to monitor College of San Mateo's progress towards its sustainability goals, the CSM Sustainability Committee plans to collect information on the following key metrics at the regular intervals described below.

<b>Goal Number</b>	<b>Area of Sustainability</b>	<b>Goal Description</b>	<b>Performance Metric &amp; Measurement Frequency</b>
1	<b>Campus and Community Awareness</b>	Facilitate participation in campus sustainability efforts and awareness of sustainability issues through effective educational and engagement methods. Positively influence the behaviors of all campus community members so they may embrace and champion sustainability at CSM, in the community, and in their personal lives. Establish College of San Mateo as a cultural center for sustainability and social justice in our community.	Create a baseline and establish criteria for a "cultural mission" by Fall of 2013. Conduct a qualitative evaluation.
2	<b>Curriculum Development</b>	CSM will positively support the integration of sustainability into current and future curriculum.	Develop forum or faculty task force to examine curriculum options by Fall 2014. Timeline to be determined by the task force.

Goal Number	Area of Sustainability	Goal Description	Performance Metric & Measurement Frequency
3	<b>The “Human Component”</b>	Behaviors of the entire college community are crucial to the success of sustainability initiatives; for example, levels of awareness, participation, and engagement, and the commitment of individuals to collaboration are critical to the success of this necessarily collective effort.	Identify behavior areas which need improvement during Spring 2014. Based on outcomes, set a date by which specific initiatives created to address these behavioral areas will be created.
4	<b>The Built Environment</b>	Collaborate with SMCCCD Facilities to develop the next generation of Master Planning Sustainability Goals for the Built Environment, including: Reduce Operating Costs through Renewable and Energy Efficiency Capital Projects All new projects to be LEED Silver and modernization projects designed to LEED Certified Every new project to exceed Title 24 requirements by 15% Mandatory PG&E Energy Efficiency/Savings by Design Application Mandatory Life Cycle Cost Analysis on Major Equipment	Develop and adopt “Next Generation” Master Planning Facilities goals with the adoption of next College of San Mateo Master Plan. Update with each College Master Plan update.
5	<b>Energy Efficiency</b>	Perform a campus facilities Measurement and Verification and Benchmarking Study using APPA FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by end of 2013.	Based on the results, establish annual energy use reduction goals (minimum 15% below average) and plan appropriate energy efficiency measures to meet reduction goals by mid-2015. Evaluate goals every year.

Goal Number	Area of Sustainability	Goal Description	Performance Metric & Measurement Frequency
6	Water Management	Perform a campus facilities Measurement and Verification and Benchmarking Study using APPA FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by end of 2013.	Based on the results, establish annual water use reduction goals and implement appropriate water efficiency measures to meet reduction goals. Evaluate goals every five years.
7	Solid Waste Management	Continue to implement the landfill diversion program, expand it to include all sectors of recycling and waste reduction to landfills, including electronic waste, green waste and food waste composting, comply with recycling program requirements of AB-341, and strive to meet the statewide landfill recycling goal of 75% by 2020.	Evaluate program and diversion results annually. Update program as needed to meet diversion goals.
8	Transportation	Review and/or update existing transportation studies to establish a VMT baseline for the campus by Spring 2014. Elevate knowledge and encourage use of electric vehicle charging stations, carpooling, bicycling, and public transportation. Work with SMCCCD and Public Transit Agencies to improve College of San Mateo access and connections to efficient and affordable public bus and rail transportation.	Create systems and infrastructure to reduce the reliance of students, faculty and staff on single occupancy gasoline vehicle commutes by 10% within the next 5 years.
9	Sustainable Procurement	Partner with SMCCCD and Auxiliary Services to increase college efforts to source campus food, materials, supplies, information technology equipment, and resources from organizations that are committed to social responsibility and environmental sustainability.	Procurement standards will be established by Fall 2013, reviewed bi-annually, and updated as necessary.

## 5.2 REPORTING PERFORMANCE

In order to keep the campus community informed about the progress of the Sustainability Plan activities, the College will explore expanding the sustainability component of the current campus website to include sustainability reporting performance.

The Sustainability Committee will continue to meet on a bi-monthly basis to review progress with Plan implementation and to discuss changes or new initiatives.



**SECTION 6.**

**APPENDICES**

APPENDIX A: ENERGY AUDIT - MEASURES IMPLEMENTED

APPENDIX B: GRANT AND INCENTIVE PROGRAMS - MEASURES IMPLEMENTED

APPENDIX C: HVAC- MEASURES IMPLEMENTED

APPENDIX D: DESIGN STANDARD STRUCTURAL DESIGN GUIDELINES

APPENDIX E: DESIGN STANDARD SUSTAINABILITY

APPENDIX F: COLLEGE OF SAN MATEO RENEWABLE ENERGY FEASIBILITY STUDY

APPENDIX G: SMCCCD GREEN CLEANING PRACTICES AND PROCEDURES

APPENDIX H: IMPLEMENTATION PROGRAMS AND PLANS CHECKLIST





**APPENDIX A****ENERGY AUDIT MEASURES IMPLEMENTED**

The following energy conservation measures were implemented at College of San Mateo or throughout the District in response to the comprehensive energy analysis performed by Chevron Energy Solution in 2002.

Key: EMC- Energy Conservation Measure; M- Maintenance; L- Lighting; C- Controls; DG- Direct Generation

- ECM Description
- M1 Boiler Tune-up
- M2 Boiler Re-tube
- M7 Air-handling System Refurbishment (Core Level)
- M8 Air & Water Balance (Core Level)
- M10 Heating Hot Water Variable Flow Conversion
- M14 Utility Vision
- L1 T12 to T8 Retrofit
- L2 Incandescent to Compact Fluorescent Retrofit
- L3 LED Exit Signs
- L4 MV/HPS to Metal Halide Retrofit
- L5 MV/HPS to New T5 Fixtures
- L6 Lighting Controls - Occupancy Sensor
- L7 Lighting Controls - Multi Switching Circuits
- L8 Tungsten/Halogen Retrofit
- C1 DDC Energy Management System (Core Level)
- DG1 Cogeneration



**APPENDIX B****GRANT AND INCENTIVE PROGRAMS MEASURES  
IMPLEMENTED**

The following measures and capital projects undertaken at San Mateo College or at the district level have received rebates or incentives through participation in the CCC/IOU Energy Efficiency Partnership, PG&E Savings by Design, and PG&E Energy Efficiency Core Programs. The measures are listed with their completion date and respective rebate amounts.

## Savings by Design

- College of San Mateo 5 Health & Wellness: May 2010 - \$228,968
- College of San Mateo 10: May 2011 - \$138,183
- College of San Mateo 35: Summer 2006 - \$2,775
- College of San Mateo 36: November 2006 - \$56,117

## PG&amp;E Energy Efficiency (Core programs)

- CSM Demand Response Participation: February 2012 - \$16,621
- CSM & Skyline College Co-Generation: November 2004 - \$878,557
- District-Wide High Efficiency Lighting Systems: July 2002 - \$102,600

## CCC/IOU Partnership

## Rebates Received

- College of San Mateo 2/4 & 14/16: March 2009 - \$52,459
- College of San Mateo 5 Aquatic Center: December 2011 - \$35,244
- College of San Mateo DDC Controls Retrofit: April 2009 - \$52,459
- College of San Mateo 8 VAV Retrofit: May 2007 - \$7,594
- College of San Mateo 9 Library Chiller: September 2012 - \$22,207
- College of San Mateo Transformer Replacement Project: December 2011 - \$8,914
- District- Wide Parking Lot Lighting: April 2009 - \$1,914
- District- Wide Burner Replacement: November 2012- \$7,970

## Rebates Forthcoming

- College of San Mateo 10 MBCx: In Process- \$19, 077
- College of San Mateo North Gateway: Out to Bid - \$27,600



**APPENDIX C**

**HVAC MEASURES IMPLEMENTED**

The following HVAC replacements, repairs and retrofits have taken place at College of San Mateo and throughout the District.

- College of San Mateo DDC Controls Retrofit: April 2009 - \$52,459
- College of San Mateo 8 VAV Retrofit: May 2007 - \$7,594
- College of San Mateo 9 Library Chiller: September 2012 - \$22,207
- District- Wide Burner Replacement: In Process- \$7,970
- District- Wide Transformer Retrofit: November 2011- \$8,916
- District- Wide Burner Replacement: November 2012 (\$7,970)



**APPENDIX D**

**DESIGN STANDARD STRUCTURAL DESIGN GUIDELINES**

SMCCCD's Structural Design Guidelines establish basic design parameters for the District with the goal of providing enhanced structural performance, optimizing end user flexibility and serviceability, and encouraging green building practices. The guidelines can be found by following the link below.

[https://sharepoint.SMCCCD.edu/SiteDirectory/CPD/CPD%20Downloads/SMCCCD%20Design%20Standards%20and%20Construction%20Specifications/Big%20Picture%20Design%20Standard%20Topics/Structural%20Design%20Guidelines\\_DS\\_V1\\_2007\\_06\\_28.pdf](https://sharepoint.SMCCCD.edu/SiteDirectory/CPD/CPD%20Downloads/SMCCCD%20Design%20Standards%20and%20Construction%20Specifications/Big%20Picture%20Design%20Standard%20Topics/Structural%20Design%20Guidelines_DS_V1_2007_06_28.pdf)





**APPENDIX E**

**DESIGN STANDARD SUSTAINABILITY**

Provided below is the web link for SMCCCD's Design Standard which outlines the District's commitment to sustainability when designing capital projects.

[https://sharepoint.SMCCCD.edu/SiteDirectory/CPD/CPD%20Downloads/SMCCCD%20Design%20Standards%20and%20Construction%20Specifications/Big%20Picture%20Design%20Standard%20Topics/Sustainability\\_DS\\_V1\\_2007\\_10\\_27.pdf](https://sharepoint.SMCCCD.edu/SiteDirectory/CPD/CPD%20Downloads/SMCCCD%20Design%20Standards%20and%20Construction%20Specifications/Big%20Picture%20Design%20Standard%20Topics/Sustainability_DS_V1_2007_10_27.pdf)



**APPENDIX F**

**COLLEGE OF SAN MATEO RENEWABLE ENERGY FEASIBILITY STUDY**

The web link to the feasibility study conducted by Allana Buick and Bers Inc (ABB) for renewable energy at College of San Mateo is provided below.

<https://sharepoint.SMCCCD.edu/SiteDirectory/CPD/CPD%20Downloads/Districtwide/DW%20Sustainability%20Plan/District%20Wide/Resource%20Documents/SMCCCD%20-%20CSM%20Renewable%20Energy%20Master%20Planning%20Study%20September%202011.pdf>



**APPENDIX G**

**SMCCCD GREEN CLEANING PRACTICES AND PROCEDURES**

Provided below is the web link to SMCCCD's Green Cleaning Practices and Procedures. This document outlines the specific cleaning practices that will be adhered to at College of San Mateo.

<http://www.SMCCCD.edu/accounts/SMCCCD/departments/facilities/GreenCleaningPracticesandProcedures.pdf>



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**APPENDIX H**

**IMPLEMENTATION PROGRAMS AND PLANS CHECKLIST**

The completed Implementation Programs and Planning Checklist is attached. The checklist reflects the Programs and Projects identified in Section 4 of the Sustainability Plan. For each selected program or project, the priority, current status, associated plan goal, target completion date, and responsibility assignments is indicated on the Checklist Summary Report. The estimated cost for each program or project is to be determined based on additional work by the Sustainability Committee.

The Implementation Programs and Plans Checklist will be used by the Sustainability Committee to manage the implementation of the Sustainability Plan.





## Sustainability Template Plan Summary Implementation Programs and Checklist

**District:** San Mateo CCD  
**Campus:** College of San Mateo  
**Project:** Programs and Plans Checklist v3  
**Date:** 5/7/2013

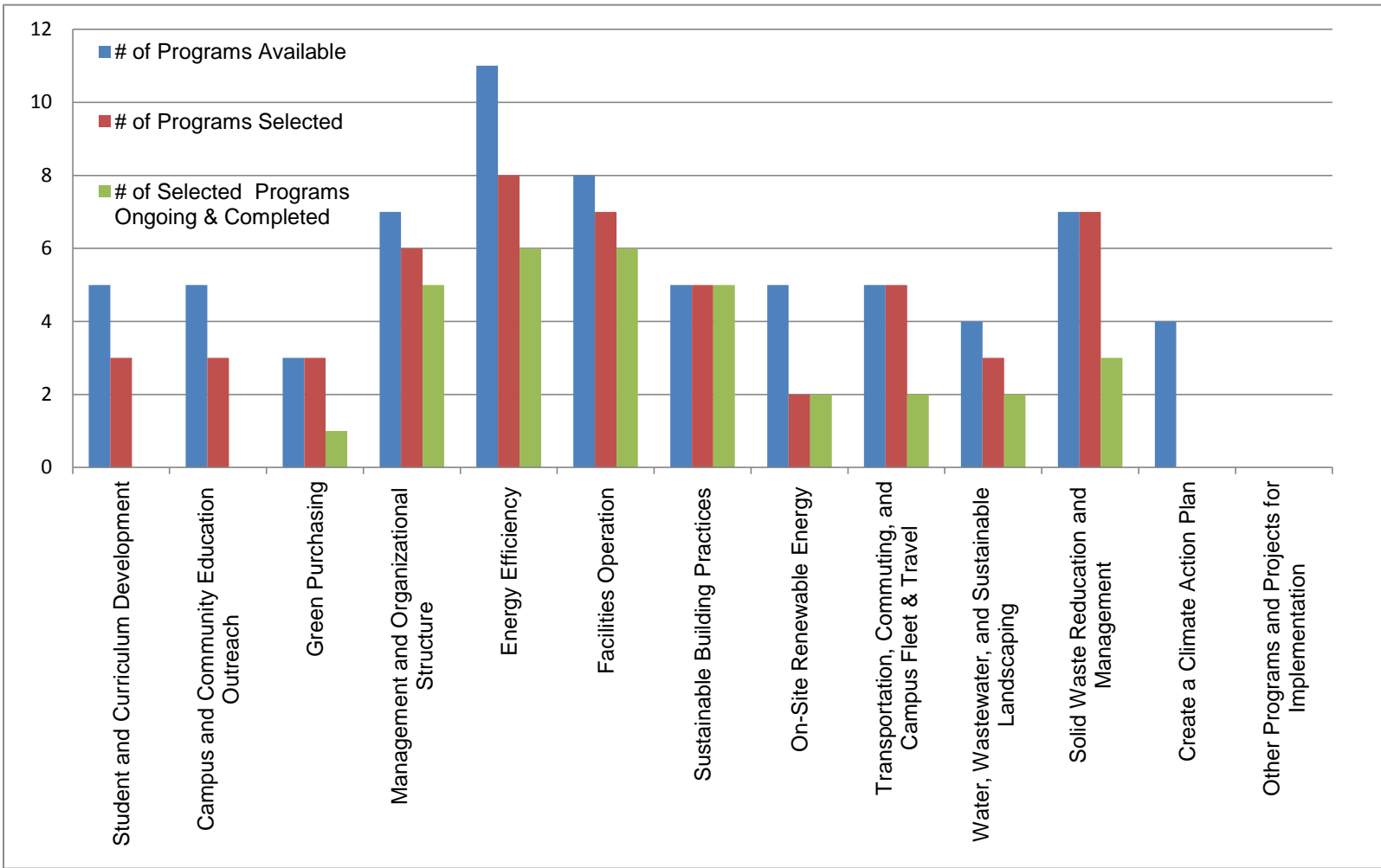
Click Here to go to **Output Tab**

Plan Section	Template Plan Section Description	# of Programs Available	# of Programs Selected	# of Selected Programs Ongoing & Completed
<a href="#">4.1</a>	Student and Curriculum Development	5	3	0
<a href="#">4.2</a>	Campus and Community Education Outreach	5	3	0
<a href="#">4.3</a>	Green Purchasing	3	3	1
<a href="#">4.4</a>	Management and Organizational Structure	7	6	5
<a href="#">4.5</a>	Energy Efficiency	11	8	6
<a href="#">4.6</a>	Facilities Operation	8	7	6
<a href="#">4.7</a>	Sustainable Building Practices	5	5	5
<a href="#">4.8</a>	On-Site Renewable Energy	5	2	2
<a href="#">4.9</a>	Transportation, Commuting, and Campus Fleet & Travel	5	5	2
<a href="#">4.10</a>	Water, Wastewater, and Sustainable Landscaping	4	3	2
<a href="#">4.11</a>	Solid Waste Reduction and Management	7	7	3
<a href="#">4.12</a>	Create a Climate Action Plan	4	0	0
<a href="#">4.13</a>	Other Programs and Projects for Implementation	0	0	0
<b>Totals</b>		<b>69</b>	<b>52</b>	<b>32</b>

For questions, comments, or feedback, please contact Matt Sullivan, Newcomb | Anderson | McCormick, 415-896-0300, matt\_sullivan@newcomb.cc

## Sustainability Template Programs Chart

**District:** San Mateo CCD  
**Campus:** College of San Mateo  
**Project:** Programs and Plans Checklist v3  
**Date:** 5/7/2013



**Sustainability Template Plan  
Implementation Programs and Plans Checklist**

**District:** San Mateo CCD  
**Campus:** College of San Mateo  
**Project:** Programs and Plans Checklist v3  
**Date:** 5/7/2013

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.1 STUDENT AND CURRICULUM DEVELOPMENT	Comments	
<input type="checkbox"/>	4.1.1	Utilize Sustainability Committee to Coordinate Sustainability-Related Curriculum
<input checked="" type="checkbox"/>	4.1.2	Provide Professional Development and Create a Faculty Forum
<input checked="" type="checkbox"/>	4.1.3	Utilize Different Pathways to Integrate Sustainability in the Curriculum
<input type="checkbox"/>	4.1.4	Advocate for Change at the Statewide Level
<input checked="" type="checkbox"/>	4.1.5	Training Opportunities for Students
<input type="checkbox"/>	4.1.6	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.1.7	<i>Enter Other Program and Project 2, text will change color</i>

See Sustainability Template Plan Section 7.1 for Details of Implementation Plans.

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**Sustainability Template Plan  
Implementation Programs and Plans Checklist**

**District:** San Mateo CCD  
**Campus:** College of San Mateo  
**Project:** Programs and Plans Checklist v3  
**Date:** 5/7/2013

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.2 CAMPUS AND COMMUNITY EDUCATION OUTREACH	Comments	
<input type="checkbox"/>	4.2.1	Create a Website Dedicated to Campus Sustainability
<input type="checkbox"/>	4.2.2	Hold Workshops and Presentations
<input checked="" type="checkbox"/>	4.2.3	Sustainability Events
<input checked="" type="checkbox"/>	4.2.4	Campus Specific Outreach & Awareness
<input checked="" type="checkbox"/>	4.2.5	Community Specific Outreach & Awareness
<input type="checkbox"/>	4.2.6	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.2.7	<i>Enter Other Program and Project 2, text will change color</i>

See Sustainability Template Plan Section 7.2 for Details of Implementation Plans.

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**Sustainability Template Plan  
Implementation Programs and Plans Checklist**

**District:** San Mateo CCD  
**Campus:** College of San Mateo  
**Project:** Programs and Plans Checklist v3  
**Date:** 5/7/2013

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.3 GREEN PURCHASING		Comments
<input checked="" type="checkbox"/>	4.3.1	Sustainable Food Purchasing
<input checked="" type="checkbox"/>	4.3.2	Green Purchasing Practices
<input checked="" type="checkbox"/>	4.3.3	Socially Responsible Purchasing
<input type="checkbox"/>	4.3.4	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.3.5	<i>Enter Other Program and Project 1 text will change color</i>

See Sustainability Template Plan Section 7.3 for Details of Implementation Plans.

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**Sustainability Template Plan  
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**District:** San Mateo CCD  
**Campus:** College of San Mateo  
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**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.4 MANAGEMENT AND ORGANIZATIONAL STRUCTURE	Comments	
<input checked="" type="checkbox"/> 4.4.1	Adopt a District Sustainability Policy	
<input checked="" type="checkbox"/> 4.4.2	Advocate for a CSM Sustainability Coordinator	
<input checked="" type="checkbox"/> 4.4.3	Appoint a Campus Sustainability Committee	
<input checked="" type="checkbox"/> 4.4.4	Funding and Resources to Support Sustainability Activities	
<input checked="" type="checkbox"/> 4.4.5	Engage Sustainability Professionals as Appropriate	
<input type="checkbox"/> 4.4.6	Consider Sustainability in Endowment Investments	
<input checked="" type="checkbox"/> 4.4.7	Integrate Sustainability Planning into Campus Master Plan	
<input type="checkbox"/> 4.4.8	<i>Enter Other Program and Project 1, text will change color</i>	
<input type="checkbox"/> 4.4.9	<i>Enter Other Program and Project 2, text will change color</i>	

See Sustainability Template Plan Section 7.4 for Details of Implementation Plans.

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**Sustainability Template Plan  
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**District:** San Mateo CCD  
**Campus:** College of San Mateo  
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**Date:** 5/7/2013

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.5 ENERGY EFFICIENCY	Comments	
<input checked="" type="checkbox"/>	4.5.1	Set Energy Efficiency Goals
<input type="checkbox"/>	4.5.2	Evaluate Mechanisms for the Implementation of Energy Conservation and Efficiency Projects
<input type="checkbox"/>	4.5.3	Conduct Facility Prioritization Survey
<input checked="" type="checkbox"/>	4.5.4	Conduct Comprehensive Facility Energy Audits
<input checked="" type="checkbox"/>	4.5.5	Implement New and Existing Audit Recommendations
<input checked="" type="checkbox"/>	4.5.6	Implement Ongoing Energy Monitoring
<input checked="" type="checkbox"/>	4.5.7	Participate in Demand Response Programs
<input checked="" type="checkbox"/>	4.5.8	Identify and Take Advantage of Grant and Incentive Programs
<input type="checkbox"/>	4.5.9	Establish an Energy Efficiency Purchasing Policy
<input checked="" type="checkbox"/>	4.5.10	Efficient Lighting and Lighting Controls
<input checked="" type="checkbox"/>	4.5.11	Install Energy Efficient HVAC Systems
<input type="checkbox"/>	4.5.12	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.5.13	<i>Enter Other Program and Project 2, text will change color</i>

See Sustainability Template Plan Section 7.5 for Details of Implementation Plans.

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**Sustainability Template Plan  
Implementation Programs and Plans Checklist**

**District:** San Mateo CCD  
**Campus:** College of San Mateo  
**Project:** Programs and Plans Checklist v3  
**Date:** 5/7/2013

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.6 FACILITIES OPERATION	Comments	
<input checked="" type="checkbox"/>	4.6.1	Encourage and Support Energy Efficiency Training of Staff
<input checked="" type="checkbox"/>	4.6.2	Install Energy Management Systems
<input checked="" type="checkbox"/>	4.6.3	Adjust Temperature Set Points and Schedule Operating Times
<input type="checkbox"/>	4.6.4	Optimize Building Occupancy Scheduling
<input checked="" type="checkbox"/>	4.6.5	Optimize HVAC Equipment Scheduling
<input checked="" type="checkbox"/>	4.6.6	Activate Energy-Saving Features for Appliances and Computers
<input checked="" type="checkbox"/>	4.6.7	Pursue Monitoring-Based(MBCx)/Retro-Commissioning (RCx)
<input checked="" type="checkbox"/>	4.6.8	Implement a Green Cleaning Program
<input type="checkbox"/>	4.6.9	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.6.10	<i>Enter Other Program and Project 2, text will change color</i>

See Sustainability Template Plan Section 7.6 for Details of Implementation Plans.

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**Sustainability Template Plan  
Implementation Programs and Plans Checklist**

**District:** San Mateo CCD  
**Campus:** College of San Mateo  
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**Date:** 5/7/2013

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.7 SUSTAINABLE BUILDING PRACTICES	Comments	
<input checked="" type="checkbox"/> 4.7.1	Establish a Green Building Standard	
<input checked="" type="checkbox"/> 4.7.2	Implement Sustainable Design Practices	
<input checked="" type="checkbox"/> 4.7.3	Use an Integrated Systems Approach in Building Design	
<input checked="" type="checkbox"/> 4.7.4	Hire Sustainable Design Professionals	
<input checked="" type="checkbox"/> 4.7.5	Commission New Buildings	
<input type="checkbox"/> 4.7.6	<i>Enter Other Program and Project 1, text will change color</i>	
<input type="checkbox"/> 4.7.7	<i>Enter Other Program and Project 2, text will change color</i>	

See Sustainability Template Plan Section 7.7 for Details of Implementation Plans.

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**Sustainability Template Plan  
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**District:** San Mateo CCD  
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**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below			
Section 4.8 ON-SITE RENEWABLE ENERGY			Comments
<input checked="" type="checkbox"/>	4.8.1	Evaluate Clean Cogeneration and Renewable Energy Generation	
<input type="checkbox"/>	4.8.2	Evaluate Load Shifting Technologies	
<input type="checkbox"/>	4.8.3	Minimize Greenhouse Gas Intensity of Purchased Electricity	
<input type="checkbox"/>	4.8.4	Evaluate Participation in Community Choice Aggregation	
<input checked="" type="checkbox"/>	4.8.5	Identify and Take Advantage of Grant and Incentive Programs	
<input type="checkbox"/>	4.8.6	<i>Enter Other Program and Project 1, text will change color</i>	
<input type="checkbox"/>	4.8.7	<i>Enter Other Program and Project 2, text will change color</i>	

See Sustainability Template Plan Section 7.8 for Details of Implementation Plans.

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**Sustainability Template Plan  
Implementation Programs and Plans Checklist**

**District:** San Mateo CCD  
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**Date:** 5/7/2013

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
	Section 4.9 TRANSPORTATION, COMMUTING, AND CAMPUS FLEET & TRAVEL	Comments
<input checked="" type="checkbox"/>	4.9.1 Understand Commute and Travel Patterns	
<input checked="" type="checkbox"/>	4.9.2 Encourage and Enhance Public Transportation and Ridesharing Options	
<input checked="" type="checkbox"/>	4.9.3 Encourage and Enhance Bicycling Options	
<input checked="" type="checkbox"/>	4.9.4 Improve Campus Fleet & Travel	
<input checked="" type="checkbox"/>	4.9.5 Enhance Student Distance Learning & Utilize Virtual Meeting Platforms	
<input type="checkbox"/>	4.9.6 <i>Enter Other Program and Project 1, text will change color</i>	
<input type="checkbox"/>	4.9.7 <i>Enter Other Program and Project 2, text will change color</i>	

See Sustainability Template Plan Section 7.9 for Details of Implementation Plans.

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**District:** San Mateo CCD  
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**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.10 WATER, WASTEWATER, AND SUSTAINABLE LANDSCAPING	Comments	
<input type="checkbox"/>	4.10.1	Establish Water Conservation Goals
<input checked="" type="checkbox"/>	4.10.2	Implement Water Conservation Strategies
<input checked="" type="checkbox"/>	4.10.3	Reduce Storm Water, Sewer Discharges, and Water Pollution
<input checked="" type="checkbox"/>	4.10.4	Adopt Sustainable Landscaping Practices
<input type="checkbox"/>	4.10.5	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.10.6	<i>Enter Other Program and Project 2, text will change color</i>

See Sustainability Template Plan Section 7.10 for Details of Implementation Plans.

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**Sustainability Template Plan  
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**District:** San Mateo CCD  
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**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.11 SOLID WASTE REDUCATION AND MANAGEMENT	Comments	
<input checked="" type="checkbox"/> 4.11.1	Create Waste Reduction Goals	
<input checked="" type="checkbox"/> 4.11.2	Maximize Programs Offered by Contracted Waste Hauler	
<input checked="" type="checkbox"/> 4.11.3	Reduce Waste Stream to the Landfill	
<input checked="" type="checkbox"/> 4.11.4	Improve Existing Recycling Programs	
<input checked="" type="checkbox"/> 4.11.5	Collect and Sell or Donate All Recyclable Material	
<input checked="" type="checkbox"/> 4.11.6	Green Waste and Food Waste Composting	
<input checked="" type="checkbox"/> 4.11.7	Adopt Construction and Demolition (C&D) Recycling	
<input type="checkbox"/> 4.11.8	<i>Enter Other Program and Project 1, text will change color</i>	
<input type="checkbox"/> 4.11.9	<i>Enter Other Program and Project 2, text will change color</i>	

See Sustainability Template Plan Section 7.11 for Details of Implementation Plans.

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**Sustainability Template Plan  
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**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.12 CREATE A CLIMATE ACTION PLAN		Comments
<input type="checkbox"/>	4.12.1	Make a Commitment to Reduce Greenhouse gas Emissions
<input type="checkbox"/>	4.12.2	Perform a Campus Greenhouse Gas Inventory
<input type="checkbox"/>	4.12.3	Create and Execute a Climate Action Plan with Prioritized Greenhouse Gas Reduction Measures
<input type="checkbox"/>	4.12.4	Regularly Monitor and Report Progress to Campus
<input type="checkbox"/>	4.12.5	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.12.6	<i>Enter Other Program and Project 2, text will change color</i>

See Sustainability Template Plan Section 7.12 for Details of Implementation Plans.

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**Sustainability Template Plan  
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**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4.13 OTHER PROGRAMS AND PROJECTS FOR IMPLEMENTATION		Comments
<input type="checkbox"/>	4.13.1	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.13.2	<i>Enter Other Program and Project 2, text will change color</i>
<input type="checkbox"/>	4.13.3	<i>Enter Other Program and Project 3, text will change color</i>
<input type="checkbox"/>	4.13.4	<i>Enter Other Program and Project 4, text will change color</i>

See Sustainability Template Plan Section 7.13 for Details of Implementation Plans.

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**Sustainability Template Plan  
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**Priority Implementation Plans Indicated Below**

Section 4.1 STUDENT AND CURRICULUM DEVELOPMENT										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.1.2	Provide Professional Development and Create a Faculty Forum						1,2			
4.1.3	Utilize Different Pathways to Integrate Sustainability in the Curriculum						1,2			
4.1.5	Training Opportunities for Students						1,2			

Section 4.2 CAMPUS AND COMMUNITY EDUCATION OUTREACH										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.2.3	Sustainability Events						1,3			
4.2.4	Campus Specific Outreach & Awareness						1,3			
4.2.5	Community Specific Outreach & Awareness						1,3			

Section 4.3 GREEN PURCHASING										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.3.1	Sustainable Food Purchasing		Med	Ongoing			9		Tom Bauer	bauert@smccd.edu
4.3.2	Green Purchasing Practices		Med	In-Process			9		Campus Sust. Comm.	
4.3.3	Socially Responsible Purchasing		Med	In-Process			9		Campus Sust. Comm.	



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**Priority Implementation Plans Indicated Below**

Section 4.4 MANAGEMENT AND ORGANIZATIONAL STRUCTURE										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.4.1	Adopt a District Sustainability Policy		High	Ongoing			1-9	2/15/2013	Karen Powell	powellk@smccd.edu
4.4.2	Advocate for a CSM Sustainability Coordinator		High	Planned			1-9	5/15/2013	José Nuñez	nunezj@smccd.edu
4.4.3	Appoint a Campus Sustainability Committee		High	Complete			1-9	12/1/2012	José Nuñez	rossk@smccd.edu
4.4.4	Funding and Resources to Support Sustainability Activities	Energy Efficiency Fund	High	Complete			1-9	n/a	José Nuñez	nunezj@smccd.edu
4.4.5	Engage Sustainability Professionals as Appropriate		High	Complete			4-9	n/a	José Nuñez	nunezj@smccd.edu
4.4.7	Integrate Sustainability Planning into Campus Master Plan		High	Complete			1-9	n/a	José Nuñez	nunezj@smccd.edu

Section 4.5 ENERGY EFFICIENCY										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.5.1	Set Energy Efficiency Goals	Reference goal	High	Complete			1,3,4,5	1/15/2013	José Nuñez	nunezj@smccd.edu
4.5.4	Conduct Comprehensive Facility Energy Audits		High	Complete			4,5	n/a		
4.5.5	Implement New and Existing Audit Recommendations		Med	In-Process			4,5	12/1/2013	EMC & Facility Managers (FM's)	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu
4.5.6	Implement Ongoing Energy Monitoring		High	In-Process			4,5	12/1/2013	EMC	TBA
4.5.7	Participate in Demand Response Programs		Low	Ongoing			4,5	2014	EMC & Karen Powell	powellk@smccd.edu
4.5.8	Identify and Take Advantage of Grant and Incentive Programs		High	Ongoing			4,5	n/a	EMC & FM's	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu
4.5.10	Efficient Lighting and Lighting Controls		High	Ongoing			4,5	n/a	EMC & FM's	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu
4.5.11	Install Energy Efficient HVAC Systems		High	Ongoing			4,5	na	EMC & FM's	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu

**Sustainability Template Plan  
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**Priority Implementation Plans Indicated Below**

Section 4.6 FACILITIES OPERATION										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.6.1	Encourage and Support Energy Efficiency Training of Staff		High	Ongoing			1,3,5	n/a	José Nuñez	nunezj@smccd.edu
4.6.2	Install Energy Management Systems		High	In-Process			4,5	2013	EMC & Karen Powell	powellk@smccd.edu
4.6.3	Adjust Temperature Set Points and Schedule Operating Times		High	Complete			4,5	n/a	FM's	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu
4.6.5	Optimize HVAC Equipment Scheduling		High	Complete			4,5	n/a	FM's	powellk@smccd.edu;
4.6.6	Activate Energy-Saving Features for Appliances and Computers		Med	Complete			4,5	n/a	Shared: Auxillary Services, FM's, IT/AV	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu
4.6.7	Pursue Monitoring-Based(MBCx)/Retro-Commissioning (RCx)		High	Ongoing			4,5	n/a	EMC & FM's	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu
4.6.8	Implement a Green Cleaning Program		High	Ongoing			3,4,9	n/a	FM's	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu

Section 4.7 SUSTAINABLE BUILDING PRACTICES										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.7.1	Establish a Green Building Standard		High	Complete			4	n/a		
4.7.2	Implement Sustainable Design Practices		High	Complete			4,5,6	n/a		
4.7.3	Use an Integrated Systems Approach in Building Design		Med	Complete			4	n/a		
4.7.4	Hire Sustainable Design Professionals		High	Ongoing			4	n/a		
4.7.5	Commission New Buildings		High	Complete			4,5	n/a		

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**Priority Implementation Plans Indicated Below**

Section 4.8 ON-SITE RENEWABLE ENERGY										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.8.1	Evaluate Clean Cogeneration and Renewable Energy Generation		High	Complete			5	6/1/2014	José Nuñez	nunezj@smccd.edu
4.8.5	Identify and Take Advantage of Grant and Incentive Programs	Co-gen.	High	Complete			5	n/a	EMC	TBA

Section 4.9 TRANSPORTATION, COMMUTING, AND CAMPUS FLEET & TRAVEL										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.9.1	Understand Commute and Travel Patterns		Low	Planned			8		FM's	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu
4.9.2	Encourage and Enhance Public Transportation and Ridesharing Options	Responsibility of Campus Sust. Committees	Med	In-Process			3,8		Campus Sust. Comm.	
4.9.3	Encourage and Enhance Bicycling Options	Responsibility of Campus Sust. Committees	High	Complete			3,8		Campus Sust. Comm.	
4.9.4	Improve Campus Fleet & Travel		High	Ongoing			3	n/a	José Nuñez	nunezj@smccd.edu
4.9.5	Enhance Student Distance Learning & Utilize Virtual Meeting Platforms		Med	Planned			3,8		Shared	

Section 4.10 WATER, WASTEWATER, AND SUSTAINABLE LANDSCAPING										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.10.2	Implement Water Conservation Strategies	Reference goal	Low	In-Process			3,4,6		EMC	TBA
4.10.3	Reduce Storm Water, Sewer Discharges, and Water Pollution		Med	Ongoing			3,4,6		EMC	TBA
4.10.4	Adopt Sustainable Landscaping Practices		Med	Ongoing			3,6		EMC & FM's	powellk@smccd.edu; hawd@smccd.edu; hashizumej@smccd.edu

**Sustainability Template Plan  
Implementation Programs and Plans Checklist**

**District:** San Mateo CCD  
**Campus:** College of San Mateo  
**Project:** Programs and Plans Checklist v3  
**Date:** 5/17/2013



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**Priority Implementation Plans Indicated Below**

Section 4.11 SOLID WASTE REDUCATION AND MANAGEMENT										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.11.1	Create Waste Reduction Goals		Med	In-Process			7	2/15/2013	Campus Sust. Comm.	
4.11.2	Maximize Programs Offered by Contracted Waste Hauler	2013 Waste Summit	High	In-Process			7	12/1/2013	District & Campus Sust. Comm.	
4.11.3	Reduce Waste Stream to the Landfill	Water bottle ban; Dining area; Paper waste	High	Ongoing			1,3,7	2013	Campus Sust. Comm.	
4.11.4	Improve Existing Recycling Programs		Med	In-Process			1,3,7	2013	Campus Sust. Comm.	
4.11.5	Collect and Sell or Donate All Recyclable Material		Med	Complete			7		Campus Sust. Comm.	
4.11.6	Green Waste and Food Waste Composting		Med	In-Process			3,7	2013	Campus Sust. Comm.	
4.11.7	Adopt Construction and Demolition (C&D) Recycling		High	Complete			4,7	n/a	José Nuñez	nunezj@smccd.edu

Section 4.12 CREATE A CLIMATE ACTION PLAN										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address

Section 4.13 OTHER PROGRAMS AND PROJECTS FOR IMPLEMENTATION										
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Linked to	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address

For questions, comments, or feedback, please contact Matt Sullivan, Newcomb | Anderson | McCormick, 415-896-0300, matt\_sullivan@newcomb.cc