



UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

**UNIVERSITY OF CALIFORNIA, IRVINE
MANAGED BY
UCI FACILITIES MANAGEMENT
SOLID WASTE MANAGEMENT POLICY**

IMPLEMENTED: JANUARY 1, 2009



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UNIVERSITY OF CALIFORNIA, IRVINE
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Introduction

The University of California, Irvine (UCI) is committed to sustainability and environmental stewardship in its operations and maintenance. The Solid Waste Management Policy (SWMP) is intended to provide operational guidance for the realization of that commitment as it relates to the safe, responsible, and ecologically sound management of waste generated by UCI.

Definition

Solid waste management is the practice of employing the three basic strategies – reduce, reuse, and recycle – to reduce the amount of waste generated by UCI operations and to minimize the waste that must be disposed of using landfill disposal.

Scope

Physical Scope

This SWMP applies to all waste generated within the UCI campus and upon the associated site and grounds. No spaces or areas of the UCI campus or site are outside the reach of this policy.

Relevant Waste Streams

This SWMP guides the disposal of all **'ongoing consumables'** at UCI and relevant spaces therein. Ongoing consumables are defined as items which have a low cost per unit and are regularly used and replaced in the course of business. Examples include paper, glass, plastic, cardboard, toner cartridges, food waste, batteries, green waste, wood, and metals.

In addition, this SWMP guides the disposal of **'durable goods'** at UCI and relevant spaces therein. Durable goods are items which have a useful life of two years or more and are replaced infrequently and/or may require capital program outlays. Examples include electronics, furniture, office equipment, appliances, external power adapters, televisions, and AV equipment.

In addition, this SWMP guides the disposal of **'materials for facility renovations, demolitions, retrofits, and new construction additions'** managed by Facilities Management and the Design and Construction team at the UCI and relevant spaces therein. Examples include, but are not limited to, building components and structures (wall studs and doors), attached finishing (drywall, trim, ceiling panels), wiring and copper pipes, ducts, carpet, adhesives, sealants and paints.



UNIVERSITY OF CALIFORNIA, IRVINE
 SOLID WASTE MANAGEMENT POLICY
 UPDATED MARCH 19, 2014

In addition, this SWMP guides the disposal of **hazardous waste** such as, mercury-containing light bulbs, biomedical waste, radioactive waste, universal waste, chemical waste, and controlled-substance and drug waste, for UCI and relevant spaces therein.

Policy Goals

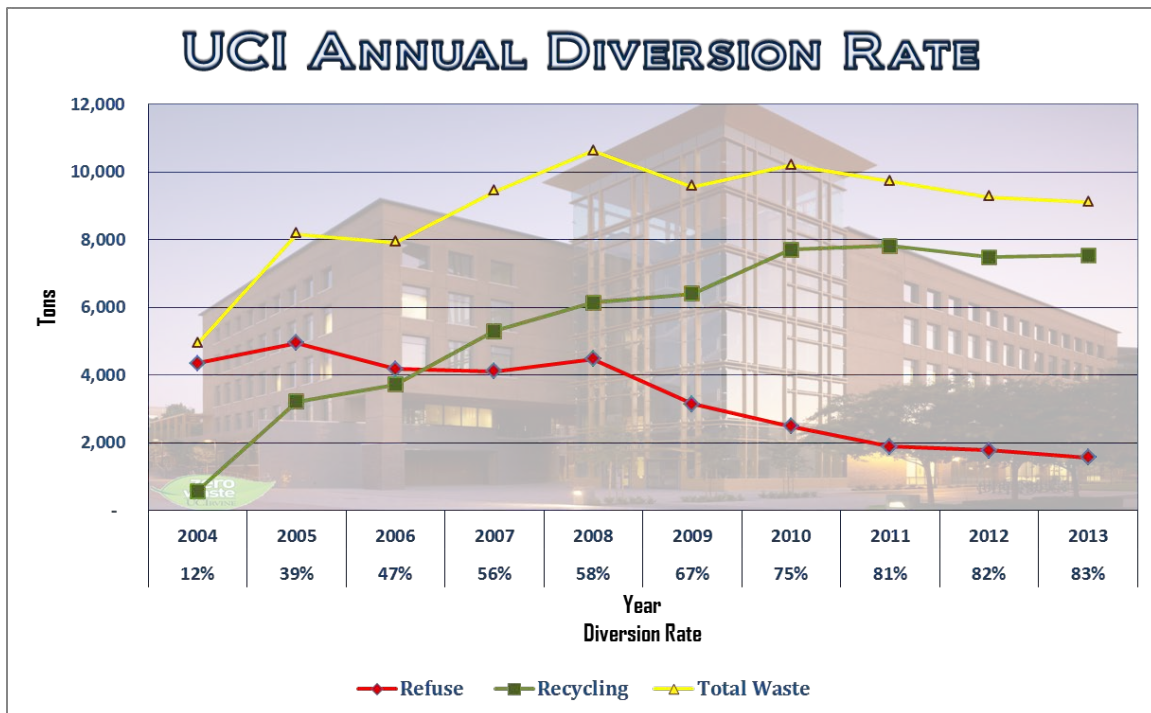
UCI seeks to divert all possible items from landfill, to minimize its contributions to the planetary waste stream. It is the intent and goal of this policy to reduce the materials it sends to landfill and maximize the materials diverted to alternative disposal via reuse, recycling, composting, or other responsible means. The specific waste diversion goals are found below.

Performance Metric

Performance relating to the goals established in this SWMP will be assessed by careful tracking and analysis of waste diversion. Waste and diversion rates will be measured on the basis of weight (tons). Our specific annual waste diversion goals are as follows:

Diversion Rate (as of June 30)	Diversion Goal
2008	50%
2012	75%
2020	100% (Zero Waste)

Current Metric Results





UNIVERSITY OF CALIFORNIA, IRVINE
 SOLID WASTE MANAGEMENT POLICY
 UPDATED MARCH 19, 2014

Performance Evaluation


Evaluation of UCI's success in achieving the goals will take place on a semi-annual basis via the collection of the waste diversion data into a calendar year waste analysis report and a fiscal year waste analysis report. Each individual listed as a Responsible Party in that section below will be responsible for tracking and recording appropriate data over the year; data will be reported to the Solid Waste and Recycling Manager for compilation and review. Where feasible, the annual report will include a brief evaluation of the performance, safety, cost and environmental/public health benefits achieved through source reduction, reuse, recycling and composting activities.

Procedures

UCI strives to maintain a successful and effective solid waste management program by self-hauling and working closely with subcontractors and partners. The performance goals and metrics are clearly communicated to all parties involved in the waste management process, and tracking is maintained and reviewed monthly to ensure these goals are achieved.





General Information

UCI maintains a variety of waste diversion programs to accommodate almost all types of waste exiting the UCI campus. Our programs have the capacity to recycle the following materials: mixed paper, plastics, cardboard, wood, glass, metals, concrete, asphalt, carpet, batteries, e-waste, toner cartridges, lamps, construction waste, and cooking oil. In addition, food waste and green waste are collected and composted off-site. Each major waste category is described briefly in the table below;

Type	Material	Disposal Method	Handling Procedure	Hauler
Batteries & Printer Cartridges		Facilities Management provides 86 green bins labeled "Batteries & Printer Cartridges" located in the lobbies and copy centers of campus buildings.	The bins are collected weekly by the UCI Recycling team. The batteries are sorted and stored in barrels and then delivered to EH&S. The cartridges are collected and sold monthly to Micro Solutions Enterprises. www.ehs.uci.edu/programs/enviro/batteryrecycling.pdf	UCI Recycle Team







UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

Type	Material	Disposal Method	Handling Procedure	Hauler
Cardboard		Facilities Management provides Cardboard Flattening stations located on the loading dock of each building for the collection of all cardboard.	Cardboard is picked up daily by the Campus Recycling team and transferred to the North Campus Recycling yard into 40 yard bins. The full 40 yard bins are hauled to the Irvine Waste Management Transfer Station Recycle Center.	UCI Recycling Team hauls to the UCI Recycle yard and Waste Management moves the 40 yard bins to the Irvine WM Recycle Center.
Commingled		Commingled Material is collected inside of student housing, campus restaurants & commons as well as in laboratory buildings. UCI Facilities Management has provided over 6,500 bins for the collection of Commingled material. The material is transferred from the interior into the 4yd commingled rolling dumpsters by the UCI Recycle Team.	The 4yd Rolling Recycle bins are collected by the UCI Recycling team in a front loader compaction truck. This commingled recycled material is taken to Waste Management Sunset Transfer station /Recycle Yard in Irvine.	UCI Recycle Team
Construction Waste	 (Metal, concrete, asphalt, drywall, wood)	The construction material is transferred to the 40yd container at the Building and Grounds Recycle Yard. There are bins for sorting the metals, concrete and asphalt separately. Mixed construction debris not worthy of sorting is put in a separate 40 yard container.	Once the bins are full they are hauled to the appropriate location. Metal is taken and sold to S&A Metals. Concrete, asphalt, wood, and mixed construction debris are hauled to the Waste Management Transfer Station in Irvine. .	UCI Recycle Team
CRV	 (Plastic bottles, glass bottles, and aluminum cans)	Facilities provides over 200 locked exterior recycling receptacles located on Ring Road, parking lots, parking structures, as well as the exterior of buildings	The CRV is collected by the UCI Recycling team and stored at the North Campus recycling yard for pick up from OCCC.	OCCC (Orange County Conservation Corps.)



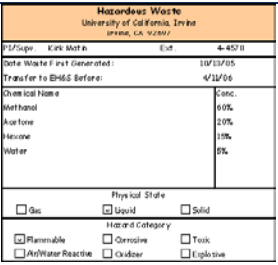


UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

Type	Material	Disposal Method	Handling Procedure	Hauler
Ring Mail Commingled Recycling	 Recycle Bins clusters available in all Pedestrian Walkways	Both Landfill and Commingled Recycle bins are available in all exterior pedestrian walkways on campus. There are 148 of these bin clusters on campus.	The liners of the bins are color coded so when they are removed they can easily be placed into the correct larger bin for commingled recycling or for landfill.	UCI Recycle Team
Electronic Waste & Universal Waste	 (Computers, cathode ray tubes [CRT], fax machines, printers, LCD monitors, microwave ovens, VCR stereos, and cell phones)	Departments must fill out a pick up request form (at http://apps.adcom.uci.edu/expres/econtent/Content.do?resource=3129) The e-waste is then picked up by Equipment Management and the hauler recycles the items.	All e-waste must be labeled as "Universal Waste-CRT" or "Universal Waste-Electronic Waste" with the date when it was first generated. It is then transferred to Equipment Management—Peter's Exchange within 9 months of being generated.	Electronic Recyclers International, Inc.
Food Waste		At campus restaurants and residential commons, the food waste is collected in food bins to be placed in exterior custom made bins for composting.	The food waste bins are taken weekly for composting by Waste Management.	Waste Management
Green Waste		Grass leaves and branches are transferred daily by the ground crew to the Buildings & Grounds yard. The green waste is taken for composting weekly.	The green waste is dried for 1-2 days, and is then loaded into 40 yard containers with a back hoe. The UCI recycling team hauls these green waste containers to Waste Management Transfer Station in Irvine. The material is ground up and taken to the Tierra Verde composting facility at the Irvine Great Park for traditional Windrow Composting.	UCI Recycle Team



UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

Type	Material	Disposal Method	Handling Procedure	Hauler
Mixed Paper	 (White, colored, computer, stationery/letterhead, photocopy, newspaper, magazines, shredded paper, envelopes, journals, scratch paper, and books)	Facilities Management provides over 9,000 paper recycling bins for offices, classrooms, conference rooms, and copy centers. Larger blue bins also known as "Slim Jims" are used for high paper volume areas, and picked up on the building's normal cleaning schedule.	Twice a month the paper material from all of these bins are collected by the campus recycling team. The paper to be recycled is placed in locked exterior bins. The bins are picked up every other week by Goodwill/Landmark to their paper MRF (Materials Recovered Facility). Goodwill purchases the paper material.	Goodwill Recycling Services
Reuse & Donate	 (Furniture, clothing, household items, food)	Surplus items can be sold on Surplus Property website. Collection bins are located at each of the campus housing areas year round. During Campus Move Out in June, a donation drive is done to ensure this material is collected & donated instead of trashed. Leftover food is donated to America's Second Harvest on a weekly basis.	Items are placed by students into Salvation Army carts in the residence halls and housing areas, and the Salvation Army picks up the material. Food is collected by UCI Catering. http://snap.uci.edu/viewXmlFile.jsp?resourced=159	Peter's Exchange Salvation Army America's Second Harvest
Hazardous Waste Chemical	 (Chemical, biomedical, radioactive, mercury containing lights, and controlled substances)	Chemical: Chemical waste is handled by EH&S. The waste is either recycled, incinerated, or sent landfill by hauler	Chemical: Must contain a label with the words "Hazardous Waste," University name, chemical name and concentration, physical and hazard category. This waste must be transferred to EH&S for disposal within 6 months of being generated	Chemical: Asbury, Clean Harbors, Safety-Kleen



UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

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Hazardous Waste Biomedical		<i>Biomedical:</i> EH&S collects all biomedical waste. It is autoclaved and then sent to landfill by hauler	<i>Biomed:</i> Must contain a label with the words "Bio hazardous Waste" or with the international symbol and the word "Biohazard." Must be contained separately from other waste in a red bag that is securely tied and placed in a rigid, leak-resistant secondary container. Sharps must be placed in an approved bio hazardous sharps container. Solids must be transferred to EH&S within 7 calendar days of being generated, Solids must be transferred to EH&S within 7 calendar days of being generated, being approximately 2/3 full. For liquids, mix 1 part household bleach to 9 parts liquid biomedical waste. Wait 30 min. and pour down sanitary sewer drain. Solid & Sharp disposal: request pickup via the internet: www.ehs.uci.edu/programs/enviro	<i>Biomedical:</i> TCI
Hazardous Waste Radioactive		<i>Radioactive:</i> Radioactive waste is handled by EH&S and is incinerated and then sent to landfill by hauler	<i>Radioactive:</i> Separate radioisotopes by waste type and within each type, segregate radioisotopes by half-life. Labels and containers are provided by EH&S. Liquids must be placed in secondary containment to adequately contain all contents. Storage areas must be marked with "Caution Radioactive Material" signs that include the magenta trefoil radiation symbol. Keep containers closed when not in use.	<i>Radioactive:</i> Thomas Gray & Associates
Hazardous Waste Mercury		<i>Mercury containing lights:</i> EH&S collects mercury containing lights to be recycled	<i>Mercury:</i> Mercury containing lights are placed in a sturdy box or container and labeled as "Universal Waste-Mercury Containing Lamp," and include the date when the waste was first generated. Used mercury containing lights must be transferred to EH&S within 9 months of being generated. Pick up request via the internet: www.ehs.uci.edu/programs/enviro	<i>Mercury:</i> Veolia



UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

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Hazardous Waste Controlled Substances		<i>Controlled substances:</i> DEA allows controlled substances to be burned in an approved incinerator. This method requires that the registrant, a federal official to be witnesses to the destruction of the substance. Empty bottles are destroyed by the EH&S controlled substances coordinator only.	<i>Controlled substances:</i> Per DEA requirement, all controlled substances, including empty vials, expired, and mix are collected by the EH&S controlled substance coordinator only. Expired and mix drugs are returned to DEA via Student Health Pharmacy and a reverse distribution facility.	

Collection Locations

1. Desk-side Paper Recycling Collection

9,000 mixed paper recycling bins are available in all office, classrooms, copy centers, and conference rooms. The following types of paper are accepted as mixed paper: white, colored, computer, stationery/letterhead, photo copy, newspaper, magazines, shredded paper, envelopes, journals, scratch paper, envelopes, journals, and books.

2. CRV Recycling Collection

140 CRV bins are located throughout campus buildings, laboratories, and the Student Center for the collection of plastic bottles, aluminum cans, and glass bottles.

3. Cardboard Recycling Stations

There are 46 cardboard recycling stations throughout the UCI campus. Cardboard flattening stations are located on the loading dock of each building for collection by the UCI Recycling team.

4. Commingled Recycling

7,500 bins have been provided for the collection of commingled material inside student housing, campus restaurants, commons, classrooms and laboratory buildings. All Pedestrian pathways have Commingled Recycling at 148 zero waste stations.



UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

Commingled materials include: all plastics, glass, metal, paper, and cardboard. The commingled recyclable material is collected on the inside of the buildings and transferred to the 4 yard commingled recycling bins at the exterior of the buildings by residents and staff.

5. Battery and Toner Recycling

Facilities provide 86 green bins labeled “Batteries & Inkjet Cartridges,” located in the lobbies and copy centers of campus buildings. The bins are collected weekly by the UCI Recycling team.

6. Reusable Items

Reusable items such as furniture, clothing, household items, and food are donated or sold to be reused. Campus owned surplus items can be sold on surplus website. For student owned material, collection bins are located in housing areas year round. Campus Move-Out event is held in June to ensure material is collected and donated instead of trashed. Leftover food is donated to America’s Second Harvest on a weekly basis.

7. Construction Waste

Construction waste is transferred from site of the construction to an appropriate 40 yard container at either Building and Grounds Recycle Yard or North Campus Recycle Yard. There are bins at both locations for sorting construction & demolition material, metals, concrete, and asphalt separately.

8. Hazardous Waste

Environmental Health & Safety handles all hazardous waste i.e., chemical, biomedical, radioactive, mercury containing lights, and controlled substances. A pick up request must be made online at EH&S website for disposal. The items must be labeled with the required information. Controlled substances are handled by EH&S controlled substance coordinator.

9. Food Waste Composting Bins

Campus restaurants and residential commons food waste is collected in food bins to be placed in exterior custom made bins for collection. The material is hauled by the UCI Recycling team to an off-site location to be anaerobically digested.

10. Green Waste

Grass, leaves, and branches are transferred daily by grounds crew to the Buildings and Grounds Yard. This material is collected in 40 yard containers and is taken off-site to a composting facility by the UCI Recycling team.

Students, Staff, and Faculty Education



UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

In order to educate students, staff, and faculty we provide a variety of educational opportunities:

- Several presentations annually, on the commingled housing recycling program to residents of Arroyo Vista, Palo Verde, Verano Place, Mesa Court, Middle Earth and Campus Village to inform them about what can be recycled in their homes. New student orientations are held that include recycling and other sustainable practices on campus.
- Presentation and posters for the commingled recycling program in Health Science and Biological Science laboratories.
- Presentations to the campus restaurants and commons on the commingled recycling program and composting of the food waste.
- For credit, internship programs are available to students in the Recycling Department
- Posters, cardstock flyers, bin signs
- E-mail blasts are sent to update new information on the recycling program
- Speaking and Tabling on Ring Road and at sustainable events (Wayzgoose, Earth Week, Higher Education Sustainable Conference)
- Competitions (RecycleMania, Sierra Club “Cool School Report”, AASHE Stars)
- Articles in campus newsletters
- Campus Move-Out/ Reuse and Recycle Program gives students an opportunity to sustainably release their unwanted goods, through recycling and donation. In 2011 94 tons were diverted from this program.
- Solid Waste and Recycling team provides support in a Clean Out/ Move Out program for all campus offices and laboratories. This free service provides bins and hauling to ensure the proper recycling of unwanted materials.



Overall Performance Tracking

Solid waste data is collected and analyzed annually by the Solid Waste and Recycling Manager. Certified weight tickets are recorded and maintained for each commodity. The data is collected and charted monthly. A full report is created semi-annually. In January the annual report for the solid waste and recycling is created and a fiscal year report is created in July.

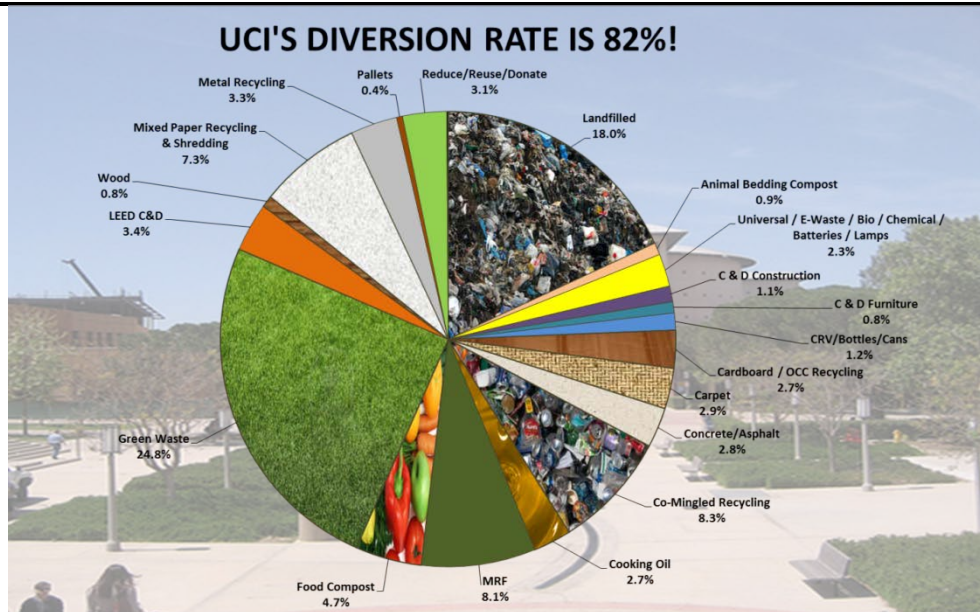
Ongoing Consumables Diversion Rate Calculation Procedures:



UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

1. Trash - The amount of trash leaving the campus is determined by certified weight tickets at Waste Management Transfer Station.
2. Compost – The amount of compost leaving the building is determined by certified weight tickets, once the material is delivered to Waste Management Transfer Station.
3. Recycling – Recycling is measured by certified weight tickets once the material is delivered to the company purchasing the commodity.

Current Performance Results



Quality Assurance and Control

The UCI campus has implemented various recycling programs that encourage the students, staff, and faculty to properly recycle all items.

- On the occasion a student, staff, or faculty has incorrectly put ongoing consumables into the trash, the UCI Recycling team will transfer the material into the correct bin. Each interior and exterior bin has signs affixed to the bin stating what material is accepted.
- The Solid Waste and Recycling Manager will discuss any consistent sorting errors with the building facility managers at their monthly meeting.
- The ongoing consumable will then be properly disposed of according to Solid Waste and Recycling policies.

Responsible Party

At UCI, the successful operation of the Solid Waste Management Policy and responsibility for the achievement of program goals rest with the Solid Waste and



UNIVERSITY OF CALIFORNIA, IRVINE
SOLID WASTE MANAGEMENT POLICY
UPDATED MARCH 19, 2014

Recycling Manager, Anne Krieghoff. Specific sub-areas of assignment are allocated as follows.

Waste Category	Name	Title	Contact
Overall Waste Coordinator	Anne Krieghoff	Facilities Management-Sustainability Manager	akriegho@uci.edu (949) 824-9097
Ongoing Consumables	Anne Krieghoff	Facilities Management-Sustainability Manager	akriegho@uci.edu (949) 824-9097
Durable Goods- Furniture and Appliances	Helen Chang Wessel	Equipment Manager	helen.wessel@uci.edu (949)824-6111
Durable Goods- E-waste	Helen Chang Wessel	Equipment Manager	helen.wessel@uci.edu (949)824-6111
Other Waste	Anne Krieghoff	Facilities Management-Sustainability Manager	akriegho@uci.edu (949) 824-9097
Universal, Bio, Chemical Waste	Kirk Matin	Environmental/Hazardous Waste Manager	kmatin@uci.edu (949) 824-4578

Time Period

This SWMP is effective as of January 1, 2009 and will be considered effective for the next five years, or until supplanted/revised by an alternative policy. Tracking compliance with the goals established by this policy will take place on a semi-annual basis and performance goals will be reviewed by the University of California Office of the President (UCOP) on an annual basis.