

# UC Santa Cruz 2005 LRDP EIR

## Annual Mitigation Monitoring Report, 2015-16

### Introduction and Summary

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor or report on mitigation measures adopted as part of the environmental review process to avoid or reduce the severity and magnitude of potentially significant environmental impacts associated with project implementation. CEQA (Public Resources Code Section 21081.6 (a) (1)) requires that a mitigation monitoring or reporting program be adopted at the time that the agency determines to carry out a project for which an EIR has been prepared to ensure that mitigation measures identified in the EIR are implemented.

The Regents of the University of California (The Regents) certified the UC Santa Cruz 2005 Long Range Development Plan (2005 LRDP) Environmental Impact Report (EIR) and approved the 2005 LRDP in September 2006; a Mitigation Monitoring Program (MMP) for the 2005 LRDP EIR was adopted at the same time (<http://lrpd.ucsc.edu/Final2005EIR/2005feir-IV-4.0-mmp.pdf>). The Mitigation Monitoring Program (MMP) for the UC Santa Cruz 2005 LRDP is presented as a table that includes the full text of the mitigation measures identified in the Final EIR. The Campus may modify the means by which it will implement a mitigation measure, as long as the alternative means of implementing the measure ensures compliance during project implementation. The MMP includes the following information:

**Mitigation Number:** The number assigned to the mitigation measure in the Final 2005 LRDP EIR.

**Applicability/ Project Type:** The applicability of the mitigation, whether to general campus operations, to certain types of projects (e.g., only housing projects), or to all development projects under the 2005 LRDP.

**Location:** The specific parts of campus to which the mitigation measure applies (e.g., in or near the Cowell Lime Works Historic District).

**Mitigation Measure:** The full text of the mitigation measure as given in the Final EIR.

**Mitigation Procedure:** A summary of the steps to be taken to implement the mitigation measures.

**Responsible Party:** Assignment of responsibility for implementation of the mitigation measure to a specific campus unit.

**Mitigation Timing:** For general campus mitigations, when the mitigation must be implemented (e.g., an event that triggers the mitigation, intervals at which implementation is required, or a deadline for completion). For project-specific mitigations, the stage(s) of project development during which the mitigation action will be taken.

**Monitoring and Reporting Procedure:** Procedures for documenting and reporting mitigation activities.

Mitigations are divided into two categories: *general campus measures*, which are implemented by the campus on an ongoing basis, and *project-specific measures*, which are implemented in conjunction with the development of individual campus construction projects. Examples of general campus mitigation measures are: 1) changes to campus operations and retrofitting existing facilities to reduce campus water use, and 2) the campus' transportation demand (TDM) program, which is designed to reduce the number of vehicle trips to the campus. Examples of project-specific mitigation measures are: 1) the protection of specific biotic resources or cultural resources during construction of a building, and 2) specific notice of anticipated construction noise for nearby residents. A few mitigations have both general and project-specific elements. The mitigation monitoring program for a development project may include both project-specific measures identified in the LRDP EIR, and mitigation measures identified in the project-level CEQA document, which applies only to that project.

The responsibilities of mitigation implementation, monitoring and reporting extend to numerous UC Santa Cruz departments and offices. The unit director or department lead officer of the identified unit or department is directly responsible for ensuring that the responsible party complies with the mitigation. Physical Planning and Construction is responsible for the overall administration of the program and for assisting other campus staff with their responsibilities, to ensure that they understand their charge and complete the required procedures accurately and on schedule.

In addition to overseeing the specific procedures for implementation of each mitigation measure, Physical Planning and Construction is responsible for preparing this Annual Mitigation Monitoring Report. The purpose of the Annual Mitigation Monitoring Report is to report on progress in implementation of general campus mitigation measures (that is, those measures that are not tied to specific development projects) and, for each project under development during the preceding period, to identify applicable mitigation measures and document the status of compliance for each project. The Annual Mitigation Monitoring Report is available for review by appointment at the office of Physical Planning and Construction on campus and posted on the campus website (<http://lrpd.ucsc.edu/mitigation-monitoring.shtml>).

For each general campus measure, a representative of the responsible campus unit completes a report form each year for compiling into the report. For each project, a checklist is prepared for all 2005 LRDP EIR and project-level mitigations applicable to the project. Reporting on the status of project-specific mitigations is the responsibility of each project manager, who updates the checklist on a quarterly basis.

Note that more than one campus unit may be assigned responsibilities for implementation of a given mitigation measure. In some cases, several units may be responsible for the same action (e.g., Colleges Housing and Educational Services [CHES] - (formerly Colleges and University Housing Service [CUHS]), Physical Plant Grounds Services, the Arboretum and the Center for Agriculture and Sustainable Food Systems are all required to comply with mitigations that regulate landscape irrigation). In other cases, implementation of the mitigation measure requires multiple actions, each of which may

be the responsibility of a different unit. Each unit reports annually on each of its mitigation responsibilities; therefore, there may be multiple reports on annual compliance with a given mitigation measure, and more than one status category may be assigned to a single mitigation in any particular year.

The annual report also provides a description of activity undertaken by each responsible department relative to each mitigation measure and, if applicable, links to detailed reports or other supporting documentation of mitigation activity.

### ***Explanation of Terms Used in Annual Mitigation Monitoring Report***

The status of each mitigation measure is assessed each year, as: **Completed-No Further Action, Complete-Ongoing, In Progress, Not Triggered, or Other** (see definitions, below).

**Completed – No Further Action:** The mitigation commitment has been fulfilled, either in the current reporting year or previously, and no further action is required in future years. These are generally one-time actions that were to be completed within a certain period of time after approval of the 2005 LRDP.

**Completed-Ongoing:** Mitigation commitments were implemented or monitored during the current reporting year, and additional actions are required in future years to fulfill the commitment. Mitigations in this category are generally measures that are to be implemented on an ongoing basis through the life of the 2005 LRDP, or measures that may take several years to complete.

**In Progress:** Ongoing or one-time mitigation commitments that have been partially implemented during the current reporting year. The "Summary of Mitigation Activities" section of this report further describes the campus's progress in implementing such mitigation measures.

**Not Triggered:** The need to take action to fulfill the mitigation commitment did not occur during the reporting year. Mitigations in this category may apply only after a certain time period has elapsed, only when the campus begins to develop a particular part of the campus, or only under particular circumstances, such as a drought emergency.

**Other:** The status of one mitigation (LRDP Mitigation AES-6E) is described as "Other." In previous years this measure was listed as a general campus mitigation as well as a project-specific mitigation, although it is implemented only on a project-by-project basis. Beginning in the 2009-10 reporting year, the mitigation is monitored only at the project level.

### ***Summary of 2015-16 Mitigation Activities***

#### **General Campus Mitigation Measures**

In 2015-16, the Campus fulfilled its mitigation commitments by implementing and/or monitoring the 61 general campus mitigation measures adopted by The Regents in connection with its approval of the 2005 LRDP. These 61 mitigation measures contain a

total of 74 individual mitigation commitments.<sup>1</sup> In addition, the Campus implemented and/or monitored ten mitigations adopted by The Regents in connection with its approval of the 2300 Delaware Avenue Project in February 2007. This brings the total number of individual mitigation commitments to 84.

Ten of these commitments were completed during the 2015-16 reporting period or in a previous year and require no further action in future years, 60 ongoing mitigation commitments were implemented, two were in progress but not completed during the reporting period, and 11 were not triggered. As explained above, one mitigation previously listed as a general campus mitigation is now monitored at the project level.

Table 1, Mitigation Status Summary

[\[http://lrpd.ucsc.edu/MonitoringReports/MMP\\_Table1\\_2015-16.pdf\]](http://lrpd.ucsc.edu/MonitoringReports/MMP_Table1_2015-16.pdf) lists all of the general campus mitigations and their status for the 2015-16 reporting year. A complete description of general campus mitigation activities conducted during this reporting year is presented below, under the heading *Complete Description of 2015-16 General Campus Mitigation Activities*.

The status of each mitigation measure that was not implemented completely during this reporting year is described in the following paragraphs:

**LRDP Mitigation TRA-4F** requires that the Campus 1) develop a pedestrian plan for the campus within two years of 2005 LRDP approval; 2) annually, evaluate existing way-finding systems, identify need for improvements, and prioritize improvements for implementation; and 3) implement systems as needed according to priority. Preliminary work for a Campus Pedestrian Plan started in Winter 2011. During Winter 2016, staff from TAPS and PP&C worked with an Environmental Studies faculty member, who conducted a senior seminar, titled “Developing a Pedestrian Plan,” to do research and gather student feedback for the Campus Pedestrian Plan. Completion of the Plan is now anticipated during 2017. The mitigation requirements related to way-finding have been implemented as required, as summarized below, under *Complete Description of 2015-16 General Campus Mitigation Activities*.

**LRDP Mitigation UTIL-9H** requires the Campus to complete the retrofit of 3.5-gallon-per flush (gpf) toilets in all on-campus student housing within five years of approval of the 2005 LRDP in September 2006. This mitigation has been completed at most student housing facilities. However, at Merrill and Kresge colleges and the Oakes College Apartments, completion of the retrofits has been delayed by major accessibility improvements triggered by the retrofits. CHES Capital Planning completed fixture upgrades at all housing facilities in Merrill College in summer 2014. At Kresge College low flow fixtures will be incorporated into a major capital renewal project for the college. The Oakes College Apartments are tentatively scheduled for a site-wide renewal in 2018, which will include retrofit with low flow toilets.

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<sup>1</sup> Two mitigation measures, (TRA-4D and TRA-6B), each with responsibility shared by TAPS and Planning and Budget (resulting in two “commitments”) are implemented and monitored only by TAPS. Thus, in previous years, the annual monitoring report referred to 76 mitigation commitments associated with the 2005 LRDP.

## **Project Mitigation Monitoring**

In 2015-16, the Campus monitored project-specific and LRDP EIR mitigation measures for the following projects approved under the 2005 LRDP, and which were in design or construction:

**Great Meadow Bike Path.** The Great Meadow Bike Path Project was approved in April 2015. Construction took place during the summer of 2016.

**Recycling Yard Phase 1.** This project was approved in April 2016. Construction began in summer 2016 and will be completed in winter 2016-17.

In addition, the Campus identified LRDP EIR mitigation measures that are applicable to the following projects which were in planning and/or design in 2015-16:

**Environmental Health and Safety Facility**

**Upper Quarry Amphitheater Renovations, Phase 1**

Table 2, *Project Implementation of LRDP EIR Mitigation Measures*

[[http://lrdp.ucsc.edu/MonitoringReports/MMP\\_Table2\\_2015-16.pdf](http://lrdp.ucsc.edu/MonitoringReports/MMP_Table2_2015-16.pdf)] lists the LRDP EIR mitigations incorporated into each of the projects approved under the 2005 LRDP EIR.

Table 3, *Project-Specific Mitigation Summary*

[[http://lrdp.ucsc.edu/MonitoringReports/MMP\\_Table3\\_2015-16.pdf](http://lrdp.ucsc.edu/MonitoringReports/MMP_Table3_2015-16.pdf)] lists and briefly describes the project-specific mitigation measures identified in project-level CEQA documents. These tables also report the status of each mitigation measure as of the date of this report.

## **Complete Description of 2015-16 General Campus Mitigation Activities**

**AES-5D : Continue Site Stewardship Program.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The Site Stewardship Program had a total of 6 volunteer days with 69 volunteers for a total of 227.5 hours. 14 interns logged 683 hours of stewardship activity. We also had a Provost's Sustainability Intern for 300 hours. Volunteer day activities included invasive French broom removal, meadow monitoring in the spring and fall, and an Adopt A Site volunteer day with Sigma Pi fraternity maintaining a trail in Upper Jordan Gulch.

**AES-6B: Minimize light pollution in new development projects.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Campus standards for lighting have not changed during the past year. They include the lighting design requirements specified in the mitigation, for both path and street lighting. Campus Standards Handbook Section 16530 require that exterior lighting be installed for safety only and that decorative lighting may be used only under certain circumstances and upon approval of Campus Architect. Site Requirements Part III H states that lighting

with non-glare downlighting characteristics is preferred for all areas around building, although forest areas are to be illuminated with non-directional fixtures that provide light throughout the surrounding area.

**AES-6D: Turn off field lights at 11 PM.**

**Responsible Unit: OPERS**

**Status: Not Triggered**

**Description of Status for 2015-16**

OPERS does not have any field lights at this time.

**AES-6E: DAB review outdoor lighting**

**Responsible Unit: PP&C**

**Status: Other**

**Description of Status for 2015-16**

This mitigation is now implemented and monitored at the project level

**AIR-1: Construction dust control.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

PP&C's template for Division 1 of the construction contract includes this requirement. For each project, the Project Manager reviews the template, selects the applicable measures, and reports on the selected measures and their implementation in the project mitigation monitoring report.

**AIR-4A: Work with AMBAG on regional population forecasts.**

**Responsible Unit: PP&C**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

This mitigation was completed in 2008-09. AMBAG issued a new consistency determination for the 2005 LRDP in April 2009 stating that the 2005 LRDP is consistent with the 2008 regional forecasts and Air Quality Management Plan. No further action is required.

**AIR-4B: Work with MBUAPCD on campus growth-related emissions.**

**Responsible Unit: PP&C**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

This mitigation was completed in 2008-09. AMBAG issued new consistency determination for the 2005 LRDP in April 2009 stating that the 2005 LRDP is consistent with the 2008 regional forecasts and Air Quality Management Plan. No further action is required.

**AIR-5A: Generator testing schedule.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The generators are tested per the mitigation measure and Physical Plant is abiding by Draft LRDP EIR Table 4.3-22. See preventative maintenance records as needed.

**AIR-5B-PP: Cogeneration system emissions**

**Responsible Unit: Physical Plant**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

The Delaval engine (old cogeneration system) was permanently shutdown in February of 2014. A new cogeneration with lower emissions is in place. This mitigation measure will need no further entries in future years.

**AIR-6: Minimize construction air pollutant emissions.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

PP&C's template for Division 1 of the construction contract includes this requirement. For each project, the Project Manager reviews the template, select the applicable measures, and reports on the selected measures and their implementation in the project mitigation monitoring report.

**AIR-7: Reduce toxic air contaminant emissions.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Campus Standards Handbook Section 16600 specifies the use of natural gas and/or propane for emergency and stand-by generators.

**BIO-15: Arboretum fencing allow mammal movement**

**Responsible Unit: Arboretum**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The extent of the existing temporary fencing was reduced in 2014-15 and further reduced in 2015-16. Currently, many areas are unfenced and there is plenty of access for wildlife; deer fencing is installed around individual plantings. The Arboretum is planning for a permanent deer fence, which will be designed to allow corridors around the planted areas for the deer and allow most smaller mammals through the fence. Plantings within the area are being developed with large tracts of open grassland vegetation linked to one another to provide continuity of grassland from the area west of Empire Grade to the Great Meadow.

**BIO-7A-Police: Ohlone tiger beetle protection in Marshall Field.**

**Responsible Unit: Police**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

Additional patrolling of Marshall field during the Ohlone tiger beetle's active season is not required at this time. See BIO-7A-PP for details.

**BIO-7A-PP : Ohlone tiger beetle protection in Marshall Field.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

During December 2005, Physical Plant successfully petitioned USF&WS for a minor amendment to the UCSC RVT HCP to discontinue the temporary fencing and resort to only using the permanent OTB signs. In addition to the RVT HCP affected grasslands, the temporary fences were also discontinued in Marshall Field. In previous years, the patrolling by Physical Plant was to maintain the temporary OTB fences and signs. In the absence of these temporary measures, formal Physical Plant patrols have been discontinued.

**BIO-7B: USFWS consultation on Arboretum fencing**

**Responsible Unit: Arboretum**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

Mitigation was completed in 2006-07. UCSC staff consulted informally with USFWS staff, who said that agency had no concerns with any fencing in the area with respect to special-status species identified under the Endangered Species Act.

**BIO-8A-CNR : Cave signs and educational material.**

**Responsible Unit: CNR**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The Empire Cave sign created and installed by UCSC Campus Natural Reserve staff in summer 2014 was maintained throughout the 2015-16 academic year. In addition to including information about the cave's geologic history, unique features, and rare wildlife, this sign features large letters stating, "You can help protect this cave," in an attempt to encourage people visiting the cave to be better stewards. Specific suggestions include packing out everything packed in; avoiding smoking, fires, and spray painting; and choosing not to enter the cave. Nevertheless, as the cave is located right alongside Empire Grade, it receives many visitors from the local community, as well as UCSC students. The cave sign was cleaned of spray paint graffiti and made legible at least once per Quarter by Campus Natural Reserve staff (summer 2015, Fall Quarter 2015, Winter Quarter 2016, and Spring Quarter 2016). The new sign has an acrylic cover to facilitate cleaning and maintenance and to protect the more expensive sign beneath.

Trash was hauled from the exterior and interior of Empire Cave once during summer 2015, twice during Fall Quarter 2015, twice during Winter Quarter 2016, and twice during Spring Quarter 2016. Approximately 200 pounds of trash and recyclables were removed by student volunteers, interns, and Campus Natural Reserve staff from in and around Empire cave during this time.

During FY 2015-16, 123 students in five courses (ENVS 15, ENVS 167, ENVS 179, EART 5, SCIC 106A) visited the outside entrance of Empire Cave during on-campus field trips. These students learned about the formation of the cave, the rare sensitive species found within, and how to avoid impacting them (with an emphasis on staying out of the cave).

**BIO-8A-PP : Signs and educational material to protect caves.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**



**Description of Status for 2015-16**

This mitigation is currently being implemented by the Campus Natural Reserve. See BIO-8A-CNR.

**BIO-8B-PPC : Consult with agencies on cave barrier design.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

PP&C staff consulted with USFWS staff in 2007, as described above, under mitigation BIO-7B. PP&C staff requested a consultation with CDFG staff in 2007, but CDFG staff did not respond to this request.

**CULT-1B-PP : Archaeological resource training for campus employees.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

A training was conducted on 7/21/2016 by Alisa Klaus, Environmental Planner, PP&C. Thirty three staff attended.

**DA-HYD-2: Prevent off-site migration of landscape chemicals (2300 Delaware)**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Grounds Services Integrated Pest Management (IPM) practices have entailed a very few 'spot sprayings' of low toxicity pesticides. Any herbicides or chemical fertilizers were applied in a manner as to prevent migration off site.

**DA-REC-1A: Trash and litter collection at Antonelli Pond.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Trash collection at Antonelli Pond was becoming a safety hazard due to hypodermic needles, human waste, and other bio hazards. We addressed the problem using a refuse tip cart. We purchased a cart carrier to transport the container to the street curbside where it is picked up by the City of Santa Cruz refuse collection. This eliminates lifting, handling and hauling of liners. UCSC gardener checks or empties trash can weekly.

**DA-REC-1B: Contribute toward providing and maintaining picnic and trail facilities at Antonelli Pond.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

UCSC normally hires a contractor to mow brush on the pond side of the path on the east side(2300 Delaware side) of the pond. However this past year the Land Trust steward had their contractor mow the entire perimeter of the pond. The steward was recently hired and didn't know about our agreement to mow the east side of the pond. Land Trust steward Ginger Wojceichowski and UCSC Grounds Ass't Superintendent discussed having UCSC mow the east side in the future or do some other trail maintenance. UCSC area

gardener John Palochak and Ginger are in constant contact and often assist each other with grounds maintenance issues.

**DA-REC-2D: Coordination of volunteer activities at Antonelli Pond.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

There were no volunteer activities this year. Land Trust informs us of upcoming events so we can coordinate activities. This year there were none. Dave Roe will be meeting with Land Trust steward to discuss volunteer work days(s) for 2017.

**DA-TRA-1A: Campus contribution to cost of intersection improvements (2300 Delaware).**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

UCSC paid the City of Santa Cruz \$419,000 in 2008-09 as mitigation for trips related to existing levels of traffic generated by activities at the 2300 Delaware facility. Pursuant to Section 4.4 of the 2008 Comprehensive Settlement Agreement, the University made an additional payment of \$14,755 in September 2011 to mitigate trips related to the Thin Films and Materials Lab Project in Building C of that facility. Additional payments will be made with future development of space within Building C.

**DA-TRA-1B: TDM measures (2300 Delaware).**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

A Travel Survey was conducted during Spring 2016 in advance of the relocation of most building occupants to a new leased facility in Scotts Valley during 2017. A total of 105 individuals responded to questions concerning their typical commute mode to and from work, noting that 73% drove alone, 14% commuted by bicycle, 5% by carpool, 4% by public transit, 2% by vanpool and 2% telecommuted.

Employees of 2300 Delaware are eligible for the same TDM programs provided for other UCSC staff and faculty, including:

- Subsidized SCMTD Faculty/Staff bus passes;
- Commuter Vanpool program;
- Emergency Ride Home program (for participants in other TDM programs);
- Zipcar ridesharing program; and
- Zimride ridematching services.

**DA-TRA-2: Parking monitoring and management (2300 Delaware).**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Parking utilization surveys were conducted mid-morning and mid-afternoon on five weekdays in Spring 2016, finding an overall utilization rate of 75.0%.

**DA-TRA-3: Public transit to serve 2300 Delaware.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

SCMTD continued to provide public transit service to the 2300 Delaware site via the regular Route 20 and “supplemental” Route 20D service. Thirty trips operate weekdays between 7:20am and 10:20pm, while 13 trips operated weekends from 8:20am until 8:20pm. SCMTD service changes planned for 2016-17 will reduce weekday trips to 29 and weekend trips to 10. Additionally, Route 3 service will decrease from 12 trips/day to 6 trips/day.

Discussions began with the SCCRTC to locate a Westside rail station along the recently acquired rail right-of-way. TAPS is advocating a location north of the 2300 Delaware facility to provide easy access to the SCMTD Route 20 and 20D service operating along Natural Bridges Drive. Pedestrian and bike paths would adjoin the rail corridor, providing new circulation routes to UCSC facilities at 2300 Delaware and the Coastal Science Campus. Starting in Fall 2016, SCMTD will run two of its six weekday Route 3 buses onto the Coastal Science Campus.

**DA-UTIL-1A: Water conservation at 2300 Delaware.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The irrigation system at 2300 Delaware is responsive to daily weather data, as well as automated leak detection and shut down. Under its preventative maintenance program, Grounds Services tests and adjusts the sprinkler system to reduce overspray and maximize distribution efficiency. Irrigation technicians respond quickly to any reports of suspected undesirable water flows.

Twenty toilets at 2300 Delaware were replaced with 1.6 gpf fixtures, and four urinals were replaced with 1/8 gpf urinals in conjunction with LRDP Mitigation UTIL-9E (implementation of the high-priority recommendations of the 2007 campus water audit). All restroom faucet aerators were replaced with 0.5-gpm aerators in summer 2010. In 2014 and 2015, in response to the City’s water shortage emergency declaration, the Campus reduced peak season water use at 2300 Delaware by 78 percent and 75 percent, respectively, relative to the 2012-2013 baseline. The reduction was achieved largely by eliminating watering of the turf, which is gradually being replaced by low-water-use landscaping.

The buildings at 2300 Delaware were included in the survey of restroom fixtures conducted in 2014 and 2015 by the student water team from the Sustainability Office.

**DA-UTIL-1C: Evapotranspiration irrigation system (2300 Delaware).**

**Responsible Unit: Physical Plant**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

The eT based irrigation system continues to be operational.

The irrigation system is responsive to daily weather data (RainMaster Evolutions Central Irrigation System), as well as automated leak detection and shut down. An annual Preventative Maintenance program tests and adjusts the sprinkler system to reduce

overspray and maximize distribution efficiency. Irrigation technicians respond quickly to any reports of suspected undesirable water flows

**HAZ-10A: Annual/biennial building inspections**

**Responsible Unit: Fire Dept**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

All Campus buildings are inspected annually. Inspection records are maintained in Fire Marshal files.

**HAZ-10B : Develop and implement Vegetation Management Plan**

**Responsible Unit: Physical Plant**

**Status: Not Triggered**

**Description of Status for 2015-16**

Development on north campus was not under construction during the reporting year. The Campus has developed a Northeast Campus Area Plan that identifies a potential site for a new Social Sciences building north of the existing Fire Station but design of this building has not commenced. No action was required.

**HAZ-10C : Wildland fire prevention signage.**

**Responsible Unit: Physical Plant**

**Status: Not Triggered**

**Description of Status for 2015-16**

Development on north campus was not under construction during the reporting year. No action was required.

**HAZ-2: Enhance hazardous waste minimization program.**

**Responsible Unit: EH&S**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

In 2015-16, EH&S transported and managed 23.6 tons of hazardous waste, collecting it from the point of generation for recycling or disposal. This number does not reflect lead, asbestos or universal waste generation. EH&S and Grounds staff collected approximately 1.5 tons of Kimberly Clark Glove Nitrile Gloves and periodically shipped them throughout the year, under a recycling program initiated in 2012-13. EH&S also continues to implement the mercury thermometer exchange program.

This year the online Hazardous Waste Management training was revised, 419 faculty, staff, and students completed the online training.

**HAZ-9A: Construction road closure procedures.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

PP&C's template for Division 1 of the construction contract section 01 50 00 includes the requirements specified in the mitigation.

**HAZ-9B: Test and update EOP.**

**Responsible Unit: Fire Dept**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The Campus Emergency Operations Plan can be viewed at <http://oes.ucsc.edu/emergency-management/plans/ucsc-emergency-response-plan.pdf>. The plan was being re-written during the fiscal year and not completed until November, 2016. The plan was tested during the year during various events and after completion in November, 2016. Documents associated with the events that tested the EOP are maintained in OES files.

**HAZ-9C: EOPs for 2300 Delaware and north campus.**

**Responsible Unit: Fire Dept**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Construction of the north loop road has not begun. Renovation of a portion of Building C at 2300 Delaware was completed in summer 2011. The Campus Emergency Response Plan covers all UC Santa Cruz facilities, including 2300 Delaware.

**HAZ-9D: Secondary emergency egress route for north campus.**

**Responsible Unit: PP&C**

**Status: Not Triggered**

**Description of Status for 2015-16**

North campus development was not under construction during 2014-15.

**HYD-2A : Construction site controls, sites less than 1 acre.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

This mitigation is implemented through the Campus Storm Water Management Program, UCSC Division 1 construction specifications section 01 57 23, Part 1, 1.2C.

**HYD-2B: Erosion controls for grading on hillsides.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The State General Construction Permit requires sediment control measures to be included in the Storm Water Pollution Prevention Plan which must be prepared for all projects disturbing more than 1 acre of land. For smaller projects, sediment control measures are included in the Campus' Erosion and Sediment Control Standards for Projects Under One Acre, as specified in the UCSC Division 1 construction specifications section 01 57 23, Part 1, 1.2C..

**HYD-3A-PP: Signs and public education about importance of staying on paved roads and approved paths.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Two large unpaved ad hoc paths were fenced with permanent posts, fencing, and signs installed. Locations are:

1. Paths from Porter sculpture and classrooms to Heller bus stop.
2. Long eroded path from College 10 parking lot to McLaughlin bridge.

See attachment for copy of signs installed.

**HYD-3A-PPC: Signs and public education about importance of staying on paved roads and approved paths.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Both the Upper Campus Map (downloadable PDF available at [maps.ucsc.edu](http://maps.ucsc.edu)) and the Campus Walking Map (hardcopy brochure distributed to all new students) contain the following text: "Please stay on roads or established trails. The creation of unofficial pathways can destroy both natural groundcover and the underlying soil." Large versions of the Campus Walking Map, which include this text, are distributed to Resident Assistance for posting on residence hall bulletin boards.

**HYD-3B-PP : Erosion control measures for fire roads.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Grounds staff drove all of the fire roads, inspected the silt fences at the water bars to make sure they were in place and functioning, checked culverts for function and watched out for any other erosion issues.

**HYD-3D: Low-impact development measures for new development.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

These requirements are implemented as part of UCSC's Storm Water Management Program, Post Construction Requirements (PCR), which are in Appendix C of the Campus Standards.

**HYD-5C: Aquifer monitoring.**

**Responsible Unit: PP&C**

**Status: Not Triggered**

**Description of Status for 2015-16**

Campus did not use the well to supply water in the reporting year. Therefore, this mitigation has not been triggered.

**NOIS-1 : Construction noise controls.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

PP&C's template for Division 1 of the construction contract includes this requirement. For each project, the Project Manager reviews the template, select the applicable measures, and will continue to report on the selected measures and their implementation in the project mitigation monitoring report.

**NOIS-2: Contractors use City-designated truck routes.**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

PP&C's template for Division 1 of the construction contract includes this requirement. For each project, the Project Manager reviews the template, select the applicable measures, and will continue to report on the selected measures and their implementation in the project mitigation monitoring report.

**POP-3A: Campus housing accommodate 50 percent of undergraduates and 25 percent of graduate students.**

**Responsible Unit: CUHS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The total housing capacity in 2015-16 exceeded 50% of undergraduate student and 25% of graduate student on-campus enrollment.

**POP-3B: Housing collaboration study.**

**Responsible Unit: CUHS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Campus Housing and Market Study Report was completed in September 2008 by consultant group Brailsford and Dunlavey. This mitigation is complete and no further action is required

**POP-3C: Housing collaboration study.**

**Responsible Unit: CUHS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The campus completed employee and student housing market studies in July 2014. The studies are located online at: <http://ppc.ucsc.edu/planning/planningstudies.html>

**REC-2C-PP : Discourage illegal bicycle use on Pogonip trails.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Preventive maintenance of the signs was performed on 10/7/16 per WO00398139. All four signs depicting bicycle laws were legible and in good physical condition. The fences were inspected and repaired under same work order.

**REC-2C-TAPS: Discourage illegal bicycle use on Pogonip trails.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The Campus Bike Plan was completed in Fall 2008 and approved as an amendment to the City Bike Plan by the Santa Cruz City Council in December 2008. The campus bike map in the Bike Plan shows the campus/Pogonip boundary but does not show the Pogonip rules regarding bicycle use. The next update to the campus bike map that is posted on the TAPS website or printed will include these rules.

**REC-2D-PP: Coordinate with City on volunteer trail maintenance days.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

There were no volunteer trail maintenance days planned with the City. Provost's Sustainability Intern who is assisting with the Site Stewardship Program will contact the City in December about 2017 events.

**REC-4: Recreational facilities available to public**

**Responsible Unit: OPERS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Recreational amenities are available for public use. These include the track, outdoor exercise spaces (Park Course) and fields located at the East Field House complex. The public can also purchase a community Wellness Card to access all other facilities at OPERS (pool, Wellness Center, etc.). Information about public access to our facilities is available on the OPERS website: <http://opers.ucsc.edu/memberships/index.html>

**TRA-1: Monitor and improve campus interseactions.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Turning movement counts were conducted at Hagar/McLaughlin and Heller/Meyer intersections during Fall 2010. The data was not processed through the City of Santa Cruz's TRAFFIX model to calculate current level of service. However, the average daily number of weekday vehicle trips to/from campus was lower in 2015-16 than the LRDP EIR baseline (2003-04).

**TRA-2A-TAPS: Monitor and contribute to improvements to City intersections.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Turning movement counts were conducted at 35 locations on- and off-campus in Fall 2010. Two weeks of traffic volume data were collected during November 2015 and May 2016 at 13 on-campus and 5 off-campus locations. The off-campus locations included two locations at the entrances to the 2300 Delaware facility, and the three off-campus legs of the Bay/High intersection (Spring 2016). While counts were conducted at the entrance to the Coastal Science Campus in Fall 2014, none were conducted after construction commenced in Spring 2016. Annual school-term weekday average daily trips (ADTs) through the two campus entrances totaled 21,368. The data was not processed through the City of Santa Cruz's TRAFFIX model to calculate current level of



service. However, the average daily number of weekday vehicle trips to/from campus was lower in 2015-16 than the LRDP EIR baseline (2003-04).

The Campus has fulfilled the requirement to contribute its fair share of the cost of intersection improvements by making payments to the City for projected new 2005 LRDP-related trips through 2020, under the 2008 Comprehensive Settlement Agreement.

**TRA-2B: Expand TDM programs.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

UCSC's TDM programs continued to help mitigate traffic volumes to/from campus during 2015-16. The Commuter Vanpool program operated on 19 routes using 12-passenger vans serving more than 200 participants. The Zipcar car-sharing program, completing its 10th year at UCSC, grew in popularity and utilization, with 13 on-campus cars accommodating approximately 1,972 active members and average 24/7 utilization exceeding 35% during the 2015-16 academic year. Zimride, an on-line ridesharing application, gained more than 2,000 new users during the 2015-16 fiscal year.

The Spring 2016 Mode Split Study indicates that 62.7% of all person-trips to/from the campus are made via alternative transportation modes. Primary among these were Multi-Occupant Vehicles (24.8%), followed by SCMTD public transit (23.6%), and "Other TDM Services" (including Commuter Vanpools, the Bike Shuttles, and some Day Shuttle ridership) (11.6%). Biking and walking comprise 2.4% and 0.4%, respectively. Single-occupant autos account for only 34.5% of all person-trips. The remaining 2.8% of trips were generated by UC Service, construction and delivery vehicles, and motorcycles. Traffic volumes through the two campus entrances in the Fall quarter rose 3.3% from the previous reporting year (20,923 ADT in Fall 2015 vs. 20,248 ADT in Fall 2014) while Spring quarter counts rose 2.6% (21,812 ADT in Spring 2016 vs. 21,262 in Spring 2015).

**TRA-3B: Parking monitoring and construction.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

No changes were made to the parking zone definitions during 2014-15.

The Spring 2016 Parking Utilization Survey is on file at UCSC Physical Planning & Construction.

Based on Spring 2016 parking utilization survey, adequate parking capacity exists in underutilized campus lots to accommodate the increase resulting from loss of parking supply plus projected growth in parking demand. However, these projects create substantial inconvenience to regular commuter parking and require additional planning for event parking.

Revisions to the CEQA Guidelines published in 2010 eliminate the provision of adequate parking as a significance criterion for traffic impacts, with the intent that use of alternative transportation is more protective of environmental quality. The Campus includes facilities supportive of alternative transportation in each of its new projects, rather than increased close-in parking.

**TRA-3C: Parking management systems.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Use of one mobile changeable message sign has helped direct visitors to specific areas of campus during major campus events. The campus completed installation of new street name signs throughout the campus in Summer 2013—a critical step toward improving on-campus wayfinding. Numerous campus staff are working to improve the quality and availability of web-based campus maps, including updates to Google Maps.

Additionally, in Spring 2012 TAPS implemented a new “smart-card” system for use with campus parking meters and pay stations to provide improved customer service (unused time returned to user’s card at end of stay) with lower operating costs (reduced cash handling and coin processing).

TAPS is also in the process of identifying and procuring a new Point-Of-Sale/Parking Management System for the campus. An early phase of this effort under consideration for implementation during 2017 may include the purchase and implementation of networked, hand-held units for sale of Event parking permits in the field.

**TRA-4A: Monitor transit efficiency.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

While on-campus traffic volumes have increased slowly (as indicated by semi-annual hose counts), large numbers of pedestrians crossing roadways within the central campus have resulted in longer transit cycle times during class break periods. Although Campus Transit and SCMTD buses continue to provide adequate transit cycle times, in Spring 2010 TAPS implemented a new “Traffic Control” program at selected crosswalks to manage pedestrian and vehicle traffic during class breaks. Studies conducted during Spring 2011 indicate a 20% improvement in Day Shuttle travel times between Oakes College and Cowell College when Traffic Control measures are in place: a 15-minute trip dropped to only 12 minutes with Traffic Control staff in place at three locations. The Traffic Control program has expanded to include five intersections.

TAPS completed testing of an updated Bus Tracking system for Campus Transit vehicles during Spring 2016, with a website and smartphone app named “Slugroute.com” providing real-time locational information throughout the campus.

SCMTD’s billable ridership by UCSC affiliates dropped by 0.5% during 2015-16.

**TRA-4B: Improve transit efficiency.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

As noted under TRA-4A, UCSC’s billable SCMTD ridership declined by 0.5% during 2015-16. In September 2015 SCMTD commenced a Comprehensive Operational Assessment (COA) to identify opportunities for improving the operational efficiency of existing public transit routes and schedules throughout Santa Cruz County, with the goal of mitigating budgetary shortfalls. While initial plans proposed a 25% service reduction countywide, the final plan (approved in June 2016 for implementation in September

2016) preserved service levels to UCSC's main campus while reducing service hours countywide by 11%. SCMTD service planning for 2016-17 will address UCSC's new instructional schedule, as well as anticipated enrollment growth.

UCSC began operating Night Owl service in September 2011 to maintain late-night transit access between Downtown Santa Cruz and the campus. Night Owl ridership during 2015-16 declined by nearly 9%, transporting a total of 34,695 passengers. In addition to participating in service reduction planning, TAPS staff also continued to work with representatives of the City of Santa Cruz, SCMTD and community representatives on a Public Transportation Alternatives work group as required under the 2008 Comprehensive Settlement Agreement. TAPS staff served on two additional technical advisory work groups concerning public transit: an AMBAG project to develop a Public Transit element of the regional traffic model; and a sustainable transportation effort (STARS) under the SCCRTC.

**TRA-4D-TAPS: Campus roadway and circulation improvements.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

No new roadway or circulation improvements were implemented during 2015-16.

**TRA-4E: Bicycle circulation improvements.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Since 2006, several bicycle circulation improvements have been made on-campus:

- An uphill Class II bike lane was constructed along Chiquapin Drive between McLaughlin Drive and Crown College in Summer 2009.
- An uphill Class II bike lane was added to Heller Drive during a two-phase roadway rehabilitation project. The section between Empire Grade and College Eight was completed in Summer 2009, and the section between College Eight and Core West Parking Structure entrance road was completed in Summer 2011.
- While not involving additional Class II bike lanes, three campus roadways were resurfaced during Summer 2014: Heller Drive between College Eight and Meyer Drive, Hagar Drive between OPERS and McLaughlin Drive, and Oakes Road. All three projects benefit bicyclists by improving the condition of the road surface.
- In August 2014 TAPS was awarded a California Active Transportation Program grant for \$383,000 to improve the UCSC Great Meadow Bike Path near the Village Road Crossing. Construction will occur during Summer 2016.

**TRA-4F: Wayfinding systems.**

**Responsible Unit: TAPS**

**Status: In Progress**

**Description of Status for 2015-16**

"Preliminary work for a Campus Pedestrian Plan started in Winter 2011. In Winter 2016 an Environmental Studies faculty member conducted a senior seminar, titled "Developing a Pedestrian Plan

**TRA-5B: Special event parking management.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Based on records collected by the Events Parking coordinator, the campus hosted 1,081 events during 2015-16, attracting approximately 275,000 attendees. This represents a 25% decrease in the number of events (primarily due to the end of UCSC's 50th Anniversary Year) and a 3% decline in attendance since 2014-15.

Event sponsors are not currently required to list their events in the online campus calendar. Campus units that don't list their events often impact the events of others. Work began in 2007-08 to improve the campus calendar, making it easier to use, and triggering notification of the TAPS Event Parking Office for events over a certain size. However, "rogue events" continue to create problems when multiple events occur simultaneously. Several work groups continue to meet to plan on-going major events (Commencement, Fall Move-In) and to address access impacts associated with campus construction and maintenance projects.

**TRA-5C: On-line parking permit sales and information.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Discussions have continued with Parking Enforcement, University Police, ITS, and Purchasing regarding identification, acquisition and implementation of a new integrated Point Of Sale (POS) and Parking Management system. An initial phase will likely include acquisition of new hand-held permit sales devices for use with Event Parking activities, with preliminary testing and implementation anticipated during 2017.

**TRA-5D: Campus Events Calendar System for traffic and parking management.**

**Responsible Unit: TAPS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Discussions have continued with Parking Enforcement, University Police, ITS, and Purchasing regarding identification, acquisition and implementation of a new integrated Point Of Sale (POS) and Parking Management system. An initial phase will likely include acquisition of new hand-held permit sales devices for use with Event Parking activities, with preliminary testing and implementation anticipated during 2017.

**TRA-6B-TAPS: Fair share contribution to freeway facility improvements.**

**Responsible Unit: TAPS**

**Status: Not Triggered**

**Description of Status for 2015-16**

There is no mechanism within Santa Cruz County for establishing and collecting fair share payments from projects that contribute to the need for freeway improvements. Therefore, this mitigation commitment has not been triggered. This mitigation was not required in 2015-16.

**UTIL-4: Improve recycling and waste reduction.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Efforts to recover recyclables at student move-in and move-out continue. Grounds Services maintained a CRV License and increased CRV tonnage hauled. CRV materials are recovered using a sorting line. Substantial efforts are being made to develop a collection system for compostable materials. A pilot project was continued in McHenry Library with collection systems for paper, containers, compost, and trash. The McHenry Library project diversion rate including Global Village Cafe is 80%. The diversion percentage as reported to UCOP for the entire campus was 67.6 %

**UTIL-9A-CUHS: Water efficient washing machines in student housing.**

**Responsible Unit: CUHS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The University entered into a Laundry Services Agreement on July 1, 2009 for a term of three years. In July, 2012 the term was extended through July 1, 2014. In 2014 the Agreement was extended through June 30, 2016.

Equipment specifications of the equipment provided by vendor per Agreement meet Mitigation requirements: "All machines must be water saving and energy efficient and certified by the Consortium on Energy Efficiency to have a water factor of 5.5 or less and a Modified Energy Factor (MEF) of 2.15 or greater."

A new contract is being developed that will also meet this water efficiency requirement.

**UTIL-9A-OPERS: Water-efficient washing machines.**

**Responsible Unit: OPERS**

**Status: Not Triggered**

**Description of Status for 2015-16**

OPERS did not purchase washing machines in the past year.

**UTIL-9A-PP: Leak detection and repair.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

Physical Plant continues to implement the leak detection program. On a monthly basis, the Campus Energy Manager provides a chart showing water usage from all the points where city water entering Campus. The Campus water specialist and plumbing staff compare the usage on a month by month basis. If there is an unexplained increase in any of the zones a visual inspection of the zone is conducted. If Campus plumbers cannot locate the leak, a leak detection contractor is called in to do an electronic sounding survey. After a leak is found, repairs are immediately scheduled and completed by an underground utility repair contractor.

In addition, the Campus has installed Beacon Cellular End Point System devices on 97 percent of Campus submeters. This is a web-based water management system that allows individual campus users to view water usage on an hourly basis on the web for the areas they manage. The system also provides alarms for continuous flows, which may indicate a leak, to which individual users also have access.

**UTIL-9B-PP: Pilot test high-efficiency plumbing fixtures.**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

See UTIL-9B-PP&C

**UTIL-9B-PPC: Pilot test high-efficiency plumbing fixtures**

**Responsible Unit: PP&C**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

In summer 2015, the Campus completed a rainwater catchment system to serve as the primary water source for toilet use at the Wellness Center. The Project is intended as a small-scale pilot project that will give the UCSC community the opportunity to monitor the effectiveness of rainwater harvesting and re-use at an industrial/educational facility and provide a working prototype for future rainwater catchment systems.

In 2015-16, the Campus began a project to replace 32, 2.5-gpf showers at OPERS with 1.5-gpf fixtures.

In 2014-15, the Campus carried out a pilot test of a water-saving system for existing autoclaves. To comply with a new requirement of the UC Policy on Sustainable Practices, the Campus has formed a working group to identify and develop a plan to replace the few remaining single-pass cooling systems in campus labs, and to install optimization kits on or replace constant-flow autoclaves.

**UTIL-9C: Water conservation education program for campus residents.**

**Responsible Unit: CUHS**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

1) In 2015-16, CHES focused on leak detection through water meter monitoring. Additionally, CHES conducted active fixture surveys of all residential areas for signs of water leaks during the Fall/Winter break of 2015 and Summer 2016. Leaks identified were addressed.

2) CHES has a designated Conservation Coordinator, who oversees water reduction for campus residents. This includes tabling at the Summer Orientation resource fair, distributing shower timers and replacing worn or missing mirror clings, magnets and hang tags.

**UTIL-9D: Campus water audit.**

**Responsible Unit: PP&C**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

Mitigation was completed in 2007.

**UTIL-9E-PP : Implement water audit recommendations.**

**Responsible Unit: Physical Plant**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

Completed in 2010-11

**UTIL-9E-PP : Implement water audit recommendations.**

**Responsible Unit: Physical Plant**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

Completed in 2010-11.

**UTIL-9F: Update water audit**

**Responsible Unit: Physical Plant**

**Status: Completed - Ongoing**

**Description of Status for 2015-16**

The Campus completed an update of the 2007 water audit in 2014-15. No additional work was required in 2015-16.

**UTIL-9G: Water re-use feasibility study.**

**Responsible Unit: PP&C**

**Status: Completed - No Further Action**

**Description of Status for 2015-16**

The water re-use study was completed in May 2009. No further action is required.

**UTIL-9H-CUHS: Retrofit plumbing fixtures in student housing within 5 years following approval of 2005 LRDP.**

**Responsible Unit: CUHS**

**Status: In Progress**

**Description of Status for 2015-16**

Replacement of toilets in Kresge and Oakes Apartments have been deferred due to code required accessibility improvements. Kresge College low flow fixtures will be incorporated into the capital renewal project for the college. The Oakes College Apartments are tentatively scheduled for a site-wide renewal in 2018, which will include retrofit with low flow toilets.

Crown College will undergo a 39 months major renovation project beginning the summer of 2017, at which time all toilets will be replaced with low flow units.

**UTIL-9I-Arb: Water conservation in drought emergency**

**Responsible Unit: Arboretum**

**Status: Not Triggered**

**Description of Status for 2015-16**

The City did not implement drought emergency measures in 2015-16.

**UTIL-9I-CASFS: CASFS reduce use of potable water for irrigation if City implements drought emergency measures.**

**Responsible Unit: CASFS**

**Status: Not Triggered**

**Description of Status for 2015-16**

The City did not implement drought emergency measures in 2015-16.

**UTIL-9I-CUHS: Require reduction in residential water use on campus if the City implements drought emergency management measures.**

**Responsible Unit: CUHS**

**Status: Not Triggered**

**Description of Status for 2015-16**

The City did not implement drought emergency measures in 2015-16.

**UTIL-9I-PP: Water conservation in drought emergency.**

**Responsible Unit: Physical Plant**

**Status: Not Triggered**

**Description of Status for 2015-16**

The City did not implement drought emergency measures in 2015-16.