Sunshine Canyon Landfill

Independent Monitor

DRAFT Initial Report

September 21, 2011 – November 14, 2011

For

City of Los Angeles Department of City Planning

And

County of Los Angeles

Department of Regional Planning

Prepared For:

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Contents

Executive Summary

This Sunshine Canyon Landfill Independent Monitor November 2011 Report (Report) has been prepared by UltraSystems Environmental, Inc. (UltraSystems) for the Joint City/County Technical Advisory Committee to address required monitoring activities which are part of City Conditions, included within Ordinance No. 172,933; and County Conditions included within Conditional Use Permit No.00-194 (CUP) for the Sunshine Canyon Landfill (Site) located in Sylmar, California.

A comprehensive database previously compiled by the City of Los Angeles (i.e., Sunshine Canyon Landfill Local Enforcement Agency Mitigation and Monitoring Database or Database), was used to determine the monitoring tasks for the joint City/County Monitoring Program. The Database included all of the landfill conditions and mitigation measures for all agencies and totaled over 1,700 requirements, which included all of the mitigation measures and project conditions of both the City and County. From this Database, a refined list of City/County conditions and mitigation monitoring tasks was generated by UltraSystems that included work tasks covered under the scope of work described in the Mitigation Monitoring RFP issued on June 2010 by the Los Angeles County Department of Regional Planning. This condensed list was then sent to the City and County Planning Departments for their comment. The list was finalized by UltraSystems, under guidance from the City/County with additional requests to include additional conditions and mitigation measures for UltraSystems review. The conditions and mitigation measures were sorted by UltraSystems by topical discipline for evaluation. The Monitoring Program was subsequently approved on September 21, 2011 by the City/County. This Monitoring Program is expected to change once conditions or mitigation measures are added or completed.

From September 21, 2011 through November 14, 2011, approximately 177 City and 227 County conditions have been assessed through the review of appropriate records, meetings with Republic Services, the local enforcement agencies (LEAs) and the Planning Departments' staff, as well as field verification through site visits. This initial monitoring Report reflects two site visits conducted by UltraSystems and performed on October 21, and November 14, 2011.

Over the course of a two-and-a-half month monitoring period, UltraSystems conducted monitoring activities to assess the status of compliance of all operational activities in the City/County Conditions of Approval and Mitigation Monitoring requirements, as defined in the approved Monitoring Program. Summary tables and actions items are provided that summarize the landfill's compliance status. In the future, the landfill site will be monitored at least bi-monthly, by required technical professionals in the subject disciplines (defined below).

Background

UltraSystems was awarded a Contract for Mitigation Monitoring Services for the City and County of Los Angeles, by the Joint City/County Technical Advisory Committee on May 11, 2011. The County proceeded with the drafting of a Joint City/County Contract, and UltraSystems was given its Notification to Proceed (NTP) on August 16, 2011.

Introduction

The City/County Project Conditions are divided into eight topical disciplines:

- Project Manager
- Civil and Geotechnical Engineer
- Hydrologist
- Biologist
- Air Quality and Noise Specialist
- Hydrology, Hazardous Waste / Risk of Upset
- Archaeologist
- Paleontologist

Each consulting professional of UltraSystems became familiar with the Sunshine Canyon Landfill operations by reviewing permit documents, and technical background information specific to the area of expertise, and their expected monitoring tasks. Each discipline has discrete tasks for City/County monitoring compliance.

Note: These tasks are delineated in the Sunshine Canyon Landfill City and County Mitigation Monitoring Summaries (included herein). In the electronic form, the full wording of the condition should be read by selecting "unhide" between the condition column and the monitoring frequency column.

During each site visit, each consulting discipline will complete a mitigation monitoring site report, complete its status, and note any action required in the Sunshine Canyon Landfill City and County Mitigation Monitoring Summary Tables. Any issues that require immediate attention will be reported to the appropriate staff at the City of Los Angeles Planning Department, the County of Los Angeles Department of Regional Planning, County of Los Angeles Department of Public Works and the Sunshine Canyon Lead Enforcement Agency (SCL-LEA).

The Sunshine Canyon Landfill City and County Summary Table record each site visit or frequency, by date. When a condition is monitored, a check mark is indicated next to the task monitored, and the date it was monitored by the subject consultant. Tasks with a yearly or non-ongoing monitoring frequency are denoted by a forward slash (/) in subsequent date columns. In the compliance status column, the letter "C" is put next to the task if it is in Compliance; the letters "NC" is noted if the task status is Non-Compliance; and the letters "WTC" is used if the operator is Working Toward Compliance.

Under the Comments column; those actions that may be taken to meet or improve compliance are noted by a reference to the Appendices; more specifically, Appendix I. Also noted are those action items that would improve monitoring efficiency by having reports and documents readily available. Any Non-compliance or Working Toward Compliance tasks will be identified in the respective sections, which follow.

Field Verification

Two site visits were performed by UltraSystems on October 21, 2001, and November 14, 2011, in order to observe operational site activities and determine compliance status. The previously discussed Conditions were tracked by each discipline, and observations were documented by UltraSystems personnel. Again, Conditions were noted to be: In Compliance, Non-compliance, or Working Toward Compliance. If a Condition was found to be in Non-compliance or Working Toward Compliance, an "action required," was noted to address this Condition.

Terms

Non-compliance is defined as not complying with the City and County Conditions of Approval and Mitigation Measures.

Working Toward Compliance is defined as implementing plans (agency-approved, if required) to fully comply with a Condition of Approval or Mitigation Measure. Some plans, especially vegetation, require an extended time frame and immediate compliance is not possible.

Non-Compliance

During UltraSystems' two site visits, no Non-compliance with Conditions of Approvals or Mitigation Measures were noted. It must be noted that any monitoring related to landfill gas and odors are not part of the UltraSystems Monitoring Program at this time. These issues are currently being handled by a multi-agency team, which is led by the South Coast Air Quality Management District (SCAQMD).

Working Toward Compliance

For the following specific Conditions or Mitigation Measures that are Working Toward Compliance, the Condition is noted, and the Current Status and Comments are explained below, they include:

Q-C.3.g (City) and DPW-EPD-6.03 (County)
All access roads to permanent facilities, excepting those used infrequently, shall be paved.

Current Status/Comments - On January 11, 2011, a landslide occurred during excavation on an area for Future Cell CC-2. As a result of the landslide, existing paved access roads to permanent facilities were impacted. Currently, these roads are being realigned and will be paved, according to Republic Services. Temporary unpaved roads are being used to access these facilities.

T-4 (City)
Prepare a plot plan ["fire plan"] to the satisfaction of the Fire Depart.
a. immediate access fire plan [now]
b. plot plan for the future facilities will be submitted when these are implemented

Current Status/Comments - An updated "Fire Plan" should be developed, and submitted to the City/County Planning Departments and the City and County Fire Departments showing the locations of current facilities, water sources, firefighting facilities, equipment storage and maintenance areas, and access roads.

M-4.14(11) (City) and Geology-1.02 (County)

(Partial) Final designs for major engineering structures shall be based on the results of the detailed stability analyses of potential seismic events.

Current Status/Comments - One of the three large tanks at the new Leachate Treatment Facility near the entrance was not secured with cables or anchors. The smaller tanks, located on skids are not secured to the slab. These tanks must be secured in accordance with the City of Los Angeles' Building and Safety Codes.

M-4.3.1(43) (City) and DPW-EPD-2.10 (County)
Sediment shall be cleaned out of the sedimentation basins after every significant storm.

Current Status/Comments - Sediments noted in the channel on the north side of the Landfill between Basin A and Basin D during the site visit of October 21, 2011 were removed by the time of the visit conducted on November 14, 2011. Also, the check dam isolating the channel from Basin D had been removed. There were still sediments in the terminal basin on November 14, 2011; those sediments should be removed before the next significant storm event.

M-4.1.1(6), M-4.2.11(23), M-4.2.12 (City), DPW-EPD Geology 1.13 and Geology 1.14 (County)
(Summarized) Revegetation of slopes and interim cover areas to control erosion.

Current Status/Comments - Hydroseeding is in process. Approximately 55 of the 85 total acres (City/County-side combined) have been hydroseeded, as of November 14, 2011. In the areas where Coastal Sage mitigation is growing, eroded areas may need special attention such as hand-shovel or packing eroded areas with straw and/or securing the soil with jute netting.

M-4.4.1(6) (City) and DPW-EPD Biota 4.28 (County)
Venturan Coastal Sage Scrub
A detailed conceptual plan shall be prepared by the project proponent and contain specific information on planting maintenance, and monitoring. A revegetation plan that included Coastal Sage Scrub restoration can feasibly occur onsite. The implementation plan will provide onsite mitigation greater than 1:1 to offset the loss of Sage Scrub.

Current Status/Comments - An update to the 2008 Revegetation Plan is scheduled for submission to the City during the fourth quarter of 2011. The new plan will incorporate lessons learned from vegetation efforts, since 2008. The majority of the sage mitigation area currently contains degraded CSS habitat that exhibits a low density of native plants and a high density of non-native plant species. Several large patches of bare ground also exist. Therefore, it appears that the onsite mitigation target of 1:1 Coastal Sage Scrub replacement is currently not being met. The forthcoming Revegetation Plan should include detailed strategies to increase the cover of native shrubs and forbs, and decrease cover of non-native forbs and grasses.

Record Review

While monitoring the Landfill Site, documents and reports were provided by Republic for review and to confirm compliance with the Project Conditions.

Table I provides a list of referenced documents used by UltraSystems for compliance verification.

Table II provides a list of documents and reports that the City/County requested UltraSystems technical review.

Program Management

Over the course of this monitoring period, UltraSystems provided personnel specializing in eight topical disciplines to effectively monitor the Conditions.

Meetings

Over the course of this monitoring period, UltraSystems attended one meeting with the LEA, City/County staff on September 21, 2011, and one meeting with Republic on October 5, 2011.

Site Visits

Over the course of this monitoring period, UltraSystems conducted two site visits on October 21, 2011, and November 14, 2011. Table III contains the names of attendees.

Conclusions

In this initial period, UltraSystems has monitored the majority of the Mitigation Measures and Conditions of Approval for the City/County, as shown on the Mitigation Monitoring Summaries. The tasks not yet monitored and the documents not yet reviewed relate to the following: Alternate Fuel Vehicles, Utilities, Water and Firewater, Landfill Closure Details, Corrective Landslide Remediation, Ongoing Drainage Plans, and Perimeter Boundary Compliance.

All of the Operations Monitoring Tasks have been monitored by UltraSystems personnel. As shown by the Non-Compliance and Working Toward Compliance sections above, the Landfill is actively working toward full compliance on many conditions and mitigation measures. Furthermore, monitoring of the tasks will track progress and completion when accomplished. Notwithstanding the above, air quality issues are **not** being actively monitored by UltraSystems and **may not** be in compliance.

Sunshine Canyon Landfill Mitigation Monitoring Summary / City – See Excel Spreadsheet

Sunshine Canyon Landfill Mitigation Monitoring Summary / County – See Excel Spreadsheet

Appendix I-a
Monitoring Comments
October 21, 2011 Site Visit

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
Project Manager	Q - C.3.g		City Planning / SCL-LEA	On January 11, 2011, a landslide occurred during excavation on an area for future cell CC-2. As a result of the landslide, existing paved access roads to permanent facilities were impacted. Currently, these roads are being realigned and will be paved. Temporary unpaved roads are being used to access these facilities.
	Q - C.10.c		City Planning / SCL-LEA	The 2010 Annual Report dated June 1, 2011 stated that the CEQA review for a gas-to-energy project by Sunshine Gas Producers, LLC, was scheduled to be completed in the 3rd Quarter of 2011. The SCAQMD permit approval was anticipated to be given in June 2011, and construction was expected to start in the 1st Quarter of 2012. An update should be provided before the end of this year considering that the site development for the project could start as soon as January 2012.
	T - 4		City Planning / SCL-LEA	An updated "Fire Plan" should be developed and submitted to the City and County Planning and Fire Departments showing the locations of current facilities, firewater sources and fire-fighting facilities, equipment storage and maintenance areas, and access roads.
	M - 4.2.13 / 29		City Planning / SCL-LEA	Compliance with these mitigation measures, concerning landfill gas monitoring and odor control and detection, is being monitored by a multi-agency team led by the SCAQMD. Only obvious gas emission sources or lack of cover or exposed trash resulting in odor and gas emissions seen in UltraSystems' routine monitoring visits will be reported. None were observed during this site visit.
	M - 4.2.13 / 30		City Planning / SCL-LEA	See 4.2.13 / 29, above
	M - 4.2.13 / 33		City Planning / SCL-LEA	See 4.2.13 / 29, above
	M - 4.2.13 / 34		City Planning / SCL-LEA	See 4.2.13 / 29, above

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
	M - 4.4.2 / 69		City Planning	Republic staff reported on October 21, 2011 that the City asked for an extension of time to the 1st quarter of 2012 to have DWP transfer lands they own in the old Chatsworth Reservoir to the City Department of Recreation and Parks. This land transfer delay could cause a delay in the creation of wetland mitigation.
	M - 4.16.4 / 176			Reclaim water lines from the Tillman Wastewater facility have not been extended into the project area.
		Amendment 45.N –4.a / 45N - CUP	County DPW-EPD	Compliance with these mitigation measures, concerning landfill gas monitoring and odor control and detection, is being monitored by a multi-agency team led by the SCAQMD. Only obvious gas emission sources or lack of cover or exposed trash resulting in odor and gas emissions seen in UltraSystems' routine monitoring visits will be reported. None were observed during this site visit.
		Amendment 45.N – 4.c / 45N - CUP	County DPW-EPD	See 45.N –4.a / 45N, above
Project Manager		Amendment 45.N - 4.d / 45N - CUP	County DPW-EPD	See 45.N –4.a / 45N, above
		Amendment 45.N – 5 / 45N - CUP	County DPW-EPD	See 45.N –4.a / 45N, above
		Air Quality Monitoring – 81 / 81 - CUP	TAC	See 45.N –4.a / 45N, above
		IMP - Part I.A / IMP1 - CUP	County DPW-EPD	See 45.N –4.a / 45N, above
		MP - Part VI / IMP6 - CUP	County DPW-EPD	See 45.N –4.a / 45N, above

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
		Geology - 1.15 – CUP-IMP Part II & Part X	County DPW-EPD	The use of alternative daily cover has been stopped by the SCAQMD Abatement Order.
		Groundwater - 3.14 - CUP	County DPW-EPD	Groundwater wells are in place and monitored. See Risk of Upset for comments on monitoring results.
		Air Quality - 6.03 - CUP	SCL-LEA	On January 11, 2011, a landslide occurred during excavation on an area for future cell CC-2. As a result of the landslide, existing paved access roads to permanent facilities were impacted. Currently, these roads are being realigned and will be paved. Temporary unpaved roads are being used to access these facilities.
		Air Quality - 6.06 - CUP	County DPW-EPD	See above comment for Amendment 45.N –4.a /45N
		Air Quality - 6.07 - CUP	County DPW-EPD	See above comment for Amendment 45.N –4.a /45N
		Air Quality - 6.08 - MMRS	SCL-LEA	See above comment for Amendment 45.N –4.a /45N
		Odor/Landfill Gas – 7.01 - CUP	SCL-LEA	See above comment for Amendment 45.N –4.a /45N
		Odor/Landfill Gas – 7.02 - CUP	SCL-LEA	See 45.N –4.a / 45N, above
		Traffic/Circulation – 8.13 - CUP	SCL-LEA	Queuing of trucks prior to opening is prohibited by the SCAQMD Abatement Order.
		Site - 15.11 - CUP	County DPW-EPD	Reclaimed water lines from the Tillman Wastewater facility have not been extended into the project area. Republic should invest if there are any plans to extend the Los Angeles reclaimed water system to the landfill vicinity.
Civil and Geotechnical Engineer	M - 4.1.2 / 9		City Planning	Some areas along the descending access road need to be reworked. Large erosion gullies were observed that could deepen during large rainstorm. See Photo 1 in Appendix II – Photo Log.

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
Hydrologist	M - 4.3.1 / 43		City Planning	The section of the perimeter concrete drainage on the west side of County Landfill could be cleaned up. (See Photo 2 in Appendix II) and the main sedimentation basin also contain a fair amount of sediments that should be cleaned up before the rainy season. See Photos 2 and 3 in Appendix II.
Biologist	M - 4.1.1 / 6		City Planning	A few exposed slopes on the city side show evidence of erosion (see photo in Appendix II). A plan should be developed to address erosion in these areas (e.g. all eroded areas could be shovel packed with straw and/or secured with jute netting to prevent further erosion).
	M - 4.2.11 / 23		City Planning	Hydroseeding is in preparation (see photo in Appendix II).
	M - 4.2.12		City Planning	Hydroseeding is in preparation (see photo in Appendix II).
	M - 4.4.1 / 60		City Planning	An update to the 2008 revegetation plan is scheduled for submission to the City in the fourth quarter of 2011. The new plan will incorporate lessons learned from revegetation efforts since 2008. Unfortunately, the majority of the sage mitigation area currently contains degraded CSS habitat that exhibits a low density of native plants and a high density of non-native plant species (see photos in Appendix II). Several large patches of bare ground also exist (see photos in see photo in Appendix II). It therefore appears that the onsite mitigation target of 1:1 coastal sage scrub replacement is currently not being met. The forthcoming revegetation plan ought to include detailed strategies to increase cover of native shrubs and forbs and decrease cover of non-native forbes and grasses.
	M - 4.4.1 / 61		City Planning	Topsoil and seed from Sunshine Canyon was used in the initial efforts to restore coastal sage scrub on the city side. This material was sourced and translocated from previously cleared areas of the landfill. Because this local supply of seed and topsoil has been largely exhausted, and no onsite CSS vegetation is currently being cleared, seed is currently purchased from a reputable seed vendor (S&S Seed Co.) and soil is composed of poor quality sub-soil (e.g. low pH, high salinity, low phosphorus, etc.) collected onsite. The forthcoming revegetation plan is expected to include methods for amending subsoils used for future CCS mitigation planting.
	M - 4.4.1 / 64		City Planning	No native vegetation or habitat is currently being significantly impacted by

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				landfill activities. Therefore, surveys for this species are not required at the present time. If native vegetation will be impacted in the future (e.g. from road realignment), performing species-level surveys may be appropriate.
Biologist	M - 4.4.1 / 65		City Planning	See M - 4.4.1 / 64, above.
	M - 4.4.1 / 66		City Planning	See M - 4.4.1 / 64, above.
	M - 4.4.1 / 67		City Planning	See M - 4.4.1 / 64, above.
	M - 4.4.1 / 68		City Planning	See M - 4.4.1 / 64, above.
	M - 4.4.2 / 69		City Planning	Republic staff reported on October 21, 2011 that the City asked for an extension of time to the 1st quarter of 2012 to have DWP transfer lands they own in the old Chatsworth Reservoir to the City Department of Recreation and Parks. This land transfer delay could cause a delay in the creation of wetland mitigation.
	M - 4.4.3 / 72		City Planning / Street Trees	According to the 2011 Oak Tree report, the required 2:1 replacement of oaks is currently being satisfied. The May 2010 Report to the Joint Sunshine Canyon Landfill Technical Advisory committee, however, indicated that 11 big cone firs and 22 oaks were unintentionally removed from the City side and that mitigation planting for these impacts would occur in the fall. Once these plantings are completed, documentation should be sent to the agencies to verify their completion.
	M - 4.4.3 / 74		City Planning	Mitigation planting in the 100 acre open space buffer is currently in compliance. In 2010, 250 additional oak trees were planted in the buffer area to mitigate for the loss of 248 trees damaged or killed in a 2008 fire. None of the dead oak trees were removed from the site because of their potential ecological value to wildlife. Their existence may however conflict with conditions related to aesthetics.
	M - 4.4.3 / 79		City Planning	No action required. Evidence of mulch surrounding recently planted oak trees (e.g. the PM_{10} berm area).
	M - 4.4.3 / 80		City Planning	No action required. Drip system observed and appears functional.
	M - 4.4.3 / 82		City Planning / Street	No action required. Have received and reviewed drafts of the 2011 Oak tree report and 2010 PM_{10} tree report.

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
			Trees	
	M - 4.9.2 / 103		SCL-LEA	Little scavenging activities from birds, coyotes, skunks, is observed but no one is monitoring or collection data at night. Could have someone do a night survey for wildlife.
		Revegetation - 44.A / 44.A - CUP	SCL-LEA	Hydroseeding is in preparation (see photos see photo in Appendix II). Slopes have been graded and straw wattles set down.
		Revegetation - 44.E / 44.E - CUP	SCL-LEA	In addition to the provisions addressed above, a consultant has been retained by the Permittee to provide recommendations to improve revegetation in the sage mitigation areas. The most current list of recommendations for the county sage mitigation areas are outlined in Appendix B (Sage Monitoring Report) of the Second Quarter Vegetation Report.
		Geology - 1.13 – CUP-IMP Part X	County DPW-EPD	Several exposed slopes on the county side show evidence of erosion (see photo "county sage erosion"). A plan should be developed to address erosion in these areas (e.g. all eroded areas could be shovel packed with straw and/or secured with jute netting to prevent further erosion).
		Geology - 1.14 - CUP-IMP Part X	County Forester	A large area of interim slopes were recently lined with straw wattles to manage erosion. Very little erosion is currently present on these interim slopes (See photo in Appendix II). However, several slopes within the county sage mitigation area are eroded (see photo in Appendix II). A plan should be developed to address erosion in these areas (e.g. all eroded areas could be shovel packed with straw and/or secured with jute netting to prevent further erosion and then container planted).
		Groundwater -	County	A consultant has been retained by Republic to ensure supplemental

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
		3.11 - CUP	DPW-EPD	irrigation is applied appropriately and drought-tolerant native plants are used in seeding and plantings. Need to confirm rate of watering for Oak trees from drip system.
		BIOTA – 4.27 - CDFG	SCL-LEA	An update to the 2008 revegetation plan is scheduled for submission to the County in the fourth quarter of 2011. The new plan will incorporate lessons learned from revegetation efforts since 2008. Unfortunately, the majority of the sage mitigation area currently contains degraded CSS habitat that exhibits a low density of native plants and large areas of bare, eroded ground (see photos in Appendix II). It therefore appears that the onsite mitigation target of 1:1 coastal sage scrub replacement is currently not being met. A biological consultant retained by the Permittee has provided recommendations to improve revegetation in the sage mitigation areas. The most current list of recommendations for the county sage mitigation areas are outlined in Appendix B (Sage Monitoring Report) of the Second Quarter Vegetation Report. Furthermore, the forthcoming revegetation plan ought to include detailed strategies to increase cover of native shrubs and forbs and decrease cover of non-native forbes and grasses.
		BIOTA – 4.28 - CDFG	SCL-LEA	Topsoil and seed from Sunshine Canyon was used in the initial efforts to restore coastal sage scrub. This material was sourced and translocated from previously cleared areas of the landfill. Because this local supply of seed and topsoil has been largely exhausted, and no onsite CSS vegetation is currently being cleared, seed is currently purchased from a reputable seed vendor (S&S Seed Co.) and soil is composed of poor quality sub-soil (e.g. low pH, high salinity, low phosphorus, etc.) collected onsite. The forthcoming revegetation plan is expected to include methods for amending subsoils used for future CCS mitigation planting.

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
		BIOTA – 4.37 – CUP-IMP Part VI & Part X	County Forester	The effectiveness of soil amendments and mulch additions was examined in 2009 and 2010. Apparently these approaches as implemented did not result in noticeable improvements in vegetation. Before abandoning liming and other soil amendments as tools for improving soil conditions for plant growth, adequate evidence that liming and calcium additions did not work when correctly applied should be supplied. A detailed description of methods and results from these experiments should be addressed in the forthcoming Revegetation Plan.
		BIOTA – 4.39 – CUP-IMP Part VI & Part X	County DPW-EPD	A biological consultant was retained by the Permittee to monitor the revegetation of final fill and sage mitigation areas, and to provide recommendations for their enhancement. Unfortunately, the majority of the sage mitigation area currently contains degraded CSS habitat that exhibits a low density of native plants and large areas of bare, eroded ground (see photos in Appendix II). The current list of recommendations for the county sage mitigation areas are outlined in Appendix B (Sage Monitoring Report) of the Second Quarter Vegetation Report. Furthermore, the forthcoming revegetation plan ought to include detailed strategies to increase cover of native shrubs and forbs. A new hydroseed was recently approved that uses all native species and expands the plant pallet substantially.
		BIOTA – 4.41 – CUP-IMP Part VI	County DPW-EPD	Topsoil and seed from Sunshine Canyon was used in the initial efforts to restore coastal sage scrub. This material was sourced and translocated from previously cleared areas of the landfill. Because this local supply of seed and topsoil has been largely exhausted, and no onsite CSS vegetation is currently being cleared, seed is currently purchased from a reputable seed vendor (S&S Seed Co.) and soil is composed of poor quality sub-soil collected onsite. Such soil is very likely to lack the microbial communities which have been shown to aid in plant restoration. The forthcoming revegetation plan should include methods for amending subsoils used for future CCS mitigation

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				planting.
Biologist		BIOTA – 4.42 – CUP-IMP Part VI & Part X	SCL-LEA	See action required for County DPW EPD condition "Revegetation - 44.A".
		Air Quality - 6.02 - CUP	SCL-LEA	See action required for County DPW EPD condition "Revegetation - 44.A".
		Visual – 10.08 – CUP-IMP Part VI	SCL-LEA	See action required for County DPW EPD condition "Revegetation - 44.A".
		Visual – 10.09 – CUP-IMP Part VI	SCL-LEA	Newly approved seed mix contains all native species, all of which are drought tolerant. Several additional species were included that are particularly tolerant of salty soils. Records should be kept on the success of using this seed mix.
Air Quality and Noise Specialist		Air Quality Monitoring – 81 / 81 - CUP	TAC	Compliance with these mitigation measures, concerning landfill gas monitoring and odor control and detection, is being monitored by a multi-agency team led by the SCAQMD. Only obvious gas emission sources or lack of cover or exposed trash resulting in odor and gas emissions seen in UltraSystems' routine monitoring visits will be reported. None were observed during this site visit.
		Odor/Landfill Gas – 7.03 – CUP-IMP Part X	SCL-LEA	See Air Quality Monitoring – 81 / 81, above
		Odor/Landfill Gas – 7.03 – CUP-IMP Part X	SCL-LEA	See Air Quality Monitoring – 81 / 81, above
		Odor/Landfill Gas – 7.03 – CUP-IMP Part X	SCL-LEA	See Air Quality Monitoring – 81 / 81, above
		Odor/Landfill Gas – 7.03 – CUP-IMP Part X	SCL-LEA	See Air Quality Monitoring – 81 / 81, above

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
		Odor/Landfill Gas – 7.03 – CUP-IMP Part X	SCL-LEA	See Air Quality Monitoring – 81 / 81, above
		Odor/Landfill Gas – 7.03 – CUP-IMP Part X	SCL-LEA	See Air Quality Monitoring – 81 / 81, above
		Admin Reports/ Pgms-17.16 - CUP	SCL-LEA	See Air Quality Monitoring – 81 / 81, above
Hydrology, Hazardous Waste / Risk of Upset	M - 4.3.2 / 53	Groundwater 3.06 & 3.14 - CUP	County DPW-EPD / City Planning	Testing frequency in compliance; however, the Groundwater and Waste Disposal Monitoring Report for the First Semi-Annual Monitoring Period of 2010, Sunshine Canyon County/City Landfill, Sylmar, California, RWQCB File No. 58-076 shows exceedances of Site WQPS. Also, VOCs were detected.

Appendix I-b
Monitoring Comments
November 14, 2011 Site Visit

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
Project Manager	Q - C.3.g		City Planning / SCL-LEA	The access roads are still under construction. Temporary unpaved roads are being used to access permanent facilities until all realignment construction is completed.
	T - 4		City Planning / SCL-LEA	An updated Fire Plan is pending development.
	M - 4.2.13 / 29		City Planning / SCL-LEA	Compliance with these mitigation measures, concerning landfill gas monitoring and odor control and detection, is being monitored by a multi-agency team led by the SCAQMD. Only obvious gas emission sources or lack of cover or exposed trash resulting in odor and gas emissions seen in UltraSystems' routine monitoring visits will be reported. None were observed during this site visit.
	M - 4.2.13 / 30		City Planning / SCL-LEA	See M - 4.2.13 / 29, above.
	M - 4.2.13 / 33		City Planning / SCL-LEA	See M - 4.2.13 / 29, above.
	M - 4.2.13 / 34		City Planning / SCL-LEA	See M - 4.2.13 / 29, above.
	M - 4.4.2 / 69		City Planning	A new scheduled for the start of construction to create wetlands at the Chatsworth Reservoir site should be developed and provided to the City and County agencies. A copy of notification letters to the State (CDF&G and RWQCB) and Federal agencies (USCOE) should also be provided to the City and County agencies.
	M - 4.7.1 / 86		City Planning	The 100-acre open space buffer area south of the southern berm of the closed portion of the City Landfill was impacted by the 2008 Station Fire and some of the trees in this area were burned and have not re-sprouted.

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				An agency interpretation of this condition as to whether "enhance" in this condition means that the burnt trees should be removed or if there is a beneficial reason to leave them in place.
	M - 4.9.6 / 128		City Planning / SCL-LEA	All habitable structures were checked and it was confirmed that these structures had 120V hardwired combustible gas detectors. These units were all properly working and were on a monthly service maintenance contract with an outside firm.
	M - 4.9.6 / 130		City Planning	All condensate treatment is being done near the City scale house and scales, which is beyond the 500-foot restriction.
	M - 4.16.4 / 177		City Planning / DWP / LADBS	The project owner, in addition to using the recommended conservation measures, has implemented the treatment and re-use of landfill gas condensate, leachate, seep and cut-off wall water in lieu of potable water for use as dust control and site irrigation. Republic indicated that they treat and re-use approximately 110,000 gallons per day of the daily use requirement of 200,000-250,000 gal/day.
		County Condition Landfill Capacity – 27 - CUP	County DPW-EPD	No program is in place for charging differential fees for partial load trucks. SCAQMD restrictions may have an impact on early arrivals for some transfer trucks and may shift their last deliveries into peak hours. A program that reflects current conditions needs to be developed.
		Grading & Drainage – 41.A - .D / 41 A-D - CUP	SCL-LEA	Republic has implemented all mitigations except for the use of water wells within Sunshine Canyon. Prior requests for use of water wells were not approved. A request to use water from wells within Sunshine should be investigated.
		Revegetation - 44.F / 44.F - CUP	County DPW-EPD	Republic has retained a biologist to perform soils testing and the results seem to be inconclusive. A summary of what soil amendments that are recommended for interim cover, final cover and sage mitigation areas should be provided to the City and County by the Republic biologist.

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
		Gas – 52 / 52 - CUP	SCL-LEA	The 2010 Annual Report dated June 1, 2011 stated that the CEQA review for a gas-to-energy project by Sunshine Gas Producers, LLC, was scheduled to be completed in the 3rd Quarter of 2011. The SCAQMD permit approval was anticipated to be given in June 2011, and construction was expected to start in the 1st Quarter of 2012. An update should be provided before the end of this year considering that the site development for the project could start as soon as January 2012. Landfill gas collection and odor control are not being monitored by UltraSystems. They are being monitored by a multi-agency team led by the SCAQMD. The flare conditions are being complied with.
		Air Quality - 6.03 - CUP	SCL-LEA	The access roads are still under construction. Temporary unpaved roads are being used to access permanent facilities until all realignment construction is completed.
		Traffic/Circulation – 8.08 - CUP	SCL-LEA	No program is in place for charging differential fees for partial load trucks. SCAQMD restrictions may have an impact on early arrivals for some transfer trucks and may shift their last deliveries into peak hours. A program that reflects current conditions needs to be developed.
		Water Conservation - 11.01 - CUP	SCL-LEA	Republic, in addition to using the recommended conservation measures, has implemented the treatment and re-use of landfill gas condensate, leachate, seep and cut-off wall water in lieu of potable water for use as dust control and site irrigation.
Civil and Geotechnical Engineer		Admin Reports / Programs - 17.10 - CUP	County DPW-EPD	The current fill sequence plan was not reviewed and a copy needs to be supplied to UltraSystems by Republic.

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
	M - 4.1.2 / 8		City Planning / SCL-LEA / LADBS	Excavation of the landslide that occurred at the location of the old Leachate Collection and Treatment Facility (LCTF) is on-going. At the meeting held on 11/14/2011, Ali Mehr stated that an Engineering Geologist was monitoring the removal and clean-up of landslide material. It is suggested that the reports of the engineering geologist activities/observations during removal operations be provided to the agencies.
Civil and Geotechnical Engineer	M - 4.1.2 / 9		City Planning / SCL-LEA / LADBS	Areas of loose soil were noted during the initial visit of 10/21/2011 but most had been cleaned-up by 11/14/2011.
	M - 4.1.4 / 10		City Planning / SCL-LEA / LADBS	The new LCTF near the main entrance of the landfill (at San Fernando Road) includes three large polyethylene tanks and a series of smaller tanks. One of the three tanks was not anchored correctly.
	M - 4.1.4 / 11		City Planning / SCL-LEA / LADBS	The design report for the LCTF, a major engineered structure, should be available for review by the agencies
	M - 4.3.2 / 55		City Planning / SCL-LEA	Landfill operations are monitored by the agencies.
	M - 4.3.2 / 56		City Planning / SCL-LEA	Daily cover requirements comply with those specified in the abatement order and consist of the placement of 9 inches of soil at the end of each day.
	M - 4.14.1 / 155		City Planning / SCL-LEA / LADBS	This condition will be monitored when construction begins.
	M - 4.18 / 178		City Planning / SCL-LEA	The landfill design documents showing final closure elevation should be made available for review at the landfill.
		Geology - 1.02 / Seismic Design – CUP-IMP Part I	County DPW-EPD	The new LCTF near the main entrance of the landfill (at San Fernando Road) includes three large polyethylene tanks and a series of smaller tanks. One of the three tanks was not anchored correctly. Design report

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				and applicable permits should be available for review by agencies on site.
		Geology - 1.05 / Unsuitable Material Procedures - CUP	County DPW-EPD	Excavation of the landslide that occurred at the location of the old Leachate Collection and Treatment Facility (LCTF) is on-going. At the meeting held on 11/14/2011, Ali Mehr stated that an Engineering Geologist was monitoring the removal and clean-up of landslide material. It is suggested that the reports of eh engineering geologist activities/observations during removal operations be provided to the agencies.
		Geology - 1.07 / Grading Activities Procedures - CUP	County DPW-EPD	The comprehensive geotechnical report referred to in the Condition should be available on site for review by Agencies.
		Surface Water - 2.03 / Surface Drainage Control Facilities - CUP	County DPW-EPD	Ditches and slip-slide are installed at landfill to control stormwater towards retentions and final sedimentation basin at entrance of landfill. Since it is an evolving document, the drainage plan should be available on site for consultation by agencies.
Hydrologist	M - 4.3.1 / 36		City Planning / SCL-LEA / LADBS	Ditches and slip-slide are installed at landfill to control stormwater towards retentions and final sedimentation basin at entrance of landfill. Since it is an evolving document the drainage plan should be available on site for consultation by agencies
	M - 4.3.1 / 37		City Planning / SCL-LEA / LADBS	It is assumed herein that the permanent drainage channels are designed in accordance with the referenced regulations. The design report should be available for review by the agencies.
	M - 4.3.1 / 39		City Planning / SCL-LEA / LADBS	Map showing areas that are at final elevations and should be under final cover should be available to the agencies.
	M - 4.3.1 / 43		City Planning / SCL-LEA / LADBS	Sediments noted in the channel on the north side of landfill between Basin A and Basin D during the visit of 10/21/2011 were removed by the time of the visit conducted on 11/14/2011. Also, the check dam isolating

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				the channel form Basin D had been removed (See attached Figure 30 for terminology). There were still sediments in the terminal basin on 11/14/2011.
	M - 4.3.1 / 45		City Planning / SCL-LEA / LADBS	Sand bags, K-rails and other BMPS are present on site and seem to have performed as intended. Some areas exhibited erosion gullies and should be addressed by placing additional BMPs to slow down flow. It is recommended that the erosion plan (which should be a living document to keep up with construction) should be available for review on site.
	M - 4.3.1 / 46		City Planning / SCL-LEA / LADBS	The preventative maintenance plan should be available on site for review along with the report of inspection of the structure.
Biologist	M - 4.1.1 / 6		City Planning / SCL-LEA	A few exposed slopes on the city side show evidence of erosion (see photo in Appendix II). A plan should be developed to address erosion in these areas (e.g. all eroded areas could be shovel packed with straw and/or secured with jute netting to prevent further erosion).
	M - 4.2.11 / 23		City Planning	Hydroseeding is in process. Approximately 55 of 85 total acres (city and county side combined) have been hydroseeded as of 11/14/11 (see photo in Appendix II).
	M - 4.2.12		City Planning	Hydroseeding is in process. Approximately 55 of 85 total acres (city and county side combined) have been hydroseeded as of 11/14/11 (see photo in Appendix II).
	M - 4.4.1 / 60		City Planning	An update to the 2008 revegetation plan is scheduled for submission to the City in the fourth quarter of 2011. The new plan will incorporate lessons learned from revegetation efforts since 2008. Unfortunately, the majority of the sage mitigation area currently contains degraded CSS habitat that exhibits a low density of native plants and a high density of non-native plant species (see photo in Appendix II). Several large patches of bare ground also exist (see photo in Appendix II). It therefore appears

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				that the onsite mitigation target of 1:1 coastal sage scrub replacement is currently not being met. The forthcoming revegetation plan ought to include detailed strategies to increase cover of native shrubs and forbs and decrease cover of non-native forbes and grasses.
Biologist	M - 4.4.1 / 61		City Planning	Topsoil and seed from Sunshine Canyon was used in the initial efforts to restore coastal sage scrub on the city side. This material was sourced and translocated from previously cleared areas of the landfill. Because this local supply of seed and topsoil has been largely exhausted, and no onsite CSS vegetation is currently being cleared, seed is currently purchased from a reputable seed vendor (S&S Seed Co.) and soil is composed of poor quality sub-soil (e.g. low pH, high salinity, low phosphorus, etc.) collected onsite. The forthcoming revegetation plan is expected to include methods for amending subsoils used for future CCS mitigation planting.
	M - 4.4.1 / 62		City Planning	According to Republic, mitigation for slender mariposa lily was accomplished. Evidentiary documents should be sent to City and County authorities to verify compliance with the mitigation requirements.
	M - 4.4.1 / 64		City Planning	No native vegetation or habitat is currently being significantly impacted by landfill activities. Therefore, surveys for this species are not required at the present time. If native vegetation will be impacted in the future (e.g. from road realignment), performing species-level surveys may be appropriate.
	M - 4.4.1 / 65		City Planning	See M - 4.4.1 / 64, above.
	M - 4.4.1 / 66		City Planning	See M - 4.4.1 / 64, above.
	M - 4.4.1 / 67		City Planning	See M - 4.4.1 / 64, above.
	M - 4.4.1 / 68		City Planning	See M - 4.4.1 / 64, above.
	M - 4.4.3 / 72		City Planning / Street Trees	According to the 2011 oak tree report, the required 2:1 replacement of oaks is currently being satisfied. The May 2010 Report to the Joint Sunshine Canyon Landfill Technical Advisory committee, however, indicated that 11 big cone firs and 22 oaks were unintentionally removed

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				from the City side and that mitigation planting for these impacts would occur in the fall. Once these plantings are completed, documentation should be sent to the agencies to verify their completion.
	M - 4.4.3 / 74		City Planning	Mitigation planting in the 100 acre open space buffer is currently in compliance. In 2010, 250 additional oak trees were planted in the buffer area to mitigate for the loss of 248 trees damaged or killed in a 2008 fire. None of the dead oak trees were removed from the site because of their potential ecological value to wildlife. Their existence may however conflict with conditions related to aesthetics.
Biologist	M - 4.4.3 / 79		City Planning	No action required. Evidence of mulch surrounding recently planted oak trees (e.g. the PM_{10} berm area).
	M - 4.4.3 / 80		City Planning	No action required. Drip system observed and appears functional.
	M - 4.4.3 / 82		City Planning / Street Trees	No action required. Have received and reviewed drafts of the 2011 Oak tree report and 2010 PM10 tree report.
	M - 4.9.2 / 103		SCL-LEA	Little scavenging activities from birds, coyotes, skunks, is observed but no one is monitoring or collection data at night. Could have someone do a night survey for wildlife.
	M - 4.9.2 / 105		SCL-LEA	I observed some standing water (3-4 in.) in concrete lined storage and equipment areas that contain mosquito larvae in the 100 acre buffer area. These will be checked on subsequent visits.
		Revegetation - 44.A / 44.A - CUP	SCL-LEA	Hydroseeding is in process. Approximately 55 of 85 total acres (city and county combined) have been hydroseeded as of 11/14/11. However, some very steep and rocky interim slopes (e.g. non-permanent cut slopes with jute mate below flare 8, see photos "county steep unvegetated

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				slope1") are not being hydroseeded because of poor substrate quality. To adequately revegetate these areas, substantial improvements in substrate quality would be required. If not included in the forthcoming revegetation plan, a revegetation plan for these particularly steep and rocky slopes should be prepared.
		Revegetation - 44.E - CUP	SCL-LEA	In addition to the provisions addressed above, a consultant has been retained by the Permittee to provide recommendations to improve revegetation in the sage mitigation areas. The most current list of recommendations for the county sage mitigation areas are outlined in Appendix B (Sage Monitoring Report) of the Third Quarter Vegetation Report.
		Geology - 1.13 – CUP-IMP Part X	County DPW-EPD	Same as previous. Several exposed slopes on the county side show evidence of erosion (see photos in Appendix II). A plan should be developed to address erosion in these areas (e.g. all eroded areas could be shovel packed with straw and/or secured with jute netting to prevent further erosion).
		Geology - 1.14 – CUP-IMP Part X	County Forester	A large area of interim slopes were recently lined with straw wattles to manage erosion. Very little erosion is currently present on these interim slopes (see photos in Appendix II). However, several slopes within the county sage mitigation area are eroded (see photos in Appendix II). A consultant retained by Republic to provide guidance on managing soil erosion in the mitigation area recommended the creation of benches along the mitigation area (Vegetation Report, 3rd Quarter, 2011). If this is not feasible without encroaching or impacting native vegetation, an alternate plan should be developed to address erosion in these areas (e.g. all eroded areas could be shovel packed with straw and/or secured with jute netting to prevent further erosion and then container planted).
Biologist		Groundwater -	County	Same as previous. A consultant has been retained by Republic to ensure

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
		3.11 - CUP	DPW-EPD	supplemental irrigation is applied appropriately and drought-tolerant native plants are used in seeding and plantings. Need to confirm rate of watering for Oak trees from drip system.
		BIOTA – 4.27 - CDFG	SCL-LEA	Same as previous except an updated (third quarter, 2011) vegetation report has been submitted with recommendations. An update to the 2008 revegetation plan is scheduled for submission to the County in the fourth quarter of 2011. The new plan will incorporate lessons learned from revegetation efforts since 2008. Unfortunately, the majority of the sage mitigation area currently contains degraded CSS habitat that exhibits a low density of native plants and large areas of bare, eroded ground (see photos in Appendix II). It therefore appears that the onsite mitigation target of 1:1 coastal sage scrub replacement is currently not being met. A biological consultant retained by the Permittee has provided recommendations to improve revegetation in the sage mitigation areas. The most current list of recommendations for the county sage mitigation areas are outlined in Appendix B (Sage Monitoring Report) of the Third Quarter Vegetation Report. Furthermore, the forthcoming revegetation plan ought to include detailed strategies to increase cover of native shrubs and forbs and decrease cover of non-native forbes and grasses.
		BIOTA – 4.28 - CDFG	SCL-LEA	Same as previous date. Topsoil and seed from Sunshine Canyon was used in the initial efforts to restore coastal sage scrub. This material was sourced and translocated from previously cleared areas of the landfill. Because this local supply of seed and topsoil has been largely exhausted, and no onsite CSS vegetation is currently being cleared, seed is currently purchased from a reputable seed vendor (S&S Seed Co.) and soil is composed of poor quality sub-soil (e.g. low pH, high salinity, low

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				phosphorus, etc.) collected onsite. The forthcoming revegetation plan is expected to include methods for amending subsoils used for future CCS mitigation planting.
		BIOTA – 4.37 – CUP-IMP Part VI & Part X	County Forester	No liming or calcium fertilization preceded the hydroseeding of interim slopes this November, 2011. Hydroseeding did however incorporate mycorrhizal inoculum and compost material. Before abandoning liming and other soil amendments as tools for improving soil conditions for plant growth, adequate evidence that liming and calcium additions did not work when correctly applied should be supplied. A detailed description of methods and results from these experiments should be addressed in the forthcoming Revegetation Plan.
Biologist		BIOTA – 4.39 – CUP-IMP Part VI & Part X	County DPW-EPD	Same as previous except an updated (third quarter, 2011) vegetation report has been submitted with recommendations. A biological consultant was retained by the Permittee to monitor the revegetation of final fill and sage mitigation areas, and to provide recommendations for their enhancement. Unfortunately, the majority of the sage mitigation area currently contains degraded CSS habitat that exhibits a low density of native plants and large areas of bare, eroded ground (see photos in Appendix II). The current list of recommendations for the county sage mitigation areas are outlined in Appendix B (Sage Monitoring Report) of the Third Quarter Vegetation Report. Furthermore, the forthcoming revegetation plan ought to include detailed strategies to increase cover of native shrubs and forbs. A new hydroseed was recently approved that uses all native species and expands the plant pallet substantially.
		BIOTA – 4.41 – CUP-IMP Part VI	County DPW-EPD	Same as previous date. Topsoil and seed from Sunshine Canyon was used in the initial efforts to restore coastal sage scrub. This material was sourced and translocated from previously cleared areas of the landfill. Because this local supply of seed and topsoil has been largely exhausted, and no onsite CSS vegetation is currently being cleared, seed is currently purchased from a reputable seed vendor (S&S Seed Co.) and soil is composed of poor quality sub-soil collected onsite. Such soil is very likely

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				to lack the microbial communities which have been shown to aid in plant restoration. The forthcoming revegetation plan should include methods for amending subsoils used for future CCS mitigation planting.
		BIOTA – 4.42 – CUP-IMP Part VI & Part X	SCL-LEA	See action required for County DPW EPD condition "Revegetation - 44.A". Locational changes in landfill activities are updated quarterly and are illustrated in the Quarterly Vegetation Reports submitted by the Permittee.
		Air Quality - 6.02	SCL-LEA	See action required for County DPW EPD condition "Revegetation - 44.A".
		Visual – 10.08	SCL-LEA	See action required for County DPW EPD condition "Revegetation - 44.A".
		Visual – 10.08	SCL-LEA	In addition to the provisions addressed above, a consultant has been retained by the Permittee to provide recommendations to improve revegetation in the sage mitigation areas. The most current list of recommendations for the county sage mitigation areas are outlined in Appendix B (Sage Monitoring Report) of the Third Quarter Vegetation Report. Republic also retained qualified biologists in 2008 that collected and analyzed soil from six un-vegetated areas within the county sage mitigation area. Based on the results of these analyses, a soil amendment containing limestone and potassium chloride was used and tested in combination with hydroseeding on the county sage mitigation area. Concurrently, three different hydroseed methods were tested in the interim cover areas; 1) hydroseed + soil amendment, 2) hydroseed + soil amendment + compost, and 3) hydroseed + soil amendment + compost + wood chips. Apparently, these approaches as implemented did not result in noticeable improvements in revegetation. As such, no liming or calcium fertilization accompanied the hydroseeding of interim slopes this November, 2011. Hydroseeding did however incorporate mycorrhizal inoculum and compost material. Before abandoning liming and other soil amendments as tools for improving soil conditions for plant growth,

Discipline	City Condition Reference #/ Mitigation #	County Condition Reference #/ Mitigation #	Responsible Agency	Comments
				adequate evidence that liming and calcium additions did not work when applied correctly should be supplied. A detailed description of methods and results from these experiments should be addressed in the forthcoming Revegetation Plan.
		Visual – 10.10 – CUP Part VI	SCL-LEA	Mitigation planting in the 100 acre open space buffer is currently in compliance. In 2010, 250 additional oak trees were planted in the buffer area to mitigate for the loss of 248 trees damaged or killed in a 2008 fire. None of the dead oak trees were removed from the site because of their potential ecological value to wildlife. Their existence may however conflict with conditions related to aesthetics and enhancement.
Air Quality and Noise Specialist	M - 4.2.11 / 19		SCL-LEA	Equipment emissions mitigation measures were discussed with Becky VanSickle, Environmental Coordinator with Republic Services, during our site visit on November 14, 2011. She stated that the components of this mitigation measure are enforced by way of contract obligations with their subcontractor who is responsible for operational equipment, Anthony Buchanan. As such, Becky will provide UltraSystems, the City and the County with a copy of this contract which specifically states that Buchanan is responsible for maintaining and operating this equipment per the stipulations in this mitigation measure.
	M - 4.2.12 / 24		SCL-LEA	See M - 4.2.11 / 19, above
	M - 4.2.12 / 25		SCL-LEA	See M - 4.2.11 / 19, above
		Noise - 9.03	SCL-LEA	See M - 4.2.11 / 19, above

Appendix II
Photo Log & Map

Photo 1: Condition M – 4.1.2 - Loose soil along exit road and erosion gullies (10/21/11).

Photo 2: Condition M – 4.3.1 / 43 - Sediment in concrete drainage ditch (10/21/11).

Photo 3: Condition M – 4.3.1 / 43 - Sediment in main sedimentation basin (10/21/11).

Photo 4: Current landfill operations near city-county border (10/21/11).

Photo 5: Preparation of City interim cover slopes for hydroseeding (10/21/11).

Photo 6: Preparation of County interim cover slopes for hydroseeding (10/21/11).

Photo 7: Preparation of City interim cover slopes for hydroseeding (10/21/11).

Photo 8: Evidence of erosion on City sage mitigation area (10/21/11).

Photo 9: City coastal sage scrub mitigation area. View from upper deck looking west. Mix of native shrubs and non-native forbs and grasses (10/21/11).

Photo 10: City coastal sage scrub mitigation area. View from upper deck looking north. Mix of non-native vegetation and bare areas (10/21/11).

Photo 11: City coastal sage scrub mitigation area. View from middle deck looking southeast toward the lower deck and PM10 berm (10/21/11).

Photo 12: City coastal sage scrub mitigation area. View from upper deck looking southwest at scattered native shrubs, non-native forbs, and bare ground (10/21/11).

Photo 13: City coastal sage scrub mitigation area. View from upper deck looking south. Mix of native shrubs and non-native forbs and grasses (10/21/11).

Photo 14: Evidence of erosion on cut slopes of county sage mitigation area. Native coastal sage scrub vegetation visible in background (10/21/11).

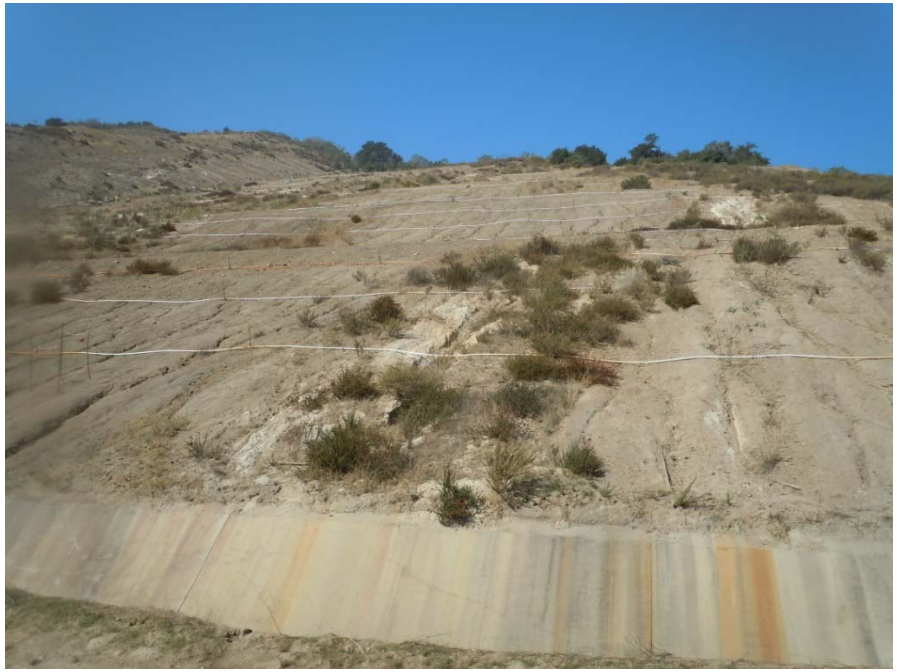
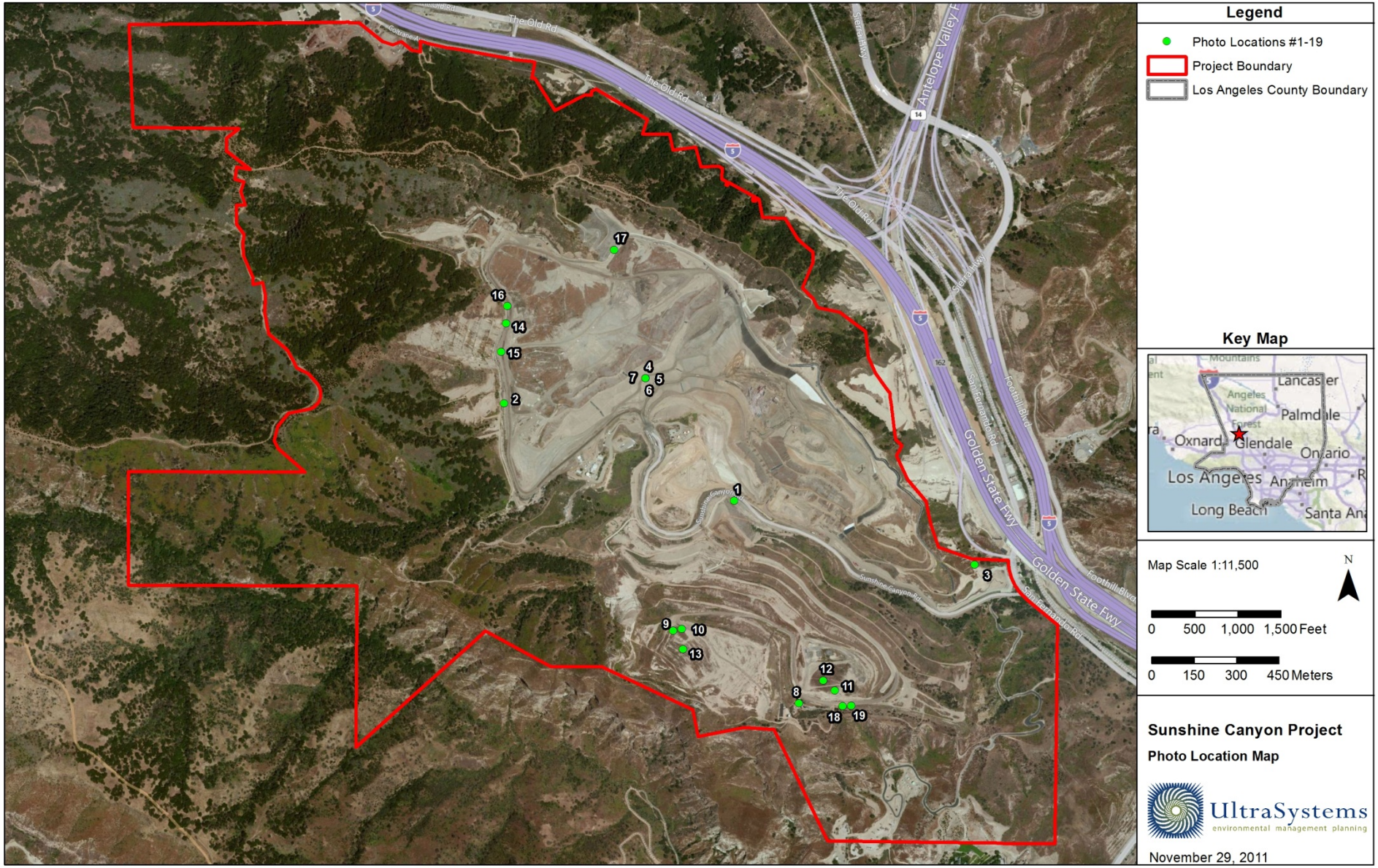


Photo 15: Evidence of erosion on cut slopes of county sage mitigation area (10/21/11).

Photo 16: Evidence of erosion on slopes of county sage mitigation area. Oak woodland visible in background (10/21/11).



Source: Bing Maps, 2010; Los Angeles County, 2010; UltraSystems Environmental, 2011

Appendix III
Mitigation Monitoring Site Report Forms

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SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: JAMES AIDUKAS	PAGE 1 OF
Discipline: PROJECT MANAGER	Date: 10/21/11
Site Conditions: TEMP MID 70°F, NO WIND, NO PRECIPITATION	

SITE LOG

ARRIVED ON SITE AT 8:00 AM

MET WITH BECKY VAN SICKLE. REVIEWED BACKGROUND REPORTS & DOCUMENTS TO UPDATE & RECORD STATUS ON COMPLIANCE. RECEIVED AN ELECTRONIC COPY OF THE 2010 FINAL ANNUAL REPORT & EXECUTIVE SUMMARY DATED 6/1/11.

BECKY VAN SICKLE ESCORTED US AROUND THE LANDFILL TO SHOW EACH DISCIPLINE HOW TO ACCESS AREA & SHE IDENTIFIED AREAS OF VEGETATION MITIGATION & ANSWERED QUESTIONS. ALL DISCIPLINES EXCEPT FOR ARCHAEOLOGIST & PALEONTOLOGIST WERE ON SITE.

EACH THEN SPENT APPROX. TWO HOURS REVIEWING SITE CONDITION RELATED TO THEIR DISCIPLINE. THIS FIRST MONITORING VISIT WAS MAINLY TO GET UP TO DATE WITH BACKGROUND DATA & FAMILIAR WITH THE SITE.

IT WAS OBSERVED WHEN WE STOPPED AT THE GAS FLARE LOCATIONS THAT ALL 3 WERE FLARING AT 75% TO 80% CAPACITY WITH A 1670-1685°F TEMP. TWO LOUVERS ON FLARE #8 WERE CLOSED

AREAS OF CONCERN

FLARE #8 AUTO-TEMP LOUVERS MAY NEED TO BE CHECKED

ACTION REQUIRED

NONE

Signed: J. Aidukas

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SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: JAMES AIDUKAS	PAGE 1 1 OF
Discipline: PROJECT MANAGER	Date: 11/14/11
Site Conditions:	

SITE LOG

ARRIVED ON SITE AT 9:15 AM, ALSO ATTENDING THE MEETING WAS JOHN NELSON - DPW COUNTY INSPECTOR. MET WITH DAVID CIEPLY, TIM JOHNSON & BECKY VAN SICKLE TO ASK REPUBLIC QUESTIONS & RECEIVE INFORMATION CONCERNING REQUIREMENTS IN THE CONDITIONS & MITIGATION MONITORING TASKS BEFORE CONDUCTING A SITE INSPECTION.
DAVID CIEPLY HAD ALI MEHR, THEIR SITE CONSULTING ENGINEER, PRESENT TO ANSWER ANY QUESTION ON THE LANDSLIDE CORRECTIVE ACTION & MONITORING, & CELL DEVELOPMENT

WE THEN PROCEEDED TO MONITOR THE SITE. JOHN NELSON DROVE ME, MIKE LINDSEY & RILEY PRATT. WE INSPECTED THE CONDENSATE, LEACHATE AND SEEP AND CUT-OFF WALL TREATMENTS.

WE THEN MONITORED THE 100 AC. BUFFER AREA. AFTER THAT, WE MONITORED THE PM_{10} BERM & THE CSS MITIGATION AREAS.

AREAS OF CONCERN

TIE DOWN OF TREATMENT EQUIPMENT
ADEQUACY OF THE CONTAINMENT SYSTEM
4" PE DISCONNECTED SEWER LINE - IS IT CONNECTED ON OTHER END.

ACTION REQUIRED

TIE DOWN EQUIPMENT
GET DESIGN CALS
GET SEWER INFORMATION

Signed: J. Aiduckas

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SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: Ian Hutchison	PAGE 1 OF 1
Discipline: Hydrology	Date:10/21/2011
Site Conditions: Sunny	

SITE LOG

8:00 Meet at Denny's w/ Team
- Jim Ardiklas UltraSystems
- Riley "
- Mike Lindsay "
- Torch Hady Mardner SES

9:10 Arrive on site

9:20 Meeting in Conference Room w/ Becky Van Sickle

- Review purpose of Visit / Program
- Discuss conditions / Review Hydrology conditions

11:45 - Break for site tour
- Tour site with Becky
- inspect all channels / Sedimentation Basin on our own

16:00 - Leave site

AREAS OF CONCERN

- Channels contain debris
- Terminal Basin contains sediments

ACTION REQUIRED

- Clean up channels Basin before Major Rainstorm.

Signed: [signature]

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SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: Tarik Hadj-Hamou	PAGE 1 OF 1
Discipline: Civil/Geotechnical	Date:10/21/2011
Site Conditions: Sunny	

SITE LOG

8:00 Meet at Denny's with other team members.

9:00 Arrive on site and log in Books

9:20 Meet w/ Republic Environmental Manager.

- Discussion of protocol
- Review of conditions city/county
- Discuss purpose of geotechnical visit - namely the landslide

11:45 Break

11:50 Tour of site w/ Becky
- visit point

12:30 Tour of site on our own

16:00 Leave site

AREAS OF CONCERN

- Monitoring of landslide - who/where
- documentation of removal activity

ACTION REQUIRED

→ next visit request details of geology of site

Signed:

UltraSystems
environmental•management•planning

SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: Tarik Hadj-Hamou	PAGE 1 OF 2
Discipline: Civil/Geotechnical	Date:11/14/2011
Site Conditions: Sunny - windy	

SITE LOG

6:00 leave home
8:15 Meet at Denny's with Team to prepare on site meeting

9:00 Meeting at Sunshine Conference Room
- Ali Mehr / consultant
- Vicky Van Sickle (Republic)
- David Cagley (")
- Tim (") - Construction Manager

- Discuss protocol of visit
- Review Conditions applicable to Civil/Geotech
  * questions about Landscape clean-up - Ali Mehr point out work performed in accordance - Reports available.
  * discuss drainage plan - Report copy
  * discuss phasing so that visit can be optimized w Ali Mehr refer to 3D and plans - Asked for copy of plan.
  * Review hydrology Conditions

AREAS OF CONCERN

- Access to current plans and drawings
- Access to Reports.

ACTION REQUIRED

Signed:

UltraSystems
environmental•management•planning

SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: Tarik Hadj-Hamou	PAGE 2 OF 2
Discipline: Civil/Geotechnical	Date:11/14/2011
Site Conditions: Sunny / Windy	

SITE LOG

11:50 Break

12:00 Began Tour Driven by Tim of Republic
- ✓ Toured landfill (City and County)
- ✓ observed area under excavation for repair of landslide
- ✓ drove on benches to observe termination of "slip-slide"
- ✓ drove along channels to observe clean-up
- ✓ stopped by new LCTF - noted backed cable on 3rd stage tank
- ✓ drove on decks and noted proper set-up of BMPs.

15:00 left site
17:15 Arrive home.

AREAS OF CONCERN

Being driven around the site reduces ability to observe -

For instance area near waste face was not monitored

ACTION REQUIRED

Signed:

SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: Susan Foster	PAGE 1 OF 1
Discipline: Hydro/Haz/Risk	Date: 10-25-2011
Site Conditions: sunny, warm	

SITE LOG

This goal of this site visit was to become familiar with the site and evaluate any areas of concern that were apparent based on visual observation. Due to the nature of the items on the Conditions list, verification of compliance with items required more than on-site visual observation. Documents such as the Annual report will be reviewed to verify compliance with the Conditions for the City and County.

AREAS OF CONCERN

ACTION REQUIRED

SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: Riley T. Pratt	PAGE 1 OF 2
Discipline: Biological resources/Vegetation	Date: 10/21/11 (Site visit number 1)
Site Conditions:	

SITE LOG

I spent the morning and afternoon touring the landfill with Becky Van Sickle, the environmental management coordinator for Republic, and the other members of the UltraSystems team. We starting on the City side at the observation area of the upper deck, then continued to the middle and lower decks, as well to the PM-10 berm to observe the recent oak tree plantings. We then toured the county side sage mitigation area and eventually the northeastern border of the landfill which is the site of a large oak tree mitigation effort. Along the way, Becky was helpful in answering questions about past revegetation efforts at various locations. Becky was also agreeable to answering additional questions by email.

Vegetative cover varies by location. Some of the sloped areas near the entrance of the landfill are well vegetated (70-80%) but most of this cover is in the form of non-native grasses and forbs (mustards mostly). The sage mitigation areas (the decks) on the city side are less well vegetated (50-70%) of which about ¾ appear to be non-native species. There are some native shrubs present, primarily buckwheat (Eriogonum fasiculatum), goldenbush, (Isocoma menziesii), and brittlebush (Encelia farinose) but cover is mostly that of non-native grasses (Bromus spp.), saltbushes (Atriplex spp.) and Russian thistle (Salsola tragas). The sage mitigation on the count side looks even worse, apparently because of the poor soil conditions present there. There are also some steep slopes nearby that have jute netting but no vegetative cover. As such, they will be prone to erosion. The oak mitigation area looks wonderful. The trees are large and healthy looking.

AREAS OF CONCERN

See section on comments and recommendations below

ACTIONS REQUIRED

There are a number of things I would recommend with respect to enhancing the revegetation. First, it does not appear that any quantitative vegetation monitoring is occurring in the final cover area. I'm referring primarily to the sage mitigation areas on the city and county side. It's very difficult to gauge progress of any restoration effort without having quantitative measures of percent cover by either species or plant origin (native vs. non-native). Currently, the vegetation monitor is checking a box labeled "densely. moderately, or minimally covered" and providing a few additional sentences describing the vegetation. The problem with that is that those categories are very subjective and can mean different things to different observers. Instead, I suggest we establish several transects in each of the final cover areas that would be randomly sampled once or twice a year, which over the five year management period should give us a clearer, objective view of how well and quickly restoration is progressing. Is native cover increasing over time? At what rate is it increasing? Quantitative monitoring can answer these questions.

In addition to quantitative monitoring, a number of experiments could be implemented to give us a better understanding of the barriers to restoration that exisit at the landfill. Unfortunately, these barriers are often site specific, meaning that strategies which worked elsewhere cannot be assured to

work on our site too. Thankfully, we have some good ideas about what those barriers might be and those explanations can be verified by through experimentation. For example, we suspect that the soil sealant used in some of the final cover areas is preventing naturally recruiting native seeds from rooting and germinating effectively. If this is true, then areas that we rake or lightly till should show greater rates of germination than areas we don't rake. We can apply these treatments in a few plots and compared germination rates with control plots we leave untouched. There are of course other explanations for the poor performance of vegetation on site: thin soils, compacted soils, high salt, low pH, low mycorrhizal content, low soil moisture, etc. Each of these explanations can be tested alone or in combination to provide valuable information. We can learn what works and what doesn't and scale up accordingly. The alternative is to pick one factor (or two) and put all our energy into that approach. If it doesn't work (and at this point we have little evidence it will), the not only have we failed to improve the condition of the vegetation, but we haven't gained much new information to guide future efforts.

Signed: Riley T. Pratt

SUNSHINE CANYON LANDFILL
MITIGATION MONITORING
SITE REPORT

Monitor: Riley T. Pratt	PAGE 1 OF 1
Discipline: Biological resources/Vegetation	Date: 11/14/11 (Site visit number 2)
Site Conditions: Cool, sunny, clear, with light breezes.	

SITE LOG

I spent the morning in a meeting with the UltraSystems team and the Permittee management where we discussed the status of several city and county mitigation measures and conditions. I asked about efforts to comply with those conditions related to biology and revegetation. Management was able to address these question and their responses were integrated into the current Summary Spreadsheets and Required Action documents submitted to the agencies.

I spent the afternoon surveying the 100-acre buffer area, the PM10-Berm, and the City sage mitigation areas with Jim Aidukas, Mike Lindsay, and John Nelson. Vegetation in 100-acre buffer area consisted mostly of native CSS vegetation that appeared relatively healthy. Some weeds are present, especially around previously disturbed areas. Signs of the 2008 fire are present, including the skeletons of burned oak and Eucalyptus trees near the top of the south-facing slope that borders the landfill.

The 1000 plus oak trees planted of the PM10-Berm generally appear healthy. I was notified that native shrubs (e.g. toyon) are to be eventually planted in the spaces between the oak trees in an effort to provide a denser wall of vegetation for trapping particulate matter. In some locations, the oak trees are approaching the stature where shrubs could be planted without serious risk of competition.

The city sage area again contains a mixture of native shrubs and non-native forbs and grasses. Where native shrubs exist, there is some evidence of some native recruitment (new seedlings). However, no native seedlings were observed near or beneath dense non-native vegetation or in patches with bare soil. This suggests that non-native species may be suppressing native germination.

AREAS OF CONCERN

- City and County sage mitigation areas generally lack native plant cover.
- Non-native plant cover on the City side may be suppressing the expansion of native vegetation.
- Erosion is evident on the relatively steep slopes of the County sage mitigation area.

ACTION REQUIRED

The 2008 revegetation plan and recent quarterly vegetation monitoring reports recommend a number of strategies to improve revegetation in the sage mitigation areas (e.g. soil amendments including lime and calcium fertilization, reseeding, container plants, weed control, etc.). It is unclear whether the Permittee has applied these strategies consistently or on a scale that would lead to noticeable improvements in the sage mitigation areas. If these revegetation strategies are not being fully implemented, then a more concerted effort is recommended. As part of this effort, I would again recommend implementing a quantitative monitoring program to more objectively track progress over time. For comparative purposes, monitoring should occur where enhanced efforts are and are not occurring.

Signed: Riley T. Pratt

Table I
Reference Documents

The following documents and reports were reviewed as of 11/17/2011 as background research.

Background Reading

Chambers Group, INC. 2008. Coastal Sage Scrub and Interim Cover Revegetation Plan for Sunshine Canyon County Landfill.

Cieply, D. May 2011. Report to the Joint Sunshine Canyon Landfill Technical Advisory Committee.

ESA Biological Resources, January 26, 2011. Sage Monitoring Report. Appendix B to First Quarterly Vegetation Project Status Report.

ESA Biological Resources, March 31, 2011. Sage Monitoring Report. Appendix B to First Quarterly Vegetation Project Status Report.

ESA Biological Resources, October 12, 2011. Sage Monitoring Report. Appendix B to First Quarterly Vegetation Project Status Report.

Fruit Growers Laboratory, February 2011. Soil Sample Laboratory Results and Recommendations (attached to the March 31, 2011 Sage Monitoring Report).

Pacific Southwest Biological Services, Inc., 2005. Venturan Coastal Sage Scrub Revegetation Mitigation Plan.

City / County Joint Technical Document (JTD) for Sunshine Canyon Landfill, 2007

Vegetation Related Topics Addressed for Agencies

Quarterly Vegetation Project Status Report, Fourth Quarter 2010 (Submitted January, 2011).

Quarterly Vegetation Project Status Report, First Quarter 2011 (Submitted April, 2011).

Quarterly Vegetation Project Status Report, Third Quarter 2011 (Submitted October, 2011).

Ralph Osterling Consultants Inc. 2004. Revegetation Plans For Sunshine Canyon Landfill City Expansion

Calflora. http://www.calflora.org/

California Invasive Plant Council. Invasive Plant Profiles http://www.cal-ipc.org/ip/management/plant_profiles/index.php

EPA, October 2006. Revegetating Landfills and Waste Containment Areas Fact Sheet http://www.epa.gov/tio/download/remed/revegetating_fact_sheet.pdf

Los Angeles Regional Invasive Plant Guide. Los Angeles and San Gabriel Rivers Watershed Council. 2007. http://weedwatch.lasgrwc.org/Matrix_Master_20071022.pdf

Sawyer, J.O., T. Keeler-Wolf, and Evans, J. 2009. A Manual of California Vegetation. Second Ed. Sacramento, CA: California Native Plant Society.

Carey, B. 2006. Monto vetiver grass for soil and water conservation. Natural Resource Sciences. Queensland Department of Natural Resources and Water, Queensland, Australia.

The Vetiver Network. http://www.vetiver.com/

Truong, P. and Stone, R. 1996. Vetiver grass for landfill rehabilitation: Erosion and leachate control. Report to DNR and Redland Shire Council, Queensland, Australia.

Truong P, Gordon, I., Amstrong, F., et al. 2002. Vetiver grass for saline land rehabilitation under tropical and Mediterranean climate. Eighth National Conference Productive Use of Saline Lands. Perth, Australia.

Griswold, M. and Gutierrez, M. 1996. Rootdepth of coastal sage scrub shrub seedlings under adaptive management irrigation. http://www.newfieldsrestoration.com/PDFs/Root_DepthCSS_Seedlings.pdf

Hellmers, H., J.S. Horton, G. Junren, and J. O'Keefe. 1995. Root Systems of Some Chaparral Plants in Southern California. Ecology 36(4):667-678.

Venkatraman, K. and Ashwath, N. (2009) 'Can phytocapping technique reduce methane emission from municipal landfills?' *International Journal of Environmental Technology and Management*, Vol. 10, No. 1, pp.44-55.

Table II
Documents and Records for Technical Review

The following documents and reports were reviewed as of 11/17/2011 as requested by the City and County.

Reports Reviewed for Agencies

ESA Biological Resources, July 2011. Oak Tree Mitigation Monitoring Report, No. 6, Sunshine Canyon Landfill.

ESA Biological Resources, 2010. PM10 Tree Monitoring Report, Year Two, Sunshine Canyon Landfill.

Republic Services Interim Cover and Final Cover Seed Mix.

Table III
Site Visit Attendees

October 21, 2011

James Aidukas

Susan Foster

Tarik Hadj-Hamou

Ian Hutchison

Mike Lindsay

Riley Pratt

November 14, 2011

James Aidukas

Tarik Hadj-Hamou

Mike Lindsay

John Nelson, County Department of Public Works Inspector

Riley Pratt