SUNSHINE CANYON Landfill

14747 San Fernando Road
Sylmar, CA 91342

October 28, 2022

Mr. David Nguyen
County of Los Angeles, Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331

Subject: Sunshine Canyon Landfill, Quarterly Vegetation Report
Third Quarter 2022 Vegetation Report

Mr. Nguyen,

This report has been prepared in accordance with the following:

- Condition 18B of the Finding of Conformance
- Condition 44A of the Condition Use Permit (CUP)
- Los Angeles City Condition [Q] C.8 of the Ordinance No. 172,933

This report presents the progress of the site's landscaping and revegetation activities for the third quarter of 2022. The intent of these reports is to provide detailed information regarding the site's efforts related to vegetation including vegetation of interim and permanent slopes and activities conducted for the on-site sage mitigation areas.

Architerra Design Group continues to assist site personnel in evaluating current site conditions relating to vegetation and provide recommendations for future efforts. This report includes their assessment of the pilot sage vegetation area as well as recommendations for this area. Architerra's evaluation is in addition to the required quarterly monitoring performed by our consulting biologist.

1.0 Interim Slopes

For the purposes of this report, interim slopes are those defined as slope areas where no activities have taken place for 180 days or longer. CUP Condition 44A requires "a temporary hydroseed vegetation cover on any slope or landfill area that is projected to be inactive for a period of greater than 180 days".

1.1 Hydroseeding Activities

Based on the results of the trial project completed in August 2017, a 57-acre vegetative cover project using the approved seed mix was completed in mid-December 2017. Additionally, the site completed hydroseeding approximately 155 acres; application of the approved seed mix was completed during 2019. The increase in hydroseeding application is a result of our normal winterization efforts along with slope revegetation as a result of the Saddle Ridge Fire that impacted Sylmar, CA on October 2019. These areas had successful vegetation growth after the recent rains.

2.0 Permanent Slopes

Permanent slopes are defined as those where no landfilling activities will be conducted in the future.

As part of our Saddle Ridge Fire recovery efforts both the City and County permanent slopes of the landfill had hydroseed applied as necessary. This application of hydroseed was completed for soil stabilization purposes.

3.0 Non-Permanent Cut Slopes

Prior quarterly vegetation reports have illustrated one area above the front terminal sedimentation basin and one area near the temporary bypass road as “non-permanent cut slopes”. An evaluation of these areas has been conducted and it has been determined that these areas are “permanent slopes” because no landfilling activities will be conducted against these slopes in the future.

4.0 Activities Conducted in Sage Mitigation Areas – 3Q2022

During the third quarter of 2022, the following activities were conducted in the sage mitigation areas at the landfill.

4.1 City South Sage Pilot Project Area – Deck C

The lower Deck C mitigation project area was impacted by the Saddle Ridge fire in October 2019. As noted in Rincon’s (formerly JMA) City-Side Sage Mitigation Area Lower Deck report a substantial amount of the lower deck was burned or scorched. However, in previous reports they note that because this was an established site, they expect natural re-establishment of the native vegetation within the first two to three years. Rincon has noted a substantial amount of regrowth has occurred following the fire and included the most prevalent natives such as California Sunflower, Saltbush, Horseweed, and pockets of Wild Ryegrass. Rincon also indicated the intense weeding efforts implemented has greatly reduced the cover of the noxious non-native annual species.

As reported previously, Architerra Design Group indicates that there has been an abundance of Venturan CSS species germinating and crown-sprouting since the fire. The species following the rebound include Purple Sage, Coast Sunflower,

White Sage, Creeping Wild Rye, Deerweed, Black Sage, and Mexican Elderberry. Surprisingly there are also new species from the original seed mix are now sprouting up in decent numbers and included in the list below:

- Purple Sage (Salvia leucophylla)
- Coast Sunflower (Encelia californica)
- White Sage (Salvia apiana)
- Creeping Wild Rye (Leymus triticoides)
- Deerweed (Lotus scoparius)
- Black Sage (Salvia mellifera)
- Mexican Elderberry (Sambucus mexicana)
- Scarlet Bugler (Penstemon centranthifolia)
- Telegraph Weed (Heterotheca grandiflora)
- Monkey Flower (Mimulus aurantiacus)
- Smooth-Leaf Yerba Santa (Eriodictyon trichocalyx)
- Thickleaf Yerba Santa (Eriodictyon crassifolium)
- Sunflower (Helianthus annuus)
- California Bush Sunflower (Encelia californica)
- California Sagebrush (Artemisia californica)
- California Buckwheat (Eriogonum fasciculatum)
- Quail Bush (Atriplex lentiformis)
- Four-Wing Saltbush (Atriplex canescens)
- Cattle Spinach (Atriplex polycarpa)
- Spinescale (Atriplex spinifera)
- Toyon (Heteromeles arbutifolia)
- Foothill Needlegrass (Nassella lepida)
- Coyote Bush (Baccharis pilularis)
- Showy Penstemon (Penstemon spectabilis)
- Wright's Cudweed (Pseudognaphalium microcephalum)
- White Horehound (Marrubium vulgare) Non-Native
- Australian Saltbush (Atriplex semibaccata) Non-Native

As reported from Architerra, early fall rains and cooler temperatures have allowed several native species to waken from dormancy. This is evident among the group of Coast Sunflower (*Encelia californica*). This has also begun the germination period where a mix of native and non-native species are beginning to emerge, creating challenges in identification of species.

Also noted were new emerging seedlings of several invasive species; Russian Thistle (*Salsola ssp*), Brown Beetle-grass (*Diplachne fusca*), and Saltcedar (*Tamarisk sp*.). It was recommended these be removed before they become an issue. It also appears dormant native Creeping Rye Grass (*Leymus tritcoides*) was scalped to the ground which may allow non-native species to take root.

The decks were noted to be very active with wildlife and several bird species were seen using the protective canopy of the existing vegetation. Tracks of many animals were observed in the area. Several bird species and lizards are using the deck vegetation for foraging.

4.2 City South Deck B

The Deck B sage mitigation project began on April 9, 2018 and planting was completed by the end of the fourth quarter 2018. Soil samples indicated low pH and high salinity, as a result Deck B underwent a leaching schedule. Additional soil amendments and resampling were completed before planting began, which took place during the fourth quarter 2018. Pacific Restoration Group, Inc (PRG) has been working with Architerra for the completion of project. A summary of the progress is included in Attachment 3. The northwest portion of the Middle Deck burned during the Saddle Ridge Fire in October 2019. Architerra Design Group (ADG) indicates Deck B is doing quite well and there is evidence of desiccation of the seedlings especially the Common Yarrow and other native species that have recently spouted and are beginning to harden off and defoliate. Architerra have indicated the plant diversity on Deck B is impressive and many of the species in the seed mix have germinated and the containerized plants also are doing well and are blooming or just finished which are the White Sage, Mexican Elderberry, Menzie's Goldenbush, and Prickly Pear.

Architerra reported a large portion of Deck B that burned in the Saddle Ridge Fire, has rebounded back over the last two years and has an abundance of new seedlings filling in what was barren dirt. It has demonstrated that it has become self-sustaining and reestablished without the need for supplemental irrigation. Architerra has previously indicated that within a few years, evidence of the fire will be virtually unnoticeable in this area. The fire ecology working within the landfill area and the weeding within this zone has also helped to build this area back to its pre-fire condition.

Mule deer tracks on Deck B

Rincon noted in their most recent inspection report a substantial amount of regrowth has occurred following the fire, that includes germination from the seed bank in the soil and resprouting of below- and above-ground plant parts.

4.3 County Sage Mitigation Area

The County sage mitigation area is located on the western side of the County portion of Sunshine Canyon Landfill (Drawing 1). As noted in the fourth quarter Rincon County-Side Sage Mitigation Area report the upper half of the mitigation site was burned in the Saddle Ridge fire in October of 2019. No revegetation activities were conducted in this area during the third quarter of 2022, and as noted in multiple Rincon progress reports, the conditions in this mitigation area have remained unchanged for some time. Rincon notes in their attached 2022 first quarter vegetation report that this area remains problematic for establishment of vegetation. Soil samples from this location indicate low pH, high salinity, and Boron present in native soils. A trail test pilot plan is being evaluated at this time with Architerra.

5.0 Assessments of Sage Mitigation Areas

Assessments of the site's sage mitigation areas are conducted by a qualified biologist on a quarterly basis. The following sections present a summary of the recommendations for the sage mitigation areas from Rincon (City and County sage mitigation areas) and Architerra (City South Sage Pilot Project Area (Deck C) and Middle Deck (Deck B) and the proposed actions in response to the recommendations.

5.1 Rincon Recommendations for City Sage Mitigation Areas

Rincon's progress reports for the City Sage Mitigation Areas for the third quarter of 2022 are provided in Attachment 1. These reports include recommendations based on the assessments. Table 1 presents a summary of these recommendations and the proposed actions.

Table 1 – Rincon Recommendations and Proposed Actions – City Sage Mitigation Areas, Second Quarter 2022

AREA	RECOMMENDATION		PROPOSED ACTION
Lower, Middle, and Upper Decks (Decks C, B, and A)	1	Weed Control – Implement a year-round weed control program to control non-native species.	A weed control program is already in place on Deck C and B as part of the pilot project and will continue. A weed control program on A will be implemented along with the mitigation plans for these areas.
Lower, Middle Decks (Decks C, B)	2	Irrigation – Reinstall irrigation system if drought conditions continue to the areas to alleviate stress on regrowth	The third quarter of 2022 had below rainfall, and therefore irrigation systems be reinstalled to promote germination and growth of native plants.
Lower, Middle, and Upper Decks (Decks C, B, and A)	3	Prohibit Access – Continue to prohibit vehicle access to mitigation areas.	Repairs to the T-post fencing will be made as needed.
Upper Deck (Deck A)	3	Improve root zone and soil conditions	This will be addressed when the plans for Deck A is developed. Actions were taken to address improving the root zone in Decks B & C; it is expected that similar actions will be incorporated into the plans for Deck A.
Upper Deck (Deck A)	4	Plant natives in areas dominated with non-natives	This will be addressed when the plans for Deck A are developed. Various planting methods were used for the construction of the pilot project on Decks B & C; it is expected that similar actions will be incorporated into the plans for Deck A.
Upper Deck (Deck A)	5	Reseeding – apply native seeds during the rainy season after soil mounds have been established	This will be addressed when plans for Deck A are developed.

Rincon also recommended that a monitoring biologist should be present during weed control activities or the native plants should be flagged to ensure only non-native species are removed. A monitoring biologist will be consulted prior to any weed control activities to ensure native plants are protected.

Architerra and Rincon continues to provide support to the Oakridge maintenance personnel to assist in removal of the invasive weeds on both Deck B and C. Architerra has pointed out some of the more aggressive weeds that have flourished since the Saddle Ridge Fire. Architerra provided them with images of the invasive weeds to help identify and target these invasive species. Oakridge Landscape have

been diligently removing Russian Thistle, Wild Oat, Shortpod Mustard, Red Brome Grass, False Barley, Tree Tobabcco, and Yellow Star Thistle that took hold in the burned barren areas.

5.2 Rincon Recommendations for County Sage Mitigation Area

Table 2 presents a summary of the recommendations proposed by Rincon based on the assessment of the County Sage Mitigation Area and the proposed actions. Please refer to the full recommendations in the Rincon reports in Attachment 2.

Table 2 – Rincon Recommendations and Proposed Actions – County Sage Mitigation Area, Third Quarter 2022

AREA	RECOMMENDATION		PROPOSED ACTION
County Sage Mitigation Area	1	Create benches to control soil erosion and improve soil conditions to improve plant establishment and seed dispersal	Rincon and ADG are evaluating recommendations from the County Task Force and UltraSystems.
County Sage Mitigation Area	2	Reseed and plant container plants	A trail test pilot plan will be discussed with California Native shrubs.
County Sage Mitigation Area	3	Use soil amendments	A trial test plot would need to be developed. This recommendation will be considered at a later date.
County Sage Mitigation Area	5	Signage – Install signage indicating revegetation efforts.	Due to the slopes, stormwater channel and overall difficulty to access this area, personnel are limited to access this area.
County Sage Mitigation Area	6	Weed Control – Continue weeding as needed on a quarterly basis.	Personnel continues to evaluate the current status.
County Sage Mitigation Area	7	Prohibit Access – continue to prohibit vehicle access to mitigation deck.	Upper entrance has a locked gate, no further action is required.

5.3 Architerra Inspection for City South Sage Mitigation Pilot Project Area – Third Quarter 2022

The inspection report is included in Attachment 3 along with photos of the area taken at the photo stations.

5.4 Quarterly Assessment of City South Sage Pilot Project Area

The methodology for assessment of the City South Sage Pilot Project Area developed by Rincon (formerly JMA) was included in the first quarter 2015 Vegetation Report. The evaluation report for the third quarter of 2022 based on this methodology is included in Attachment 4 and Attachment 5 for Deck C and Deck B, respectively.

6.0 Status of Other Vegetated Areas

Big Cone Douglas Fir Tree Mitigation

As reported in the vegetation report for the first quarter of 2015, 200 Big Cone Douglas fir tree saplings were planted the third week of March 2015. These big cone Douglas fir pine trees continue to be monitored and maintenance activities will be conducted in this mitigation area for 2022 and into the future.

A meeting with Rincon biologist was conducted on October 21, 2021 at the Big Cone Mitigation area. Some important topics were assistance from local nurseries and universities to help replace and replant some of the existing dead big cone pine and canyon oak, also to establish a new location for planting more big cone pines and canyon oak in this area, and finally to establish healthy big cone pine and canyon oak in a timely established schedule. We look forward to working with the LA County forester, local nurseries and universities in Q3 of 2022.

PM10 Berm

Republic Services hosted an Adopt-A-Tree event for employees and their family members. On Saturday, November 14th, 2020, at 2:00 pm, Fourteen (14) Coast Live Oak trees were planted in critical areas of the PM10 Berm that was damaged during the Saddleridge Fire. Architerra and JMA (i.e. Rincon) assisted in the planting efforts with their expertise and knowledge of tree growth and ideal planting locations. Republic Services will consider hosting more Adopt-A-Tree events in the near future.

Front Entrance Toe Berm

The proposed project involves the development of a landfill termination berm and construction of a roadway. There were 20 coast live oak trees surveyed within the project footprint by Rincon and project leads. One of the oak trees was dead, and all of them would be removed by the project activities. There are currently 48 coast live oak trees in the landfill's mitigation bank. As noted the 20 coast live oak trees would be removed by the proposed project, therefore at a mitigation ratio of 2:1, a total of 40 coast live oak trees will be deducted from the landfill's oak tree mitigation bank, leaving 4 oak trees remaining in the bank for future removals at the landfill, if needed. A report detailing the survey is located in Attachment 6.

Donation to Local Community

As part of community outreach, a rancher in the area asked if he could plant some oaks trees on his ranch nearby, and Sunshine Canyon agreed it would be a great idea. Thereafter on September 9th 2021, twenty-two (22) coast live oaks and two sycamores were donated from the Sunshine Canyon nursery and given to the rancher. The rancher mentioned the oak trees shall provide shade for his livestock and beautify the surrounding private property and was very pleased with the trees.

Please do not hesitate to contact me at (661) 208-9796 if you have any questions.

Regards,

Paul D. Koster II
Environmental Manager
Sunshine Canyon Landfill

Cc: Ms. Dorcas Dee Hanson-Lugo, SCL LEA
Mr. David Thompson, SCL LEA
Ms. Tiffany Butler, City of Los Angeles, Department of City Planning
Ms. Devon Zatorski, City of Los Angeles Department of City Planning
Ms. Ly Lam, City of Los Angeles, Department of City Planning
Mr. Nicholas Hendricks, City of Los Angeles, Department of City Planning
Dr. Wen Yang, Los Angeles Regional Water Quality Control Board
Ms. Maria Masis, County of Los Angeles, Department of Regional Planning
Mr. Wayde Hunter, SCL CAC
Mr. Jim Aidukus, UltraSystems
County DPW Landfill Unit

Attachments

Attachment 1	Rincon Progress Report, 3Q2022 City-Side Sage Mitigation Area
Attachment 2	Rincon Progress Report, 3Q2022 County-Side Sage Mitigation Area
Attachment 3	Architerra Design Group, Field Observation Report, South City Sage Mitigation Pilot Project – 3Q2022 with Photo Log
Attachment 4	Rincon Quarterly Monitoring Report - Coastal Sage Scrub Deck C Pilot Study, 3Q2022
Attachment 5	Rincon Quarterly Monitoring Report - Coastal Sage Scrub Deck B Pilot Study, 3Q2022
Attachment 6	Rincon Sunshine Canyon Landfill Ultimate Entry Improvement Project, Oak Tree Survey Report

Drawing

Drawing 1	Site Vegetation Status and Activity

ATTACHMENT 1

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October 12, 2022
Project No: 21-11086

Kate Downey
Environmental Manager
Republic Services
14747 San Fernando Road
Sylmar, California 91342

Via email: KDowney@republicservices.com

Subject: Qualitative Monitoring Report – 3rd Quarter (2022) for the City-Side Sage Mitigation Area at the Sunshine Canyon Landfill in Sylmar, California

Dear Ms. Downey,

On September 29, 2022, Rincon Consultants conducted the third quarter qualitative monitoring of 2022 for the Republic Services City-Side Sage Mitigation Area. This report qualitatively documents the current conditions of the City-Side Sage Mitigation Area with regards to the Landfill's coastal sage scrub restoration efforts. The City-Side Sage Mitigation Area consists of the Lower Deck, Middle Deck, and Upper Deck (including slope between middle and upper decks), which are discussed in detail below.

General Conditions

Lower Deck

In 2014, the Landfill initiated a pilot study at the Lower Deck (Deck C) to assess three different seeding applications of native species that included hand broadcasting, imprinting, and hydroseeding. Some container plants were also planted at the Lower Deck, but in low quantities. Germination, establishment, and natural recruitment of native plants ensued; however, the Lower Deck and surrounding area burned during the Saddleridge Fire in October 2019. The fire burned a substantial amount of the Lower Deck, scorching some of the vegetation entirely and partially burning some of the vegetation. The fire also burned the irrigation system, and the vegetation has been without supplemental water ever since.

A substantial amount of regrowth has occurred following the fire, including germination from the seed bank in the soil and resprouting of below- and above-ground plant parts. The Lower Deck appears to have almost fully recovered from the fire. The most prevalent native plant species observed within the Lower Deck in the third quarter of 2022 was California sunflower (*Encelia californica*), followed by big saltbush (*Atriplex lentiformis*), allscale saltbush (*Atriplex polycarpa*), and beardless wild rye (*Elymus triticoides*). Immediately following the Saddleridge Fire, areas that were previously dominated with saltbush species were largely replaced by mats of non-native grasses such as red brome (*Bromus rubens*), ripgut brome (*Bromus diandrus*), foxtail barley (*Hordeum murinum*), and non-native forbs such as redstem filaree (*Erodium cicutarium*). Currently, native shrub species have resprouted and are almost fully established, and have shown signs of continuous growth since the fire. Exotic annual plant species,

which notably increased in cover between the winter of 2021 and the spring of 2022, have declined in cover between the second and third quarters of 2022. Exotic annual plants appear to be successfully managed through hand pulling and weed whipping by Republic Services staff. During the second and third quarters of 2022, most non-native plant species were sheared at the base of their stems, and vegetative parts (i.e., leaves, stems, fruits) were present as leaf litter on the soil surface. Some native grass species (i.e., beardless wild rye) were also inadvertently cut as a result of the treatment and may have been misidentified as non-native species during the weeding treatments. Non-native plant species cover is anticipated to remain constant throughout the remainder of the 2022 growing season, and increase in the winter months as a result of increased rainfall. The majority of non-native vegetation observed at the Lower Deck in the third quarter of 2022 consisted of non-native annual grasses, short podded mustard (*Hirschfeldia incana*), redstem filaree, Russian thistle (*Salsola tragus*), and tocalote (*Centaurea melitensis*). Russian thistle, tocalote, and short podded mustard were fruiting, and the remainder of the non-native species had already set seed.

Middle Deck

In 2019, the Landfill initiated a pilot study at the Middle Deck (Deck B) to assess germination and establishment rates (e.g., percent cover) of soil imprinting and broadcast seeding methods. Some container plants were also planted at the Middle Deck, but in low quantities. Germination and establishment of native plants ensued; however, there was not much evidence of natural recruitment due to the short timeframe from when the deck was seeded to when it burned during the Saddleridge Fire, which also decimated the irrigation system.

As described in previous monitoring reports, the vegetation composition at the Middle Deck before the Saddleridge Fire was approximately 35 percent of sage scrub plantings/seedlings and 30 percent non-native grasses. The remainder of the area was comprised of bare ground and/or rock substrate. A substantial amount of the planted vegetation on the Middle Deck burned in the fire; however, a large amount has resprouted and appears to have almost fully recovered since the fire. Native vegetation observed at the Middle Deck consists of woody species such as brittlebush (*Encelia farinosa*), scarlet burglar (*Penstemon centranthifolius*), deerweed (*Acmispon glaber*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), coastal goldenbush (*Isocoma menziesii*), white sage (*Salvia apiana*), coyote brush (*Baccharis pilularis*), and herbaceous species such as beardless wild rye. Of all the observed native species, brittlebush, coastal goldenbush, and deerweed have shown the greatest increase in abundance since the fire. Deerweed, California buckwheat, big saltbush, and allscale saltbush were fruiting during the third quarter of 2022, while a majority of the other native shrub species (e.g., brittlebush, California sunflower) had already set seed.

Non-native plant establishment was also observed within the Middle Deck; however, this establishment is lower than what has been observed within the Lower Deck. Non-native plants observed include exotic grasses such as foxtail barley, Mediterranean grass (*Schismus arabicus*), red brome, and forbs such as short podded mustard, redstem filaree, and small flowered iceplant (*Mesembryanthemum nodiflorum*). These species, which were observed fruiting in the second quarter of 2022, had mostly set seed during the third quarter of 2022. In general, non-native weed cover is low to moderate, and has slightly declined since the second quarter of 2022. Non-native plants are anticipated to remain constant throughout the fall of 2022 and increase in winter as a result of increased rainfall.

Upper Deck

Overall, the Upper Deck (Deck A) continues to be sparsely covered with native vegetation, and total vegetation coverage (native and non-native) is generally sparse due to compacted and poor soil conditions. However, in the southern-center of the Upper Deck, vegetation cover is higher than in other areas and includes native species such as California buckwheat, as well as non-native species such as foxtail barley, redstem filaree, and Australian saltbush (*Atriplex semibaccata*). The presence of vegetation in the southern-center portion of the Upper Deck generally demonstrates that the soils in this area are suitable for supporting vegetation, both native and exotic. However, the soils elsewhere on the Upper Deck appear to be heavily compacted and gravelly, and vegetation coverage in these areas is sparse. Evidence of previous seeding is no longer discernible within the portions of the Upper Deck where plant establishment is visibly poor.

Non-native herbaceous species that dominate the Upper Deck currently include wild oats (*Avena fatua*), Russian thistle, ripgut brome, red brome, short podded mustard, and redstem filaree. California buckwheat is the most dominant native perennial woody plant species on the Upper Deck, and it was observed setting seed during the third quarter of 2022; however, as described in previous monitoring reports, overall natural recruitment of native plant species within the Upper Deck is low due to poor and dry soil conditions.

Table 1 Summary of Observations in the Lower, Middle, and Upper Decks in Quarter 3, 2022

	Native Plant Vegetation				Exotic Plant Vegetation	
Location	Native Plant Cover	Plant Health Issues	Height of Native Species	Native Species Richness	Exotic Plant Cover	Phenological State
Lower Deck	Moderate	Recovering from fire, drought	12”-36”	Shrubs: Moderate Herbs: Low	Moderate	Fruiting
Middle Deck	Moderate	Recovering from fire, drought	12”-36”	Shrubs: Moderate Herbs: Low	Low	Fruiting
Upper Deck	Minimal	Poor soils, drought	12”-24”	Shrubs: Low Herbs: Low	High	Fruiting

Recommendations

Lower and Middle Decks

Weed Control

- Implement a year-round weed control program to control non-native species. The weed control program should incorporate both chemical and mechanical control practices and should be initiated in the late winter to early spring prior to seed set, which typically occurs between the months of February and April. This will prevent further dispersal of exotic plants within the Lower and Middle Decks.

- Following weed control, any dead material harboring seeds should be removed to an off-site location to the extent feasible. Dense areas covered with red brome, ripgut brome, foxtail barley, and short podded mustard should be controlled by removing flowers and immature seeds heads before they drop. These areas should be reseeded with native herbaceous species that are known to grow well in the Lower (and Middle) Decks, such as beardless wild rye and yarrow (*Achillea millefolium*).
- A qualified biologist should be present during weed control activities or flag the native plants that should remain prior to weed control activities to ensure only non-native species are removed and to minimize damage to native plant species to the greatest extent feasible. If a contractor is responsible for weed control, the contractor should verify with the Landfill that all personnel are experienced in native and non-native plant identification.
- Weeding is best performed just before, or at the onset of flowering, but before seed set. If seeds are already present, additional care should be taken to remove the plants with the seeds attached, or the seeds should be removed from the plants prior to the plant removal. A consistent weed abatement schedule will reduce the potential for non-natives to set seed. Soil disturbance should be limited by hand weeding, wherever possible, and weeds should be disposed of off-site to avoid any reinfestation through reseeding or from plant propagules. If hand weeding is not possible, the monitoring biologist should be consulted regarding the appropriate method of weed removal. For example, using mechanical equipment to remove flowers and immature seed heads may be appropriate where dense mats of non-native grasses have established. If there continues to be high incidence of weed infestation, weed control may need to be increased to every four to six weeks. Otherwise, weeds should continue to be monitored and controlled on a quarterly basis.

Irrigation

- The Lower and Middle Decks burned during the Saddleridge Fire in October 2019. The fire burned the irrigation system that was installed prior to the fire, and the vegetation has been without supplemental water ever since. Vegetation within the Lower and Middle Decks are showing signs of desiccation stress due to the persistent drought occurring in southern California. If drought conditions persist, it is recommended that the irrigation system within the Lower and Middle Decks are re-installed to promote germination and growth of native plant species.

Prohibit Access

- Continue to prohibit vehicle access to mitigation areas.

Upper Deck

Improve Root Zone and Soil Conditions

- Continue to investigate ways to import the soil layer to improve the root penetration and saturation zone to enable plant growth in heavily compacted areas. Consider applying soil in random undulations or uneven mounds to improve soil porosity and filtration and to control soluble salts from leaching from existing layer.

- If permissible, prior to seeding (broadcast, hydroseeding, or drilling) of native species, incorporate a soil amendment or mulch with high organic content by tilling it into the top 12 inches of the existing compacted soils to improve soil texture, drainage, porosity, and aerobic conditions. If an organic mulch or soil amendment is not feasible or available, incorporate available soil from borrow sites within the landfill that have the appropriate soil properties, so long as these borrowed soils have been determined to not have toxic conditions, such as boron or high salinity.

Plant Natives in Areas Dominated with Non-Natives

- The vegetated areas on the Upper Deck that are currently dominated with non-native annual species have decent soil-texture conditions. These areas are less compacted than adjacent areas that are gravelly and mostly devoid of vegetation. In general, the soil texture within the vegetated areas with non-native vegetation is friable down to approximately 8-12 inches in depth. Various planting methods (i.e., planting container plants and hydroseeding) may be used to re-establish native plants on the Upper Deck where non-natives currently dominate.

Weed Control

- Implement a year-round weed control program to control non-native species. The weed control program should incorporate both chemical and mechanical control practices. Following weed control, any dead material harboring seeds should be removed to an off-site location to the extent feasible.
- A qualified biologist should be present during weed control activities or flag the native plants that should remain prior to weed control activities to ensure only non-native species are removed and to minimize damage to native plant species to the greatest extent feasible. A biologist should verify that the weed removal methodology does not encourage re-colonizing of non-native plant species.
- Weeding is best performed just before, or at the onset of flowering, but before seed set. If seeds are already present, additional care should be taken to remove the plants with the seeds attached, or the seeds should be removed from the plants prior to the plant removal. A consistent weed abatement schedule will reduce the potential for non-natives to set seed. Soil disturbance should be limited by hand weeding, wherever possible, and weeds should be disposed of off-site to avoid any reinfestation through reseeding or from plant propagules. If hand weeding is not possible, the monitoring biologist should be consulted regarding the appropriate method of weed removal. For example, using mechanical equipment to remove flowers and immature seed heads may be appropriate where dense mats of non-native grasses have established. If there continues to be high incidence of weed infestation, weed control frequency may need to be increased. Otherwise, weeds should continue to be monitored and controlled on a quarterly basis.

Reseeding

- Following the application of soil mounds as previously described, apply native seed (by means of broadcast seeding, hydroseeding or drilling) during the rainy season, between December and March, or prior to a forecasted rain event.

Prohibit Access

- Continue to prohibit vehicle access to mitigation areas.

Thank you for the opportunity to work with you on this important project. Please contact Greg Ainsworth if you have questions concerning the contents of this report. He may be reached by telephone at (818) 564-5544, or by email at gainsworth@rinconconsultants.com.

Sincerely,
Rincon Consultants, Inc.

Greg Ainsworth
Natural Resources Director

Kyle Gern
Biologist

Attachments

Attachment A Figure 1. Photograph Locations
Attachment B Site Photographs

Attachment A

Figure 1. Photograph Locations

Figure 1 Photograph Locations

Attachment B

Site Photographs

Photograph 1. Facing west at Lower Deck. View of eastern limits that was dominated by *Atriplex* spp. and California sunflower prior to the Saddleridge Fire (September 29, 2022).

Photograph 2. Facing east at Lower Deck from western boundary (September 29, 2022).

Photograph 3. Facing east at the Middle Deck from western boundary (September 29, 2022).

Photograph 4. Facing west at the easterly-facing slope located between the Middle and Upper Decks. The vegetation on the slopes between the Upper Deck is dominated by California buckwheat (currently fruiting) and non-native annual grasses (September 29, 2022).

Photograph 5. Facing northeast at the Upper Deck. This area is compacted and gravelly and continues to be problematic for supporting vegetation. Non-native annual grasses and forbs, and California buckwheat shrubs are evident in the background (September 29, 2022).

Photograph 6. Facing southwest at the Upper Deck. This area is dominated by wild oats, brome grasses, redstem filaree, and short podded mustard (September 29, 2022).

Photograph 7. Facing southeast at the western portion of the Upper Deck. This area is dominated by short podded mustard, Australian saltbush, and Russian thistle (September 29, 2022).

ATTACHMENT 2

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

805 644 4455 OFFICE AND FAX

info@rinconconsultants.com
www.rinconconsultants.com

October 11, 2022
Project No: 21-11086

Kate Downey
Environmental Manager
Republic Services
14747 San Fernando Road
Sylmar, California 91342

Via email: KDowney@republicservices.com

Subject: Qualitative Monitoring Report – 3rd Quarter (2022) for the County-Side Sage Mitigation Area at the Sunshine Canyon Landfill in Sylmar, California

Dear Ms. Downey,

On September 29, 2022, Rincon Consultants conducted the third quarter qualitative monitoring of 2022 for the County-Side Sage Mitigation Area (mitigation area). This report documents the current conditions of the mitigation area.

General Conditions

Hydroseeded Areas

Germination and plant growth from hydroseeding that occurred several years ago is not discernible. Conditions on the mitigation area remain relatively unchanged since the second quarter of 2022. Areas that are moderately covered with native and non-native vegetation are concentrated in the southeastern portion of the mitigation area. The northern and upper portions of the mitigation area continue to be bare and problematic for establishment of vegetation, primarily because of highly eroded soils, steep slopes, and Boron-toxic soils (See *Recommendations* section). However, there are some small patches of vegetation that have established in the northern-central portion of the mitigation area, and include shrubs such as California buckwheat (*Eriogonum fasciculatum*), deerweed (*Acmispon glaber*), and California sagebrush (*Artemisia californica*).

Native plant coverage is similar to the previous quarterly monitoring reports. The southern-half of the mitigation area has relatively good coverage of native species, mostly California buckwheat and California sunflower (*Encelia californica*). Established laurel sumac (*Malosma laurina*) individuals are present as well. California buckwheat was in fruit, and the remainder of plant species were either in their vegetative state or had already set seed. The native vegetation coverage is assumed to be a direct result of seeding; however, some natural recruitment of native plant species is apparent based on the various sizes of shrubs and the presence of California sunflower seedlings within the understory. Due to rocky (hydrophobic) soil conditions, soil erosion and Boron-toxic soils on the northern-half and upper portions of the mitigation area, minimal plant growth is present. Annual non-native grasses and forbs currently dominate the understory and serve as ground cover in most of the vegetated areas. Brome grasses (*Bromus* spp.), wild oats (*Avena fatua*), short podded mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), and tocalote (*Centaurea melitensis*) are the most dominant non-native species present, and comprise approximately 20 to 25 percent of the total cover. California buckwheat

dominates the native vegetation coverage with California sagebrush and California sunflower as co-dominants. Native species comprise of approximately 75 to 80 percent of the native vegetation cover in areas where vegetation is present. Other less dominant native species observed include golden bush (*Ericameria linearifolia*), coyote brush (*Baccharis pilularis*), black sage (*Salvia mellifera*), deerweed, and laurel sumac.

Seed Mix Areas

Like the hydroseeded areas, germination and plant growth from the seed mix areas that occurred several years ago is not discernible. As described in previous monitoring reports, a substantial portion of the mitigation area continues to be bare and problematic, which has inhibited the establishment and growth of vegetation. However, in areas where vegetation is present, there is a moderate coverage of native species (e.g., California buckwheat and California sunflower).

As described in the *Hydroseeded Areas* discussion above, a moderate cover of native plants exists within vegetated areas in the southeastern portion of the mitigation area, and annual non-native grasses and forbs currently dominate the understory.

Native Plant Conditions

The plant cover rating indicated further below in

Table 1 applies where vegetation is dominant in the southeastern portion of the mitigation area. Vegetation cover is moderate in the southeastern portion of the mitigation area and sparse along the upper slopes where rocky and eroded soil conditions occur, and in the northern portion of the mitigation area due to problematic soil conditions. As a result, most of the northern and upper portions of the mitigation area continue to have minimal coverage. Native vegetation coverage is good in vegetated areas and non-native plant cover is relatively low. Bare areas and non-native annual grasses are intermixed; however, as noted the northern and upper areas continue to be mostly bare where erosion and rocks are apparent.

California buckwheat is dominant and California sunflower is sub-dominant. Establishment of vegetation is problematic due to rocky soils with poor soil structure, and Boron toxicity has made plant growth (i.e., seed germination and recruitment) difficult. The species richness is low to medium within vegetated areas; however, species richness is considerably low when considering the entire county-sage mitigation area.

Exotic Plant Conditions

Annual non-native weed species consist primarily of brome grasses, wild oats, and mustards, which have already set seed. Non-native plant cover is anticipated to remain constant throughout the remainder of the 2022 growing season, and increase in the winter as a result of increased rainfall. Other established weeds that were observed include redstem filaree (*Erodium cicutarium*) and telegraph weed (*Heterotheca grandiflora*; a weedy native plant species).

Table 1 Summary of Native and Exotic Plant Cover in the County-Side Sage Mitigation Area in Quarter 3, 2022

	Native Plant Vegetation				Exotic Plant Vegetation	
Location	Native Plant Cover	Plant Health Issues	Height of Native Species	Native Species Richness	Exotic Plant Cover	Phenological State
County-Side Sage Mitigation Area	Moderate	Drought	12”-36”	Medium	Moderate	Setting Seed

Recommendations

The following recommendations within the County-Side Sage Mitigation are suggested based upon the field survey conducted in the third quarter of 2022.

- **Create Benches.** Consider creation of several benches throughout the mitigation area to control soil erosion and to improve soil conditions to improve plant establishment and seed dispersal. This technique has been widely used on steep slopes and in areas where soil erosion is problematic. This technique also allows for opportunities to introduce a high-quality soil layer above the poor soils that exist.
- **Reseed and Plant Container Plants With Irrigation.** If creation of benches is feasible, planting methods should include hydroseeding, broadcast seeding, and/or imprinting no more than 10 days prior to a forecasted rain event, unless an irrigation system is installed. Planting with container plants with supplemental irrigation should also be considered.
- **Use Soil Amendments.** Incorporate a soil amendment or mulch with high organic content in select areas as determined by a restoration specialist.
- **Signage.** Install signs indicating that the area is undergoing revegetation.
- **Weed Control.** Continue weed control program as needed on a quarterly basis.
- **Prohibit Access.** Prohibit equipment access to mitigation area.

Thank you for the opportunity to work with you on this important project. Please contact Greg Ainsworth if you have questions concerning the contents of this report. He may be reached by telephone at (818) 564-5544, or by email at gainsworth@rinconconsultants.com.

Sincerely,
Rincon Consultants, Inc.

Greg Ainsworth
Natural Resources Director

Kyle Gern
Biologist

Attachments

Attachment A Figure 1. Photograph Locations
Attachment B Site Photographs

Attachment A

Figure 1. Photograph Locations

Figure 1 Photograph Locations

Attachment B

Site Photographs

Photograph 1. Facing southwest at the County-Side Sage Mitigation Area (September 29, 2022).

Photograph 2. Facing northwest at the northern portion of the County-Side Sage Mitigation Area where plant growth has been problematic due to poor soil conditions (September 29, 2022).

ATTACHMENT 3

ARCHITERRA design group
landscape architecture and planning

ARCHITERRA DESIGN GROUP **FIELD OBSERVATION REPORT**

DATE OF VISIT:	10/6/22
PROJECT:	**Sunshine Canyon Mitigation Sites**
PROJECT NUMBER:	1214
PROJECT MANAGER:	Gregg Denson
SITE INSPECTION #:	
PURPOSE OF VISIT:	Review site conditions/Photo Catalog
TIME OF SITE VISIT:	12:30pm
WEATHER/TEMPERATURE:	Sunny 85° - Winds 20-25 mph
ESTIMATED % COMPLETED:	100%
CONFORMANCE WITH SCHEDULE (+, -)	

WORK IN PROGRESS:	Weed abatement / Monitoring Period /Construction Observation
PRESENT ON SITE:	Gregg Denson

A site visit walk and evaluation has been completed to review the Venturan CSS vegetation establishment on the Trial Site (Deck C), Deck B and County Mitigation Slopes. Additional items noted during the site visit are as follows:

City-Side Sage Mitigation (Trial Site Deck C):

The on-going weeding abatement over the last year has helped to minimize weed growth on Deck C. However, there are now new emerging seedlings taking hold on the deck. Russian Thistle (*Salsola* ssp.) is the most abundant actively growing invasive weed on Deck C. It is important that the deck is cleaned of these seedlings. It is also vital that the surrounding PM10 Berm and other perimeter edges receive a similar treatment in the removal of this weed, as it has taken over and will continue to blow in weed seed if not eradicated. Brown beetle-grass (*Diplachne fusca*) and Saltcedar (*Tamarisk sp.)* have also taken root near the weather trailer where there is constant soil moisture and is starting to spread. This grass should be removed immediately before it becomes an issue.

Cooler temperatures, along with some early Fall rains, have allowed some of the native plants to wake up from that dormancy period. Emerging growth is evident amongst the groupings of Coast Sunflower (*Encelia californica*).

As part of the maintenance of the decks, it appears that the dormant native Creeping Rye Grass (*Leymus triticoides*) was scalped to the ground throughout the deck area. This type of maintenance is discouraged as the grass should remain in its dormancy stage during the summer and fall without being cut. Scalping the grass allows more sunlight to penetrate the soil, allowing opportunistic invasive weeds the bare soil and sunlight they need to germinate. The grass also provides habitat for a number of moths and butterflies. See Photo Station #8 which shows the difference between October 2021 and this year.

Upon inspection of the juvenile Coast Live Oak trees that were planted two years ago, unfortunately all of the trees have died. Most of the Oaks on the PM10 Berm that were damaged by the Saddleridge Fire, are showing signs of new growth and recovery.

Many of the Saltbush species (*Atriplex* spp.) have recovered since the Saddleridge Fire and are now reaching mature growth. Saltbush seedlings are also growing on the deck and helping to fill in gaps where previously there was no growth. Over the years since the first plantings were installed, we've noticed that these fast growing shrubs provide shaded cover for many of the Venturan Coastal Sage Scrub species.

Game tracks are visible in several areas on Deck C. Mule Deer frequent the Deck and graze in the morning hours. Several lizard and bird species are using the deck vegetation for foraging, cover and protection.

Native Plant Coast Sunflower (Summer/Fall dormancy period)

Emerging new growth on Coastal Sunflower due to cooler temperatures and early rains

New Russian Thistle (*Salsola* ssp.) seedlings

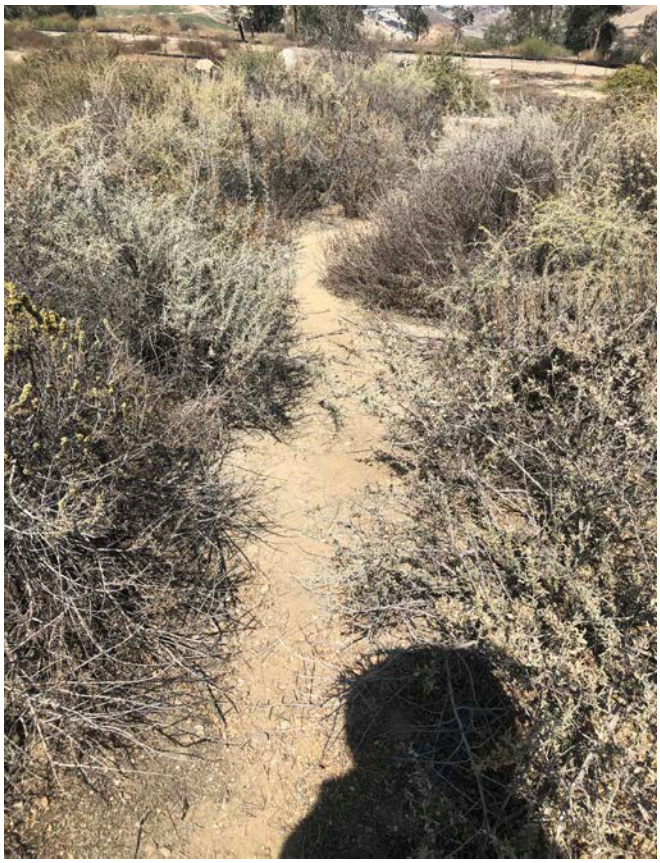
Actively growing Russian Thistle (*Salsola* ssp.) at flowering stage

Dormant California Sagebrush (*Artemesia California*)

Mature Saltbush (*Atriplex sp.*)

Mature Saltbush (*Atriplex sp.*) and juvenile seedling adjacent to parent plant

Newly germinated Saltbush (*Atriplex sp.*) seedlings



Game trails on Deck C

Eucalyptus sp. that needs to be removed

Invasive Brown beetle-grass (*Diplachne fusca*) and Saltcedar (*Tamarisk ramosissima*)

ARCHITERRA DESIGN GROUP
10221-A TRADEMARK STREET, RANCHO CUCAMONGA, CA 91730
Phone (909) 484-2800, Fax (909) 484-2802

Invasive Shortpod Mustard and Russian Thistle along perimeter edges of Deck C

Scalped native Creeping Rye Grass (*Leymus triticoides*) at north side of Deck C

City-Side Sage Mitigation (Trial Site Deck B):

- Invasive weed growth on Deck B has been managed well over the last three years since the Saddleridge Fire. The Venturan Coastal Sage Scrub has quickly rebounded and the trail site area has growth and expaned even with the reduced time of supplemental irrigation due to the system being damaged by the fire. There are some areas of the deck that remain barren due to vehicular traffic during the fire, and potential soil chemistry issues that make it difficult for seeds to germinate. As part of the future revegetation phases, Deck B can be scarified, and hand seeded to help mitigate some of the more barren portions of the deck. Overall, there is a good species diversity and most of the planting is responding well with vigorous growth, flowering and seeding despite the unavailable supplemental irrigation over the last three years.

A diverse cluster of Venturan Coastal Sage Scrub species including:

(Saltbush, California Sagebrush, Our Lords Candle, Menzie's Goldenbush and Creeping Wild Rye)

Coyote Bush seedlings established along swale line below parent plant

Our Lord's Candle (*Yucca whipplei*) successfully established with bubbler system

Bubbler system helped to establish California Sagebrush containerized plant and additional species benefitted from irrigation (California Buckwheat and Deerweed)

Recovered VCSS that resprouted three years after Saddle Ridge Fire

Post Saddleridge Fire Fall 2019

Future Revegetation Site (Deck B&C Slopes)

Signed: Gregg Denson Date: 10/18/22

DISTRIBUTION

Republic Services	☑	Contractor	☑
Project Manager (Gregg Denson)	☑	Other	☐

ATTACHMENT 4

Photo Station #1 - October 2021 (North)

Photo Station #1 - October 2022 (North)

Photo Station #1 - October 2021 (East)

Photo Station #1 - October 2022 (East)

Photo Station #1 - October 2021 (West)

Photo Station #1 - October 2022 (West)

Photo Station #2 - October 2021 (North)

Photo Station #2 - October 2022 (North)

Photo Station #2 - October 2021 (North)

Photo Station #2 - October 2022 (North)

Photo Station #2 - October 2021 (West)

Photo Station #2 - October 2022 (West)

Photo Station #3 - October 2021 (North)

Photo Station #3 - October 2022 (North)

Photo Station #3 - October 2021 (East)

Photo Station #3 - October 2022 (East)

Photo Station #3 - October 2021 (South)

Photo Station #3 - October 2022 (South)

Photo Station #4 - October 2021 (North)

Photo Station #4 - October 2022 (North)

Photo Station #4 - October 2021 (East)

Photo Station #4 - October 2022 (East)

Photo Station #4 - October 2021 (West)

Photo Station #4 - October (West)

Photo Station #5 - October 2021 (North)

Photo Station #5 - October 2022 (North)

Photo Station #5 - October 2021 (East)

Photo Station #5 - October 2022 (East)

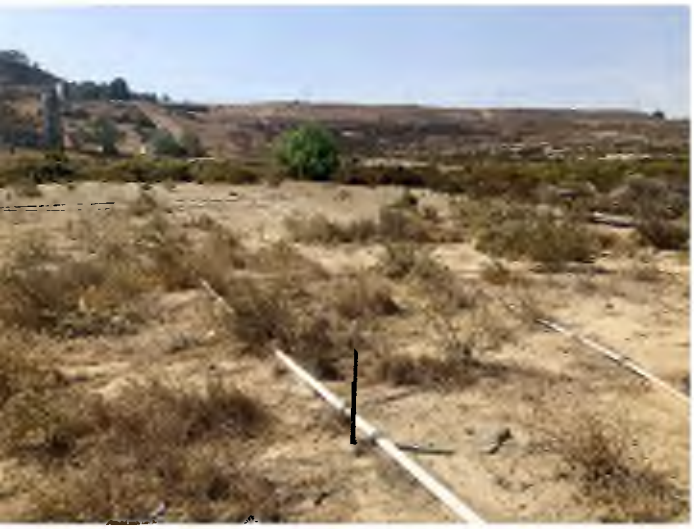


Photo Station #5 - October 2021 (West)

Photo Station #5 - October 2022 (West)

Photo Station #6 - October 2021 (North)

Photo Station #6 - October 2022 (North)

Photo Station #6 - October 2021 (East)

Photo Station #6 - October 2022 (East)

Photo Station #6 - October 2021 (West)

Photo Station #6 - October 2022 (West)

Photo Station #7- October 2021 (North)

Photo Station #7 - October 2022 (North)

Photo Station #7 - October 2021 (East)

Photo Station #7 - October 2022 (East)

Photo Station #7 - October 2021 (West)

Photo Station #7 - October 2022 (West)

ATTACHMENT 5

Photo Station #1 - October 2021 (East)

Photo Station #1 - October 2022 (East)

Photo Station #1 - October 2021 (North)

Photo Station #1 - October 2022 (North)

Photo Station #1 - October 2021 (West)

Photo Station #1 - October 2022 (West)

Photo Station #2 - October 2021 (East)

Photo Station #2 - October 2022 (East)

Photo Station #2 - October 2021 (North)

Photo Station #2 - October 2022 (North)

Photo Station #2 - October 2021 (South)

Photo Station #2 - October 2022 (South)

Photo Station #3 - October 2021 (East)

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Photo Station #3 - October 2022 (North)

Photo Station #3 - October 2021 (West)

Photo Station #3 - October 2022 (West)

Photo Station #4 - October 2021 (South)

Photo Station #4 - October 2022 (South)

Photo Station #4 - October 2021 (East)

Photo Station #4 - October 2022 (East)

Photo Station #4 - October 2021 (West)

Photo Station #4 - October 2022 (West)

Photo Station #5 - October 2021 (East)

Photo Station #5 - October 2022 (East)

Photo Station #5 - October 2021 (North)

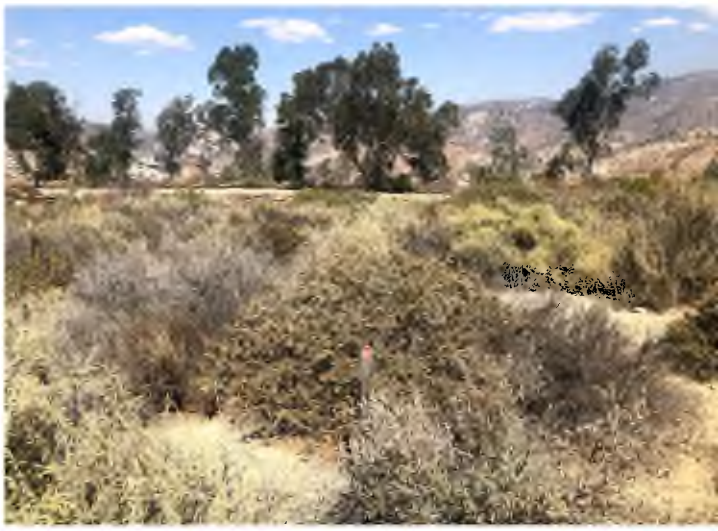

Photo Station #5 - October 2022 (North)

Photo Station #5 - October 2021 (West)

Photo Station #5 - October 2022 (West)

Photo Station #6 - October 2021 (East)

Photo Station #6 - October 2022 (East)

Photo Station #6 - October 2021 (North)

Photo Station #6 - October 2022 (North)

Photo Station #6 - October 2021 (West)

Photo Station #6 - October 2022 (West)

Photo Station #7 - October 2021 (South)

Photo Station #7 - October 2022 (South)

Photo Station #7 - October 2021 (West)

Photo Station #7 - October 2022 (West)

Photo Station #7 - October 2021 (North)

Photo Station #7 - October 2022 (North)

Photo Station #8 - October 2021 (East)

Photo Station #8 - October 2022 (East)

Photo Station #8 - October 2021 (North)

Photo Station #8 - October 2022 (North)

Photo Station #8 - October 2021 (West)

Photo Station #8 - October 2022 (West)

Photo Station #9 - October 2021 (East)

Photo Station #9 - October 2022 (East)

Photo Station #9 - October 2021 (North)

Photo Station #9 - October 2022 (North)

Photo Station #9 - October 2021 (West)

Photo Station #9 - October 2022 (West)

ATTACHMENT 6

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

805 644 4455 OFFICE AND FAX

info@rinconconsultants.com
www.rinconconsultants.com

March 22, 2021
Project No: 21-11086

Tuong-phu Ngo
Republic Services
14747 San Fernando Road
Sylmar, California 91342
Via email: email address

Subject: **Sunshine Canyon Landfill Ultimate Entry Improvement Project, Oak Tree Survey**
14747 San Fernando Road, Sylmar, California, 91342

Dear Mr. Ngo:

Rincon Consultants, Inc. (Rincon) prepared this report for the Ultimate Entry Improvement Project (project) located at the Sunshine Canyon Landfill (landfill) in Sylmar, Los Angeles County, California. This report, prepared by ISA certified arborist Greg Ainsworth, documents the results of an oak tree survey and assessment of impacts to protected oak trees from the project and provides a current tally on the remaining oak trees in the landfills' s oak tree mitigation bank.

Introduction

This oak tree report was prepared to disclose information on native oak (*Quercus sp*.) trees that would be removed by the proposed project.

Pursuant to the Los Angeles County Oak Tree Ordinance, any tree of the oak genus that is 25 inches in circumference (8 inches in diameter) or has a combined trunk circumference of any two trunks of at least 38 inches (12 inches in diameter), as measured 4.5 feet above the mean natural grade (i.e., diameter at breast height [DBH]), is considered a "protected tree" (Ordinance 88-0157 1, 82-0168 2, Section 22.56.2050, 1988). An oak tree that has a trunk DBH equal to or greater than 36 inches is considered a heritage tree, as defined in the Los Angeles County Oak Tree Ordinance. In accordance with the Ordinance, no damage shall occur within the protective zone (the area within the dripline of an oak tree and extending to a point at least 5 feet outside the dripline, or 15 feet from the trunk[s] of the tree, whichever distance is greater) of a protected oak tree. Damage is defined as any act causing or tending to cause injury to the root system or other parts of an oak tree, including, but not limited to, burning, application of toxic substances, operation of equipment or machinery, paving, changing of natural grade, and trenching or excavating.

Sunshine Canyon Landfill Oak Tree Mitigation Bank

In accordance with landfill's Conditional Use Permit (CUP) and Oak Tree Permit (OTP) #86312-(5) (dated February 19, 1991) for the Sunshine Canyon Landfill Extension Project, all native oak trees that will be removed for any project-related impact shall be mitigated at a ratio of 2:1, and heritage-size oak trees (36-inch DBH or greater) shall be mitigated at a ratio of 10:1. All mitigation oaks shall be monitored for 7 years after the tree reaches 0.5 inches in diameter.

A surplus of coast live oak trees was previously planted in the landfill's mitigation areas, which now serves as a mitigation bank for the landfill to draw from for future removals of coast live oak trees. There are currently 48 coast live oaks remaining in the mitigation bank (JMA, Sunshine Canyon Landfill Oak Tree and Bigcone Douglas Fir Monitoring Report No. 28, March 8, 2021).

Project Description

The proposed project involves the development of a landfill termination berm and cut/fill graded entrance roadway that will provide a down-slope buttress and access for a proposed landfill expansion. The nearly 190-foot-high proposed roadway and berm embankment across the mouth of the main canyon of Sunshine Canyon Landfill is designed to buttress the expanded landfill refuse prism that will be situated to the west. This new road embankment includes the associated cut and fill grading, three retaining walls, and a sedimentation basin with stormwater controls.

Methods

All oak trees located within and immediately adjacent to the project footprint that could be impacted by the proposed project were surveyed by certified arborist Greg Ainsworth (I.S.A. Cert# WE-7473A). The tree survey was conducted on March 4, 2021. Using a forester's diameter-equivalent tape, the diameter of all native oak trees having a trunk diameter of 8 inches or greater (or combined trunk diameter of 12 inches or greater) were measured at 4.5 feet above the mean natural grade to obtain the DBH. The location of each tree was recorded from the base of the tree using a Global Positioning System (GPS) with sub-meter accuracy. The following parameters were assessed from the base of each tree (or from the nearest vantage point):

Tree Characteristics

- Trunk diameter (DBH)
- Height
- Crown radius in all directions (north, south, east, and west).
- Balance or symmetry of the tree based on the crown radius measurements and whether the tree leans or is unstable.

Physical Condition

- Identification of damage caused by pathogens or insect pests, by natural causes such as lightning, or by human activity.
- Evaluation of vigor based on such parameters as amount of new growth, leaf color, abnormal bark, dead wood, evidence of wilt, excessive necrosis or leaf chlorosis, thinning of crown, etc.
- Assessment of the overall health of the tree based on the evaluation of vigor, presence of damage, and comparison to the typical archetype tree of the same species.

Health Grade

A subjective alphabetical ranking was assigned for overall health (vigor, aesthetic value, and balance) for each native oak and big cone fir tree based on the criteria described below:

- "A" = Excellent: A healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease, or pest infestation.
- "B" = Good: A healthy and vigorous tree with minor visible signs of stress, disease, and/or pest infestation. Some maintenance measures may need to be implemented, such as pruning of dead wood or broken branches.
- "C" = Fair: Although healthy in overall appearance, there is abnormal amount of stress or disease/insect infestation, and a substantial amount of maintenance may be needed.
- "D" = Poor: A tree that may be exhibiting a substantial amount of stress, disease, or insect damage than what the amount that is expected for the species. The tree may be in a state of rapid decline, and may show various signs of dieback, necrosis, or other symptoms caused by pathogens or insect pests.
- "F" = Dead: This tree has no foliage and exhibits no sign of life or vigor.

Results

There are 20 coast live oak trees located within the project footprint, one of which is dead, and all of which would be removed by the proposed project. No other oak trees would be encroached or otherwise impacted by the proposed project. Data on these 20 oak trees is presented in Table 1 below.

Table 1 Oak Tree Survey Data

Tree #	Species	DBH	Canopy Spread				Health	Physical Condition	Impact Status	Reason for Impact
			North	West	South	East				
1	Coast live oak	13	14	3	8	21	Fair		Removal	Grading
2	Coast live oak	--	--	--	--	--	Dead		Removal	Grading
3	Coast live oak	16	3	8	25	35	Poor	fire scar	Removal	Grading
4	Coast live oak	12	12	7	18	15	Good	fire scar	Removal	Grading
5	Coast live oak	18	11	15	30	7	Good	fire scar	Removal	Grading
6	Coast live oak	9	4	8	18	2	Fair	fire scar	Removal	Grading
7	Coast live oak	15	7	16	15	8	Fair	fire scar	Removal	Grading
8	Coast live oak	9	7	3	18	8	Good	fire scar	Removal	Grading
9	Coast live oak	18	30	15	22	10	Good	fire scar	Removal	Grading
10	Coast live oak	16	8	17	15	6	Fair	fire scar	Removal	Grading
11	Coast live oak	10	15	14	1	2	Fair	fire scar	Removal	Grading
12	Coast live oak	10	20	6	4	2	Fair	fire scar	Removal	Grading
13	Coast live oak	22	18	21	16	10	Fair	fire scar	Removal	Grading
14	Coast live oak	10	19	1	1	1	Fair	fire scar	Removal	Grading
15	Coast live oak	21	10	7	18	22	Fair	fire scar	Removal	Grading

Tree #	Species	DBH	Canopy Spread				Health	Physical Condition	Impact Status	Reason for Impact
			North	West	South	East				
16	Coast live oak	18	1	22	19	8	Fair	fire scar, split trunk	Removal	Grading
17	Coast live oak	19	15	11	15	10	Fair	fire scar	Removal	Grading
18	Coast live oak	12	15	7	15	7	Fair	fire scar	Removal	Grading
19	Coast live oak	12	17	10	4	8	Good		Removal	Grading
20	Coast live oak	8	4	12	6	1	Fair		Removal	Grading

Mitigation

There are currently 48 coast live oak trees in the landfill's mitigation bank. As noted in Table 1, 20 coast live oak trees would be removed by the proposed project. Therefore, at a mitigation ratio of 2:1, 40 coast live oak trees will be deducted from the landfill's oak tree mitigation bank, leaving 4 oak trees remaining in the bank for future removals at the landfill.

Please contact Greg Ainsworth at (818) 564-5544 or email at gainsworth@rinconconsultants.com if you have any question or comments regarding the information provided in this report.

Sincerely,
Rincon Consultants, Inc.

Greg Ainsworth, I.S.A. Cert # WE-7473A
Director of Urban Forestry

Attachments

Oak Tree Map

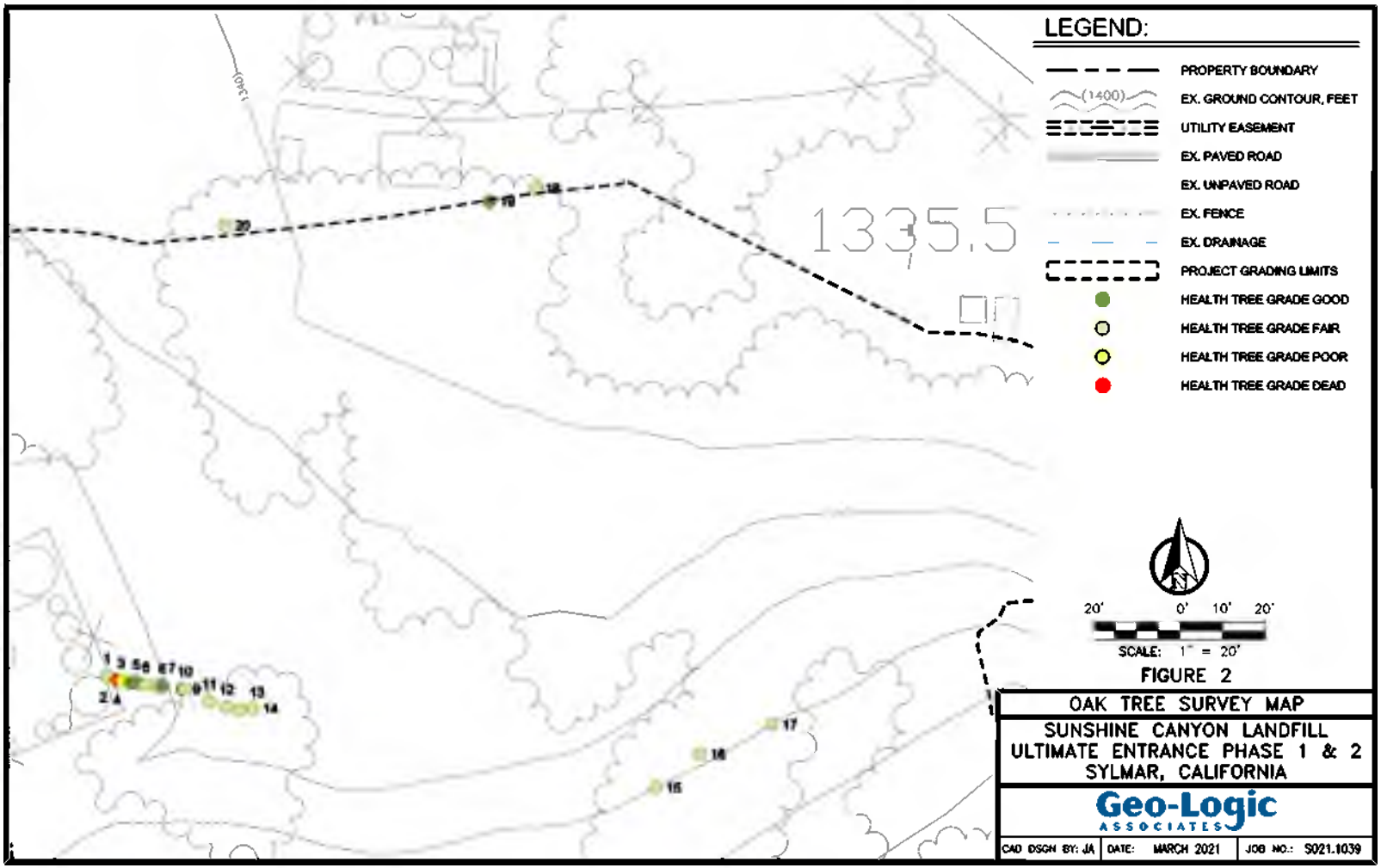

FIGURE 2

OAK TREE SURVEY MAP

SUNSHINE CANYON LANDFILL
ULTIMATE ENTRANCE PHASE 1 & 2
SYLMAR, CALIFORNIA

Geo-Logic ASSOCIATES

CAD DSGN BY: JA	DATE: MARCH 2021	JOB NO.: S021.1039

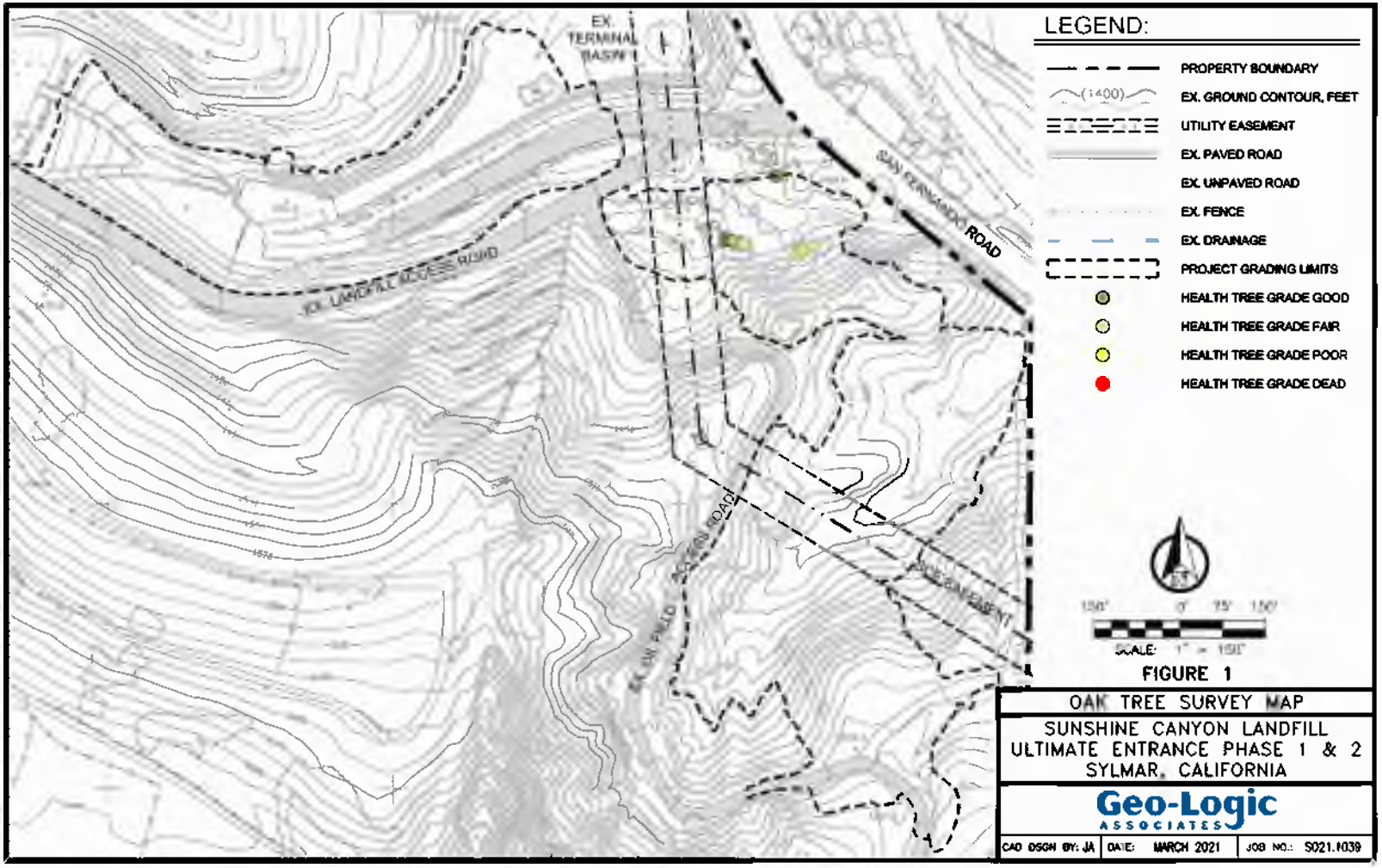

FIGURE 1

OAK TREE SURVEY MAP

SUNSHINE CANYON LANDFILL
ULTIMATE ENTRANCE PHASE 1 & 2
SYLMAR, CALIFORNIA

Geo-Logic ASSOCIATES

CAD DSGN BY: JA	DATE: MARCH 2021	JOB NO.: S021.1039

DRAWING 1

FOR REVIEW ONLY

EXISTING TOPOGRAPHY PREPARED BY COOPER AERIAL SURVEYS DATED FEBRUARY 2, 2019

DIGALERT 811

Geo-Logic ASSOCIATES

REPUBLIC SERVICES

SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
SITE VEGETATION STATUS AND ACTIVITY

Q3 2021

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